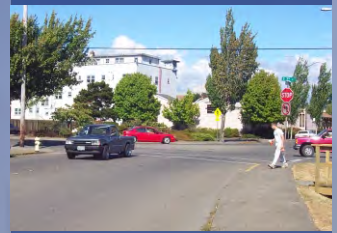


# Coos Bay Transportation System Plan

Prepared for  
City of Coos Bay

Submitted by  
***DKS Associates***  
TRANSPORTATION SOLUTIONS

Adopted January 6, 2004



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## **1. SUMMARY 1**

|                         |   |
|-------------------------|---|
| PLAN ORGANIZATION ..... | 1 |
| PLAN ELEMENTS .....     | 1 |

## **2. GOALS AND POLICIES 2-2**

|                                                                                                                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| GOAL #1: TRANSPORTATION FACILITIES DESIGNED AND CONSTRUCTED IN A MANNER TO ENHANCE COOS BAY'S LIVABILITY AND MEET FEDERAL, STATE, REGIONAL, AND LOCAL REQUIREMENTS. ....                                      | 2-2 |
| GOAL #2: A BALANCED TRANSPORTATION SYSTEM.....                                                                                                                                                                | 2-3 |
| GOAL #3: A SAFE TRANSPORTATION SYSTEM. ....                                                                                                                                                                   | 2-3 |
| GOAL #4: AN EFFICIENT TRANSPORTATION SYSTEM THAT REDUCES THE NUMBER AND LENGTH OF TRIPS, LIMITS CONGESTION, AND IMPROVES AIR QUALITY. ....                                                                    | 2-5 |
| GOAL #5: TRANSPORTATION FACILITIES THAT SERVE AND ARE ACCESSIBLE TO ALL MEMBERS OF THE COMMUNITY. ....                                                                                                        | 2-5 |
| GOAL #6: TRANSPORTATION FACILITIES THAT PROVIDE EFFICIENT MOVEMENT OF GOODS AND SERVICES. ....                                                                                                                | 2-6 |
| GOAL #7: IMPLEMENT THE TRANSPORTATION PLAN BY WORKING COOPERATIVELY WITH FEDERAL, STATE, REGIONAL, AND LOCAL GOVERNMENTS, THE PRIVATE SECTOR, AND RESIDENTS. CREATE A STABLE, FLEXIBLE FINANCIAL SYSTEM. .... | 2-6 |

## **3. THE PLAN 3-1**

|                                        |      |
|----------------------------------------|------|
| FUNCTIONAL CLASSIFICATION.....         | 3-1  |
| CONNECTIVITY / LOCAL STREET PLAN ..... | 3-11 |
| MOTOR VEHICLE IMPROVEMENT PLANS.....   | 3-14 |
| SYSTEM ALTERNATIVES .....              | 3-15 |
| ROAD IMPROVEMENTS.....                 | 3-17 |
| BICYCLE ACTION PLAN.....               | 3-32 |
| PEDESTRIAN ACTION PLAN.....            | 3-35 |
| TRANSIT PLAN .....                     | 3-38 |
| OTHER MODAL PLANS .....                | 3-38 |

## **4. FINANCING AND IMPLEMENTATION 4-1**

|                                         |     |
|-----------------------------------------|-----|
| OVERVIEW .....                          | 4-1 |
| RECOMMENDED PROJECTS AND PROGRAMS ..... | 4-2 |
| FUNDING ALTERNATIVES .....              | 4-6 |
| CODES AND ORDINANCES.....               | 4-8 |

# 1. SUMMARY

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This Transportation System Plan (TSP) has been developed for the City of Coos Bay. The purpose of this TSP is to bring the City of Coos Bay into compliance with the Oregon Transportation Planning Rule.

The plan is a multi-modal plan, addressing improvement to existing roadways, new pedestrian and bicycle facilities, improvement in public transit service, and other modes (including air, rail, water and pipeline). The plan also includes a transportation improvement program, as well as changes to the City's codes and standards to implement the TSP recommendations.

## Plan Organization

The plan is organized into four chapters and a Technical Appendix, as described below:

- **Chapter 1—Summary:** An overview of the plan elements, and key findings and recommendations from the plan.
- **Chapter 2—Goals and Policies:** Recommended transportation goals and policies to respond to issues identified through the study process, and to comply with relevant county, state and federal requirements.
- **Chapter 3—The Plan:** The transportation system plan is divided into travel modes (motor vehicle, pedestrian, bicycle, transit, and other) with system wide maps for each and recommended projects.
- **Chapter 4—Financing:** The estimated construction and maintenance costs for recommended transportation projects and program are identified along with the expected revenue from current sources. Suggestions are made to close the gaps in funding needed to implement the plan with the 20-year time horizon.
- **Technical Appendix (separate document):** Background information, historical and observed data, and technical methods used to develop the plan. Includes chapters formerly included in the plan on Existing Conditions, Future Needs and Alternatives. Also, the city ordinances that are recommended to implement the plan goals, policies and standards are attached in an appendix.

## Plan Elements

The Transportation System Plan includes the following major components:

- Modifications to the street functional classification system to reflect current street function and development patterns.
- Modifications to the city street standards, also including access spacing criteria.
- Signal system and intersection improvements, to increase capacity in the roadway system where traffic congestion will become substantial during the next 20 years.
- Expansion of the City's system of pedestrian and bicycle facilities, with the objective of sidewalks or pathways for pedestrians on all collector and arterial streets, and bike lanes or bikeways on major collectors and arterials.



- Street improvement projects mitigating existing and predicted safety, capacity, circulation and other deficiencies.

Seventy-one transportation improvement projects are recommended in Coos Bay over the 20-year planning horizon. These improvements, along with identified transportation enhancement programs (e.g., neighborhood traffic calming) total \$64.2 million dollars over the next 20 years. Projects have been prioritized for implementation for the short-term and long-term time frames. To achieve this program, new transportation funding sources—federal, state and/or local—will be required. An added \$40.7 million over the next 20 years (beyond the current funding programs) will be required. A summary of the number of projects, estimated costs, and balance of revenue versus plan funding needs is shown in Table 1-1.

**Table 1-1: Transportation System Plan Cost Summary**

| <b>Mode</b>                                 | <b>Number of Projects</b> | <b>Estimated Cost<br/>(Million 2003 dollars)</b> |
|---------------------------------------------|---------------------------|--------------------------------------------------|
| Motor Vehicle                               | 8                         | \$7.4                                            |
| Bicycle                                     | 15                        | \$13.7                                           |
| Pedestrian                                  | 34                        | \$6.6                                            |
| Other Programs                              |                           | \$3.2                                            |
| <b>Total</b>                                |                           | <b>\$30.9</b>                                    |
| <b>Annual Existing Revenue (x 20 years)</b> |                           | <b>\$16.0</b>                                    |
| <b>Current Plan Deficit Funding</b>         |                           | <b>\$14.9</b>                                    |

## 2. GOALS AND POLICIES

---

These goals and policies have been developed to guide the City's twenty-year vision of transportation system needs. This chapter summarizes the updated goals and policies by the City of Coos Bay and includes comments to date from the public, technical and citizen advisory committees. There are seven transportation goals with related policies organized under each goal. The goals and policies are not prioritized. These goals and policies have been developed, in part, based on previously developed plans, policies and standards for the City of Coos Bay. A review of these can be found in the Appendix.

The goals are brief guiding statements that describe a desired result. The policies describe the actions needed to move the community toward the goal. Below many of the policies, italic text provides details of the implementing actions and clarifies the intent of the policy. The transportation goals and policies are implemented by these actions, by the improvement projects included in the master plans and action plans for each transportation mode, and by the Development Code.

Street standards for improvements are typically found in the Development Code and Engineering Design Manual and Standard Drawings. Street standards have been prepared as part of this TSP process for both cities.

**Goal #1: Transportation facilities designed and constructed in a manner to enhance Coos Bay's livability and meet federal, state, regional, and local requirements.**

Policies:

- a) Maintain the livability of Coos Bay through proper location and design of transportation facilities.

**Action:**

*Design streets and highways to respect the characteristics of the surrounding land uses, natural features, and other community amenities.*

*Recognizing that the magnitude and scale of capital facilities also affect aesthetics and environmental quality, the City will require design plans and impact analyses as specified in the Development Code.*

*Potential Urban Growth Boundary areas (e.g., Bunker Hill area) will be integrated into the city system plan to provide adequate service.*

- b) Consider noise attenuation in the design, redesign, and reconstruction of arterial streets immediately adjacent to residential development.

- c) Protect neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas. Build streets to minimize speeding.

**Action:**

*Develop and maintain street design standards and criteria for neighborhood traffic management for use in new development and existing neighborhoods*

- d) New commercial and industrial development shall identify traffic plans for residential streets where increased cut-through traffic may occur due to the proposed development.
- e) Designate major tourist routes for provisions of enhanced streetscape and directional markings.

**Action:**

*Develop and maintain tourist route standards on major travel routes.*

|                                                   |
|---------------------------------------------------|
| <b>Goal #2: A balanced transportation system.</b> |
|---------------------------------------------------|

Policies:

- a) Implement Coos Bay's public street standards that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck, and auto use, and recognize these streets as important to community identity as well as providing a needed service.
- b) Develop and provide a safe, complete, attractive, efficient, and accessible system of pedestrian ways and bicycle ways, including bike lanes, shared roadways, multi-use paths, and sidewalks according to the pedestrian and bicycle system maps and the Development Code and Engineering Design Manual and Standard Drawings requirements.
- c) Provide connectivity to each area of Coos Bay for convenient multi-modal access. Ensure pedestrian, bicycle, transit, and vehicle access to waterfront, schools, parks, employment and recreational areas by identifying and developing improvements that address connectivity needs.
- d) Develop neighborhood and local connections to provide adequate circulation into and out of neighborhoods.
- e) The permanent closure of an existing road in a developed neighborhood is not recommended and will be considered by the City only under the following circumstances: as a measure of last resort, when the quality of life in the neighborhood is being severely threatened by excessive traffic volumes or the presence of a traffic safety hazard; or as part of a plan reviewed through the City's land use and/or site development process(es), including capital improvement projects. Planned roads that have not been built in neighborhoods should be retained as indicated in the Local Street System Plan maps.
- f) Design arterial and collector streets to accommodate pads for public transit and to provide convenient access to transit stops.

**Action:**

*Work with Coos County Area Transit (CCAT) to improve transit service, pedestrian facilities leading to transit stop waiting areas, and to make the waiting areas themselves safe, comfortable, and attractive.*

|                                               |
|-----------------------------------------------|
| <b>Goal #3: A safe transportation system.</b> |
|-----------------------------------------------|

Policies:

- a) Improve traffic safety through a comprehensive program of engineering, education, and

enforcement.

- b) Design streets to serve anticipated function and intended uses as determined by the Comprehensive Plan.

**Action:**

*Maintain a functional classification system that meets the City's needs and respects the needs of other agencies including but not limited to North Bend, Coos County, and ODOT.*

- c) Where on-street pedestrian and bicycle facilities cannot reasonably be provided on highways and arterials, identify parallel routes that comply with state and city planning and design standards.
- d) Enhance safety by prioritizing and mitigating high collision locations within the City.

**Action:**

*Work with ODOT and Coos County to periodically review traffic collision information in an effort to systematically identify, prioritize, and remedy safety problems.*

- e) Designate safe routes from residential areas to schools.

**Action:**

*The City should work with area schools and the community in developing safe transit, pedestrian, and bicycle routes to schools. Communicate selected safe school route program to community. Improvement projects near schools shall consider school access and safety during project development.*

- f) Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.

**Action:**

*Periodically review pavement maintenance system data to update roadway paving budgets, and prioritize facilities with highest need for services.*

- g) Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts between vehicles and trucks, and between vehicles and bicycles and pedestrians.

**Action:**

*Preserve the functional integrity of the motor vehicle system by limiting access per City standards.*

- h) Ensure that adequate access for emergency services vehicles is provided throughout the City.

**Action:**

*Develop Neighborhood Traffic Management standards based on functional classification to preserve primary response routes.*

- i) Meet federal and State safety compliance standards for operation, construction, and maintenance of the rail system.
- j) Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.

**Action:**

*Work with federal agencies, the Public Utility Commission, the Oregon Department of Environmental Quality, public safety providers, and ODOT to assure consistent routes, laws, and regulations for the transport of hazardous materials.*

## **Goal #4: An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.**

### **Policies:**

- a) Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.

#### **Action:**

*Continue to implement the following action plan to work toward achieving these targets:*

- *Encourage development that effectively mixes land uses to reduce vehicle trip generation.*
- *Develop consistent conditions for land use approval that require future employment related land use developments to agree to reduce peak hour trip making through transportation demand management strategies.*
- *Implement the bicycle, transit, pedestrian, and motor vehicle master improvement plans [to be developed in this study] to implement a convenient multimodal transportation system.*

- b) Maintain levels of service consistent with the Oregon Transportation Plan. Reduce traffic congestion and enhance traffic flow through such measures as intersection improvements, intelligent transportation systems, signal synchronization, and other similar measures.

#### **Action:**

*Adopt level of service standards that are consistent with State and County standards.*

- c) Maintain levels of service or minimum performance thresholds identified by responsible service providers for non-roadway facilities including rail, air, and marine activities.

#### **Action:**

*Work with Port of Coos Bay, North Bend Municipal Airport, and Central Oregon Railroad to establish appropriate performance thresholds for their respective facilities.*

- d) Plan land uses to increase opportunities for multi-purpose trips (trip chaining).
- e) Require land use approval of proposals for new or improved transportation facilities. The approval process shall identify and consider the project's identified impacts.
- f) Support mixed-use development where zoning allows.
- g) Work with Coos County Area Transit to encourage the development of transit improvements, improve access and frequency of service, and increase ridership potential and service area.

## **Goal #5: Transportation facilities that serve and are accessible to all members of the community.**

### **Policies:**

- a) Construct transportation facilities to meet the requirements of the Americans with Disabilities Act.
- b) *Support Coos County Area Transit and other transit service provider's efforts that respond to the transit and transportation needs of the elderly and disabled.*

## **Goal #6: Transportation facilities that provide efficient movement of goods and services.**

### **Policies:**

- a) Designated arterial streets and highway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect the needs of goods movement.
- b) Consider existing railroad and air transportation facilities to be City resources and reflect the needs of these facilities in land use decisions.
- c) Develop a balanced freight system that takes advantage of the efficiencies of each transportation mode.

## **Goal #7: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system.**

### **Policies:**

- a) Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include (North Bend), Port of Coos Bay, Coos County, ODOT, and Coos County Area Transit
- b) Participate in implementing regional transportation, growth management, and air quality improvement policies. Work with agencies to assure adequate funding of transportation facilities to support these policies.
- c) Monitor and update the Transportation Element of the Comprehensive Plan so that issues and opportunities are addressed in a timely manner. Maintain a current capital improvement program that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.
- d) Develop and use the **street utility fees** as elements of an overall funding program to pay for adding capacity to the collector and arterial street system, and making safety improvements related to development impacts.
- e) Establish rights-of-way at the time of site development and, where appropriate, officially secure them by dedication of property.
- f) Working in partnership with ODOT, and other jurisdictions and agencies, develop a long-range financial strategy to make needed improvements to the transportation system and support operational and maintenance requirements.

### **Action:**

*The financial strategy should consider the appropriate elements [such as impact fees, property tax levies, and development contributions to balance needs, costs, and revenue]. View the process of improving the transportation system as that of a partnership between the public (through fees and taxes) and private sectors (through exactions and conditions of development approval), each of which has appropriate roles in the financing of these improvements to meet present and projected needs.*

- g) Provide adequate funding for maintenance of the capital investment in transportation facilities.



**Action:**

*Develop a long-term financing program that provides a stable source of funds to ensure cost-effective maintenance of transportation facilities and efficient effective use of public funds.*

## 3. THE PLAN

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This chapter of the Coos Bay Transportation System Plan summarizes the plan for each mode, including the following:

- Motor Vehicle Related Plans: Elements include an updated functional classification system, street design standards for each functional class and street width, traffic signal master plan, street lane requirements (i.e. number of travel lanes to plan for), local street connectivity plan, future road improvement needs (circulation/segment and intersection), neighborhood traffic management, parking, access management, transportation demand management, transportation system management, and trucks)
- Bicycle Action Plan
- Pedestrian Action Plan
- Transit Plan
- Other Modal Plans (Rail, Air, Water, Pipeline)

### Functional Classification

Roadways have two functions, to provide mobility and to provide access. From a design perspective, these functions can be incompatible since high or continuous speeds are desirable for mobility, while low speeds are more desirable for land access. Arterial facilities emphasize a high level of mobility for through movement; local facilities emphasize the land access function; and collectors offer a balance of both functions (Figure 3-1).

Functional classification has commonly been mistaken as a determinate for traffic volume, road size, urban design, land use and various other features that collectively are the elements of a roadway, but not its function. For example, the traffic on a roadway can be more directly related to land uses and because a roadway carries a lot or a little traffic does not necessarily determine its function. The traffic volume, design (including access standards) and size of the roadway are outcomes of function, but do not define function.

Function can be best defined by connectivity. Without connectivity, neither mobility nor access can be served. Roadways that provide the greatest reach of connectivity are the highest level facilities. Arterials can be defined by regional level connectivity. These routes go beyond the city limits in providing connectivity and can be defined into two groups: principal arterials (typically state routes) and arterials. The movement of persons, goods and services depends on an efficient arterial system. Collectors can be defined by citywide or district wide connectivity. These routes span large areas of the city but typically do not extend significantly into adjacent jurisdictions. They are important to city circulation. The past textbooks on functional classification then define all other routes as local streets, providing the highest level of access to adjoining land uses. These routes do not connect at any significant regional, citywide or district level.

Recent work in the area of neighborhoods and their specific street needs provides a fourth level of functional classification - neighborhood route. In many past plans, agencies defined a minor collector or a neighborhood collector; however, use of the term collector is not appropriate. Collectors provide citywide or large district connectivity and circulation. There is a level between collector and local streets that is unique due to its level of connectivity. Local streets can be cul-de-sacs or short streets

that do not connect to anything.<sup>1</sup> Neighborhood routes are commonly used by residents to circulate into or out of their neighborhood. They have connections within the neighborhood and between neighborhoods. These routes have neighborhood connectivity, but do not serve as citywide streets. They have been the most sensitive routes to through and speeding traffic due to their residential frontages. Because they do provide some level of connectivity, they can commonly be used as cut-through routes in lieu of congested or less direct arterial or collector streets which are not performing adequately. Cut-through traffic has the highest propensity to speed, creating negative impacts on these neighborhood routes. By designating these routes, a more systematic citywide program of neighborhood traffic management can be undertaken to protect these sensitive routes.

In the past, traffic volume and roadway size were linked to functional classification. More recently, urban design and land use have also been tied to functional classification. The planning effort to identify connectivity of routes in Coos Bay is essential to preserve and protect future mobility and access, by all modes of travel. In Coos Bay, it is not possible to have a citywide neo-traditional layout. Past land use decisions, topography and environmental features preclude this<sup>2</sup>. Without defining the varying levels of connectivity now in the TSP, the future impact of the adopted Comprehensive Plan land uses will result in a degraded ability to move goods and people (existing and new) in Coos Bay. The outcome would be intolerable delays and much greater costs to address solutions later rather than sooner. By planning an effective functional classification of Coos Bay streets<sup>3</sup>, the City can manage public facilities pragmatically and cost effectively.

These classifications do not mean that because a route is an arterial it is large and has lots of traffic. Nor do the definitions dictate that a local street should only be small with little traffic. Identification of connectivity does not dictate land use or demand for facilities. The demand for streets is directly related to the land use. The highest level connected streets have the greatest potential for higher traffic volumes, but do not necessarily have to have high volumes as an outcome, depending upon land uses in the area. Typically, a significant reason for high traffic volumes on surface streets at any point can be related to the level of land use intensity within a mile or two. Many arterials with the highest level of connectivity have only 33 to 67 percent “through traffic”. Without the connectivity provided by arterials and collectors, the impact of traffic intruding into neighborhoods and local streets goes up substantially.

If land use is a primary determinate of traffic volumes on streets, then how is it established? In Oregon, land use planning laws require the designation of land uses in the Comprehensive Plan. Coos Bay’s Comprehensive Plan land uses have been designated for over two decades. These land use designations are very important not only to the City for planning purposes, but to the people that own land in Coos Bay. The adopted land uses in Coos Bay have been used in this study, working with the ODOT regional forecasts for growth in the region for the next 20 years. If the outcome of this TSP is either too many streets or solutions that are viewed to be too expensive, it is possible to reconsider the core assumptions regarding Coos Bay’s livability - its adopted land uses or its service standards related to congestion. The charge of this TSP (as mandated by State law) is to develop a set of multi-modal transportation improvements to support the Comprehensive Plan land uses. Functional classification is key to this planning task.

### Functional Classification Definitions

The proposed functional classification of streets in Coos Bay is represented by Figure 3-3. Any street

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<sup>1</sup> Or in the case of neo-traditional grid systems, extensive redundancy in facilities results in local status to streets that have greater than local connectivity.

<sup>2</sup> While subdivisions or areas of neo-traditional development exist and are possible (even desirable), on the whole, the concept cannot be generically applied to the city in lieu of functional classification.

<sup>3</sup> Including definition of which routes connect through Coos Bay, within Coos Bay and which routes serve neighborhoods and the local level in the city.

not designated as an arterial, collector or neighborhood route is considered a local street.

**Principal Arterials** are typically freeways and state highways that provide the highest level of connectivity. These routes connect over the longest distance (sometimes miles long) and are less frequent than other arterials or collectors. These highways generally span several jurisdictions and many times have statewide importance (as defined in the ODOT Level of Importance categorization).<sup>4</sup>

**Arterial streets** serve to interconnect and support the principal arterial highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of a well placed arterial street. Many of these routes connect to Cities surrounding Coos Bay.

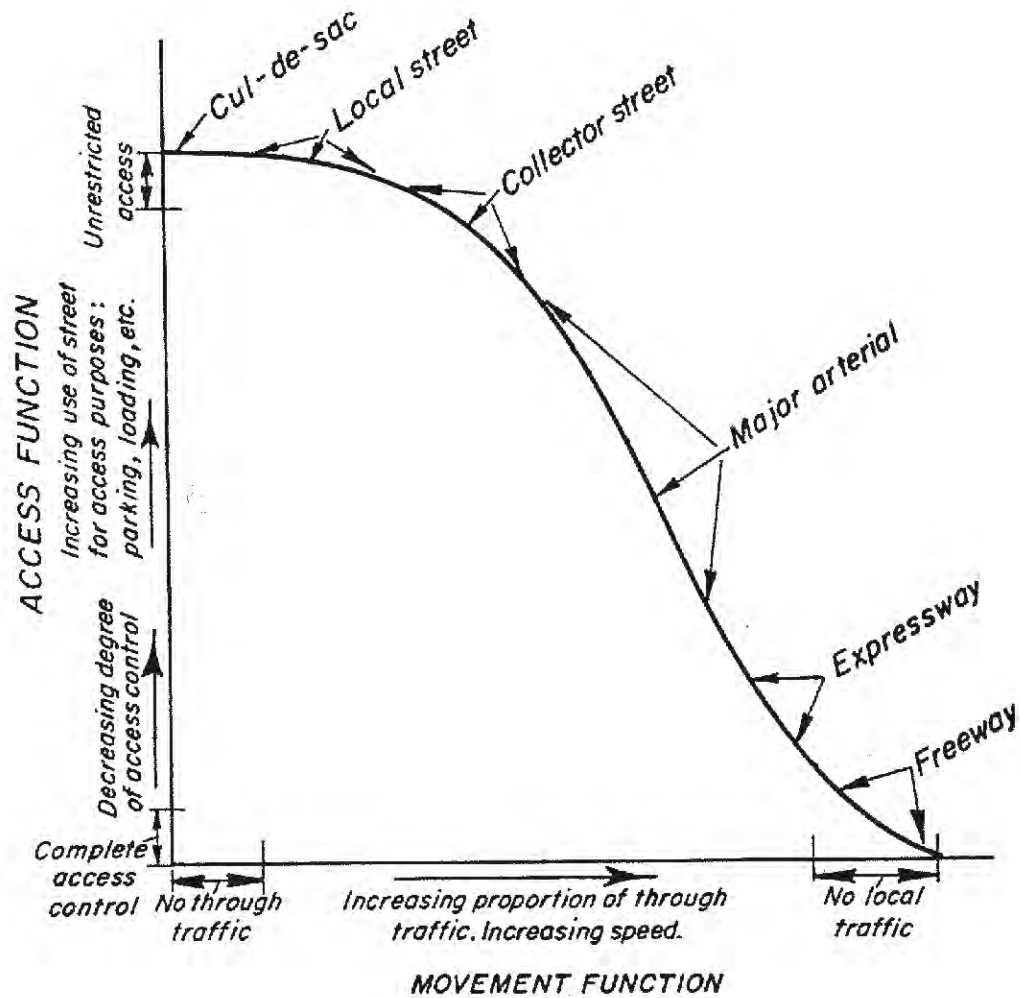
**Collector streets** provide both access and circulation within residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system.

**Neighborhood Routes** are usually long relative to local streets and provide connectivity to collectors or arterials. Because neighborhood routes have greater connectivity, they generally have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/large area circulation. They are typically about a quarter to a half-mile in total length. Traffic from cul-de-sacs and other local streets may drain onto neighborhood routes to gain access to collectors or arterials. Because traffic needs are greater than a local street, certain measures should be considered to retain the neighborhood character and livability of these routes. Neighborhood traffic management measures are often appropriate (including devices such as speed humps, traffic circles and other devices - refer to later section in this chapter). However, it should **not** be construed that neighborhood routes automatically get speed humps or any other measures. While these routes have special needs, neighborhood traffic management is only one means of retaining neighborhood character and vitality.

**Local Streets** have the sole function of providing access to immediate adjacent land. Service to “through traffic movement” on local streets is deliberately discouraged by design.

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<sup>4</sup> Oregon Highway Plan, ODOT, 1991, Appendix A.



Source: University of California,  
'Fundamentals of Traffic Engineering'  
Wolfgang S. Homburger and  
James H. Kell

**Figure 3-1**  
**STREET FUNCTION RELATIONSHIP**

## Functional Classification Changes

The proposed functional classification differs from the existing approved functional classification. Neighborhood routes were not defined in the existing functional classification. The proposed functional classification was developed following detailed review of Coos Bay and Coos County's functional classification. Table 3-2 summarizes the major differences between the proposed functional classification and the existing designations for streets in Coos Bay. This table also outlines the streets that were previously designated collectors that are now identified as neighborhood routes. Additionally, this figure identifies circulation/realignment study areas. These are areas where no clear solution has been identified. There are a variety of options that need to be explored in these areas and they will require further study.

The criteria used to assess connectivity have two components: the extent of connectivity (as defined previously) and the frequency of the facility type. Maps can be used to determine regional, city/district and neighborhood connections. The frequency or need for facilities of certain classifications is not routine or easy to package into a single criterion. While planning textbooks call for arterial spacing of a mile, collector spacing of a quarter to a half mile, and neighborhood connections at an eighth to a sixteenth of a mile, this does not form the only basis for defining functional classification. Changes in land use, environmental issues or barriers, topographic constraints, and demand for facilities can change the frequency for routes of certain functional classifications. While spacing standards can be a guide, they must consider other features and potential long term uses in the area (some areas would not experience significant changes in demand, where others will). Linkages to regional centers and town centers are another consideration for addressing frequency of routes of a certain functional classification. Connectivity to these areas is important, whereas linkages that do not connect any of these centers could be classified as lower levels in the functional classification.

**Table 3-2: Proposed Changes to Existing Roadway Functional Classification**

| <i>Street</i>      | <i>Existing Class</i> | <i>Proposed Class</i> |
|--------------------|-----------------------|-----------------------|
| 1st St             | Major Arterial        | Principal Arterial    |
| 2nd St             | Collector             | Local                 |
| 5th St             | Minor Arterial        | Local                 |
| 7th St             | Minor Arterial        | Neighborhood Route    |
| 10th St            | Collector             | Neighborhood Route    |
| 10th St            | Minor Arterial        | Arterial              |
| 11th St            | Collector             | Neighborhood Route    |
| Anderson Ave       | Major Arterial        | Arterial              |
| Bayshore Dr        | Major Arterial        | Principal Arterial    |
| Broadway St        | Major Arterial        | Principal Arterial    |
| Central Ave        | Major Arterial        | Arterial              |
| Commercial Ave     | Major Arterial        | Arterial              |
| Coos River H.V. Rd | Minor Arterial        | Arterial              |
| Ellen Rd           | Major Arterial        | Arterial              |
| Elrod Ave          | Collector             | Neighborhood Route    |
| Empire Blvd        | Major Arterial        | Arterial              |
| Evans Blvd         | Major Arterial        | Principal Arterial    |

| <i>Street</i>  | <i>Existing Class</i> | <i>Proposed Class</i> |
|----------------|-----------------------|-----------------------|
| Front St       | Collector             | Arterial              |
| Ingersoll Ave  | Minor Arterial        | Neighborhood Route    |
| Koosbay Blvd   | Minor Arterial        | Arterial              |
| Lockhart Ave   | Collector             | Arterial              |
| Newmark Ave    | Major Arterial        | Arterial              |
| Newport Ave    | Minor Arterial        | Arterial              |
| Ocean Blvd     | Major Arterial        | Arterial              |
| Southwest Blvd | Minor Arterial        | Arterial              |
| US 101         | Major Arterial        | Principal Arterial    |
| Woodland Drive | Minor Arterial        | Arterial              |
| LaClair Street | Not Classified        | Collector             |

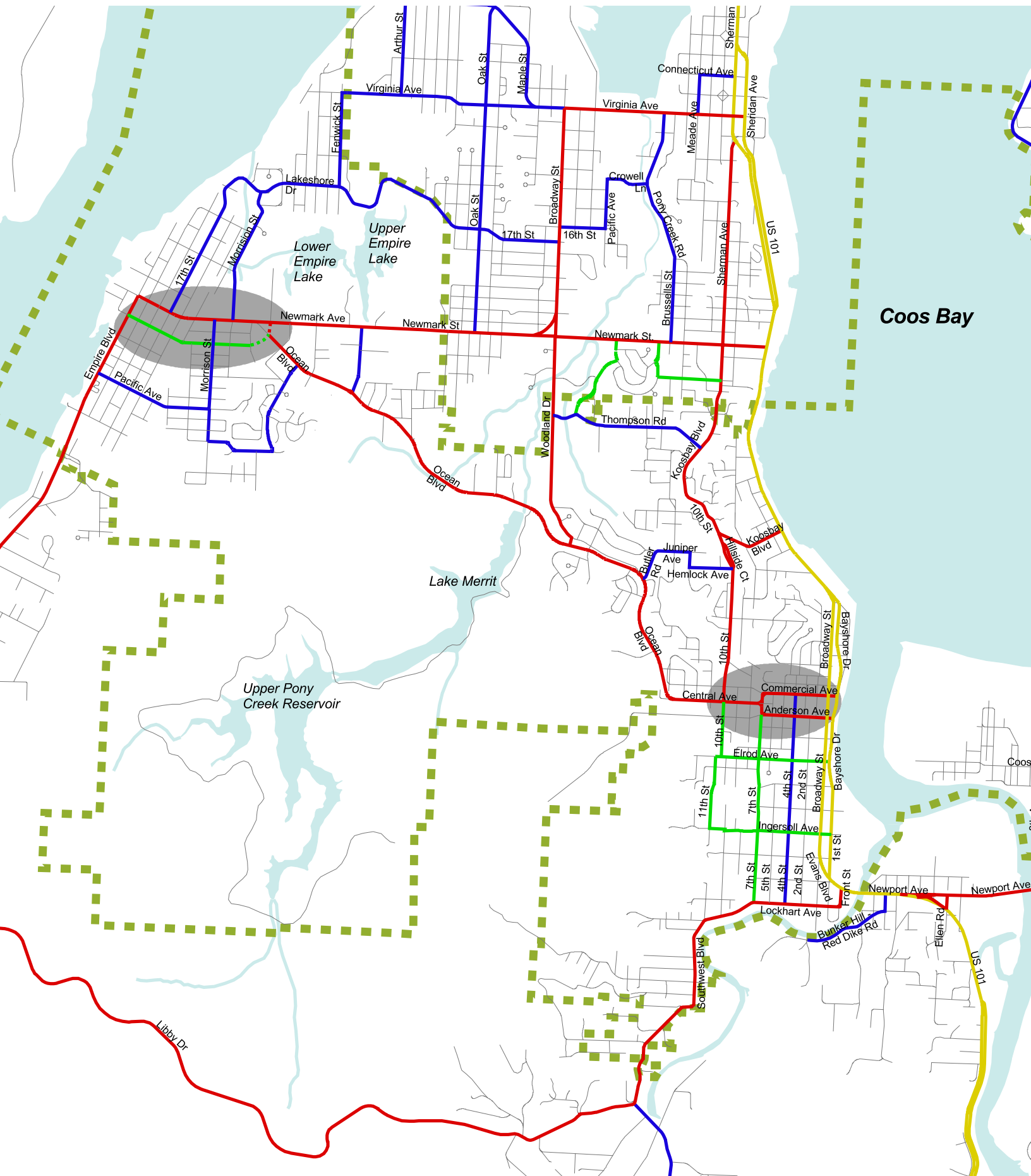
### Street Design Standards

The design characteristics of streets in Coos Bay were developed to meet the function and demand for each facility type. Because the actual design of a roadway can vary, the objective was to define a system that allows standardization of key characteristics to provide consistency, but also to provide criteria for application that provides some flexibility, while meeting standards. Figure 3-3 shows streets where right-of-way should be reserved for more than two lanes. Figures 3-4 to 3-6 depict sample street cross-sections and design criteria for arterials, collectors, neighborhood routes and local streets. The arterial street section indicates a range of sidewalk width. The actual width constructed would reflect right-of-way constraints and land use policies.

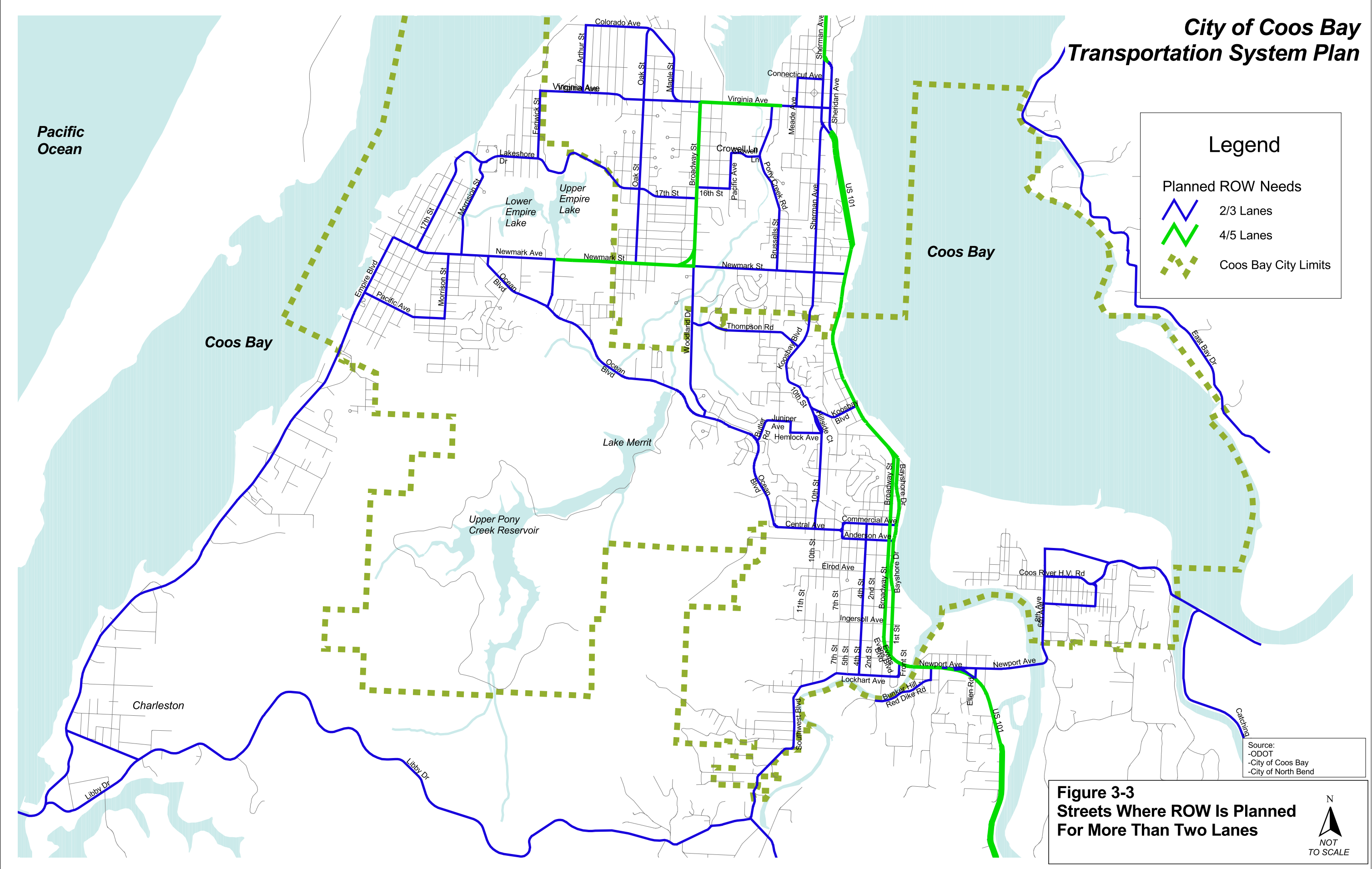
The analysis of capacity and circulation needs for Coos Bay outlines several roadway cross sections. The most common are 2, 3 and 5 lanes wide. Where center left turn lanes are identified (3 and 5 lane sections), the actual design of the street may include sections without center turn lanes (2 or 4 lane sections) or with median treatments, where feasible. The actual treatment will be determined within the design and public process for implementation of each project. The plan outlines requirements which will be used in establishing right-of-way needs for the development review process.

Wherever arterial or collectors cross each other, planning for additional right-of-way to accommodate turn lanes should be considered within 500 feet of the intersection. Figure 3-3 summarizes the Coos Bay streets which are anticipated within the TSP planning horizon to require right-of-way for more than two lanes. Planning level right-of-way needs can be determined utilizing Figures 3-3 to 3-5. Specific right-of-way needs will need to be monitored continuously through the development review process to reflect current needs and conditions (that is to say that more specific detail may become evident in development review which requires improvements other than these outlined in this 20 year general planning assessment of street needs).

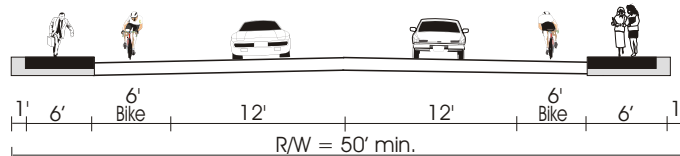
These cross sections are provided for guiding discussions that will update the City of Coos Bay Standard Specifications for Public Works Construction. The City of Coos Bay will need to coordinate with other regional agencies to assure consistency in cross section planning as the County Transportation Plan moves forward.



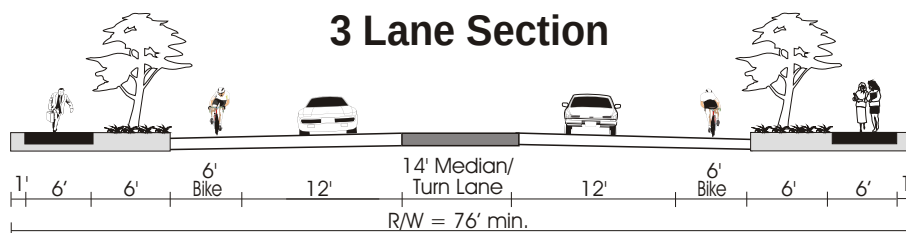




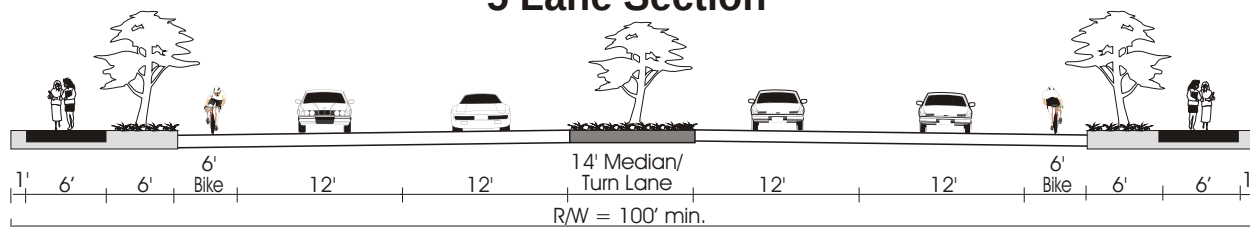
## 2 Lane Section



## 3 Lane Section



## 5 Lane Section



### Arterial & Collector Proposed Street Design Characteristics (typically minimums unless stated otherwise)

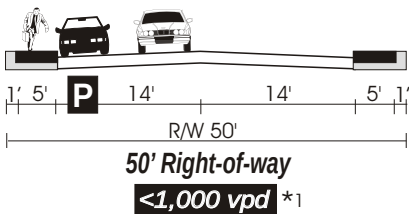
| Characteristic                                                                                                 | Arterials                                                                      | Collectors               |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------|
| Vehicle Lane Widths<br>(Truck Route - 12 ft.)<br>(Bus Route - 11 ft.)<br>(Turn Lane - 12-14 ft.)* <sup>1</sup> | 12 ft.                                                                         | 11 ft.                   |
| On-Street Parking                                                                                              | 8 ft.                                                                          |                          |
| Bicycle Lanes (minimums)                                                                                       | New Construction - 6 ft.<br>Reconstruction - 5-6 ft.                           |                          |
| Sidewalks (minimums)                                                                                           | 6-10 ft.                                                                       | 5-8 ft.                  |
| Landscape Strips                                                                                               | Optional (compensate with wider sidewalk on arterials & collectors if omitted) |                          |
| Medians                                                                                                        | 5-Lane - Required<br>3-Lane - Optional                                         |                          |
| Neighborhood Traffic Management (NTM)                                                                          | Only Under Special Conditions                                                  | Under Special Conditions |
| Transit                                                                                                        | Appropriate                                                                    |                          |
| Turn Lanes                                                                                                     | When Warranted * <sup>2</sup>                                                  |                          |
| Access Control                                                                                                 | See Later Discussion                                                           |                          |

#### Notes:

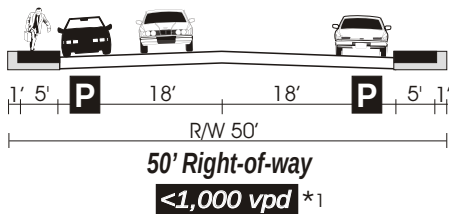
1. In constrained conditions on collectors, neighborhood and local routes, a minimum width of 10 feet may be considered (except on bus routes). 14-feet is desirable for continuous two-way left turn lanes.
2. Turn lane warrants should be reviewed using Highway Research Record No. 211, NCHRP Report No. 279 or other updated/superseding reference.

**Figure 3-4**  
**ARTERIAL/COLLECTOR STREETS**  
**COOS BAY RECOMMENDED**  
**STREET CROSS SECTIONS**

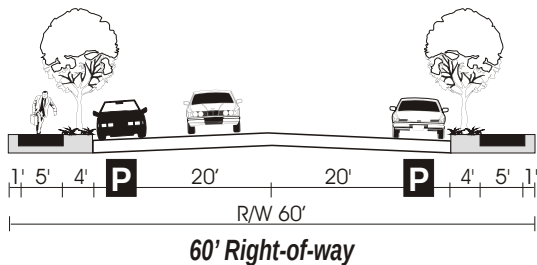
**28' Standard Residential**



**36' Neighborhood Residential**



**40' Standard Commercial/Industrial**



**Local Proposed Street Design Characteristics**

(typically minimums unless stated otherwise)

| Characteristic                              | Neighborhoods            | Locals                     |
|---------------------------------------------|--------------------------|----------------------------|
| Vehicle Lane Widths<br>(Bus Route - 11 ft.) | 10 ft. *2                | 10 ft. *2                  |
| On-Street Parking                           | 8 ft.                    |                            |
| Sidewalks (minimums)                        | 5 ft.                    | 5 ft.                      |
| Medians                                     |                          |                            |
| Neighborhood Traffic<br>Management (NTM)    | Should<br>Consider       | Should Not be<br>Necessary |
| Transit                                     | Special<br>Circumstances | Not Appropriate            |
| Turn Lanes                                  |                          |                            |
| Access Control                              |                          |                            |

**Notes:**

1. Local residential streets typically carry <1,000 vehicles per day, but it is not intended as a design capacity or limit.
2. In constrained conditions on collectors, neighborhood and local routes, a minimum width of 10 feet may be considered (except on bus routes).

**Legend**

**P** - On-street Parking Lane

**Figure 3-5**  
**LOCAL STREETS**  
**COOS BAY RECOMMENDED**  
**STREET CROSS SECTIONS**

### Flags and Flowers Program<sup>5</sup>

In considering the transportation picture, it is important not to discount the importance of an aesthetically pleasing, safe, well maintained streetscape. Improvements in this area – in line with design guidelines that combine visual appeal with access and practicality – help to jump-start the chain reaction of business refurbishment, development and growth, by contributing to an environment that encourages positive change.

The Flags & Flowers program developed by the South Coast Development Council's Tourism Committee targets both appearance and access along our community's major traffic corridor (Highway 101) and at key gateway points such as the city limits and the airport terminal. Strategic placements of attractive lighting and flower baskets, seasonal flags and banners, and landscaping elements will lend a needed boost to business districts while visually "softening" industrial properties. As foot traffic to these areas can be expected to increase, the plan also includes greatly improved pedestrian facilities, with new or upgraded sidewalks and better handicap access. This pedestrian improvement helps to diversify the area's transportation mix and is very much in line with this Transportation System Plan.

All Flags & Flowers components are designed to be implemented in phases, allowing for minimal disruptions in the initial stages and easy expansion to other areas as development increases. These design elements will enhance both transportation flow and economic development, and inclusion of the Flags & Flowers standards in the Transportation Plan is strongly recommended.

The proposed elements of these designs will need to be coordinated with ODOT since there are strict standards that must be followed for many of these items.

## **Connectivity / Local Street Plan**

Much of the local street network in Coos Bay already exists and, in many cases, it is fairly well connected. In other words, multiple access opportunities exist for entering or exiting neighborhoods. A good example of this is the area in Coos Bay southwest of downtown, where a "grid" street system is in place. However, there are several locations in Coos Bay where, due to the lack of connection points, the majority of neighborhood traffic is funneled onto one single street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes that impacts residential frontage. By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between various modes can be enhanced and traffic levels can be balanced out between various streets. Several goals and policies established by this TSP are intended to accomplish these objectives.

In Coos Bay, some of these local connections can contribute with other street improvements to mitigate capacity deficiencies by better dispersing traffic. Several roadway connections will be needed within neighborhood areas to reduce out of direction travel for vehicles, pedestrians and bicyclists. This is most important in the areas where there is a significant amount of undeveloped land. Figure 3-6 shows the proposed Local Street Connectivity Plan for Coos Bay. In some cases, the connector alignments are not specific and are aimed at reducing potential neighborhood traffic impacts by better balancing traffic flows on neighborhood routes. The dashed lines shown in the figures represent potential connections and the general direction for the placement of the connection. In each case, the specific alignments and design will be better determined upon development review. In other cases, the arrow reflects a pending in-fill development project's proposed street alignment.

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<sup>5</sup> Text provided by South Coast Development Council's Tourism Committee, June, 2003.

The criteria used for providing connections is as follows<sup>6</sup>:

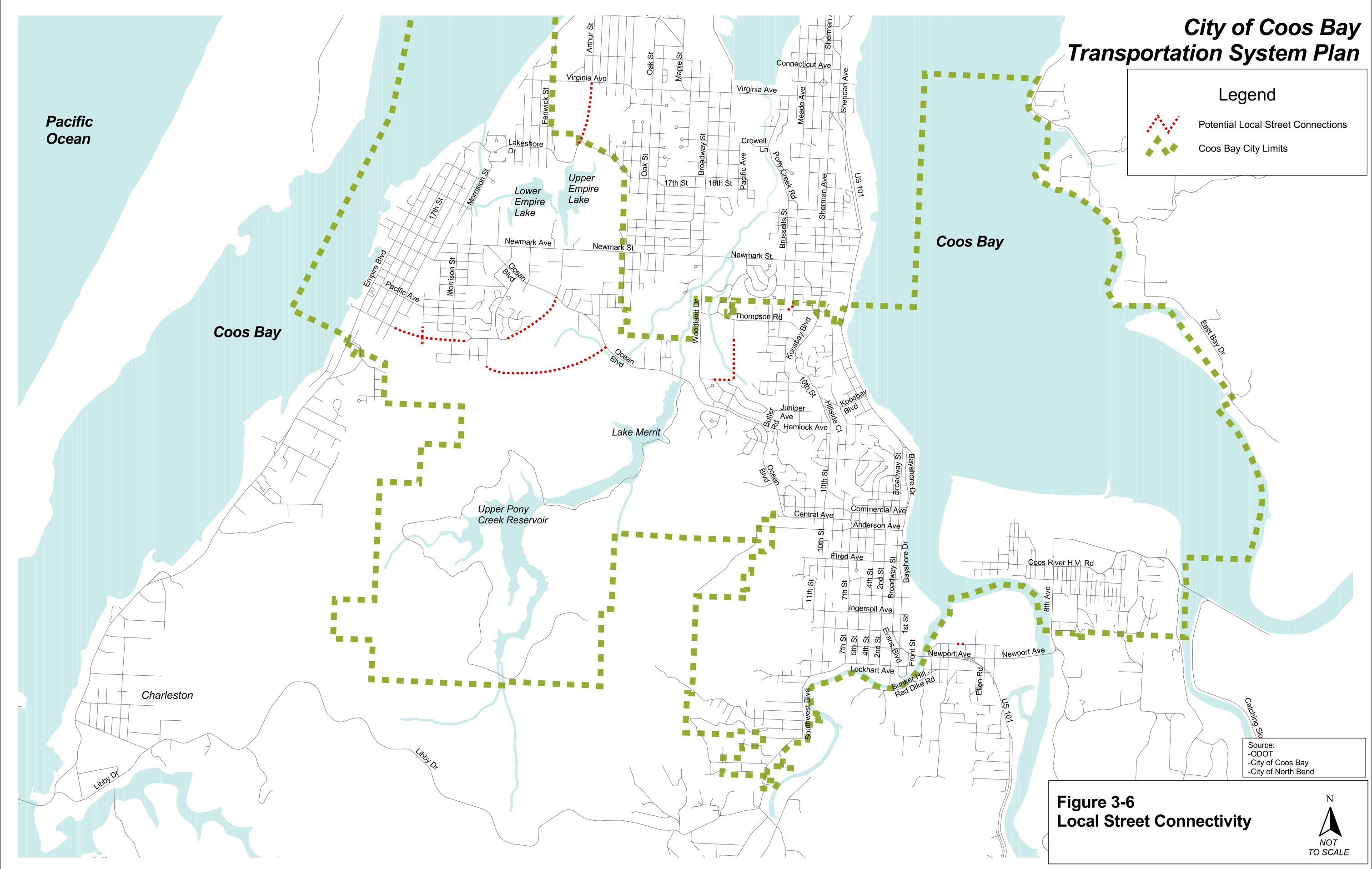
- Every 300 to 500 foot grid for pedestrians and bicycles
- Every 500-1,000 foot grid for automobiles

To protect existing neighborhoods from potential traffic impacts of extending stub end streets, connector roadways should incorporate neighborhood traffic management into their design and construction. Neighborhood traffic management is described later in this chapter.

The dashed lines shown on the local connectivity figures indicate priority connections only. Topography, railroads and environmental conditions limit the level of connectivity in Coos Bay. Other stub end streets in the City's road network may become cul-de-sacs, extended cul-de-sacs or provide local connections. Connections from these stub end streets could be deemed appropriate and beneficial to the public, as future development occurs. The goal would continue to be improved city connectivity for all modes of transportation.

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<sup>6</sup> Metro Functional Plan Title 6 calls for pedestrian/bicycle connectivity every 330 feet and motor vehicle connectivity every 530 feet.



# Motor Vehicle Improvement Plans

## Circulation/Capacity Needs

The motor vehicle capacity and circulation needs in Coos Bay were determined for existing and future conditions. The process used for analysis is described in Technical Memorandum entitled “Existing and Future Traffic Volumes”, which can be found in the appendix of this plan. The findings and recommendations of the analysis are presented below. The extent and nature of the street improvements for Coos Bay are generally consistent with current transportation plans. This section outlines the type of street improvements that would be necessary as part of a long-range master plan. Phasing of implementation will be necessary since all the improvements cannot be done at once. This will require prioritization of projects and periodic updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following section are a guide to managing growth in Coos Bay, defining the types of right-of-way and street needs that will be required as development occurs.

## Model Forecasts

Existing conditions were identified in Chapter 3. Future capacity needs were developed using a detailed travel demand forecast tool, based on a travel demand model developed for the Coos Bay area by ODOT. Evening peak hour traffic volumes were forecast for the future (year 2020) scenario for the Coos Bay area. The 2020 test was performed on a street network which included existing roads, plus those improvements which are currently funded and would likely be implemented before the 2020 scenario is reached. In Coos Bay, the only improvement included was the following:

- Newmark Avenue: Widening from two lanes to three lanes (two travel lanes and a center left turn lane) between LaClair Street and Ocean Boulevard.

In general, traffic volumes were typically up around 15 percent citywide over the 20 year horizon.

## Future Needs

Future transportation conditions were evaluated in a similar manner to existing conditions. Improvements to intersections, roadways between intersections and brand new or extended facilities were considered and a package of recommended improvements was determined.

Forecasts of 2020 traffic volumes were developed using the forecast model. These data were reviewed and refined to produce detailed year 2020 PM peak hour traffic forecasts at intersections. When assigned to the roadway network, this level of traffic growth is expected to create the need for improvements at only a few locations. Intersection levels of service under year 2020 base future conditions (see Chapter B in the Technical Appendix) and have been incorporated into the recommended street improvements described below.

## System Alternatives

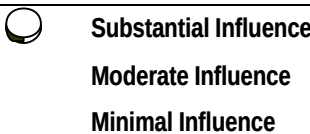
The transportation improvements and programs developed through the existing and future needs analyses of the transportation system plan process were reviewed to consider effectiveness and priorities for implementation. Three groups of system alternatives were assembled for this purpose:

- 1) **No Build** – Only projects with previously committed funding from city, county or state would be included;
- 2) **Priority** – Projects with relatively higher benefits and relatively lower implementation costs to the city would be included;
- 3) **Full Build** – All the projects and programs identified in the transportation system plan would be included, with the assumption that necessary funding could be secured.

The first and third groups of projects were readily identified from the previous analysis. The middle group (Priority) was assembled based on how well each proposed project or program element influence compliance with the seven transportation goals established for the city, and previous analysis about project need. Table 3-3 summarizes these influences for the city based on the general types of projects proposed. The most influential projects across all of the goals relate to pedestrian, bicycle and safety/access management improvements. The next most influential is roadway capacity improvements. In addition to these policy compliance considerations, the system improvements for pedestrian, bicycle and motor vehicle were divided into near-term (Action Plan) and long-term (Master Plan) categories based on performance standards (e.g., distance to major ped/bike generator, or the estimated year where demands would exceed minimum v/c ratio standards). The elements of each System Alternative are described in the next section.



**Table 3-3: Influence of Recommended Transportation Improvements on Transportation Goals**

| Transportation Goals                                                                                                                                                                                               | Roadway Capacity | Safety / Access Mgmt. | Sidewalk Construction / Pedestrian Crossings | Bike Facilities | Neighborhood Traffic Mgmt. | Transportation System Management |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|----------------------------------------------|-----------------|----------------------------|----------------------------------|
| <b>Goal #1:</b><br>Transportation facilities designed and constructed in a manner to enhance Coos Bay's livability and meet federal, state, regional, and local requirements.                                      |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #2:</b><br>A balanced transportation system.                                                                                                                                                               |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #3:</b><br>A safe transportation system                                                                                                                                                                    |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #4:</b><br>An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.                                                                    |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #5:</b><br>Transportation facilities that serve and are accessible to all members of the community.                                                                                                        |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #6:</b><br>Transportation facilities that provide efficient movement of goods and services.                                                                                                                |                  |                       |                                              |                 |                            |                                  |
| <b>Goal #7:</b><br>Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system. |                  |                       |                                              |                 |                            |                                  |
|                                                                                                                                 |                  |                       |                                              |                 |                            |                                  |

## Road Improvements

The improvements that would mitigate 2020 conditions are described in Table 3-3. Projects have been categorized as Action Plan (high priority near-term projects) and Master Plan (longer-term) projects. The Action Plan (Table 3-4) consists of projects that the City should actively try to fund in the next ten years. More specific prioritization should occur in coordination with the CIP process. All improvements on arterials and collectors shall include sidewalks, bike lanes and transit facilities.

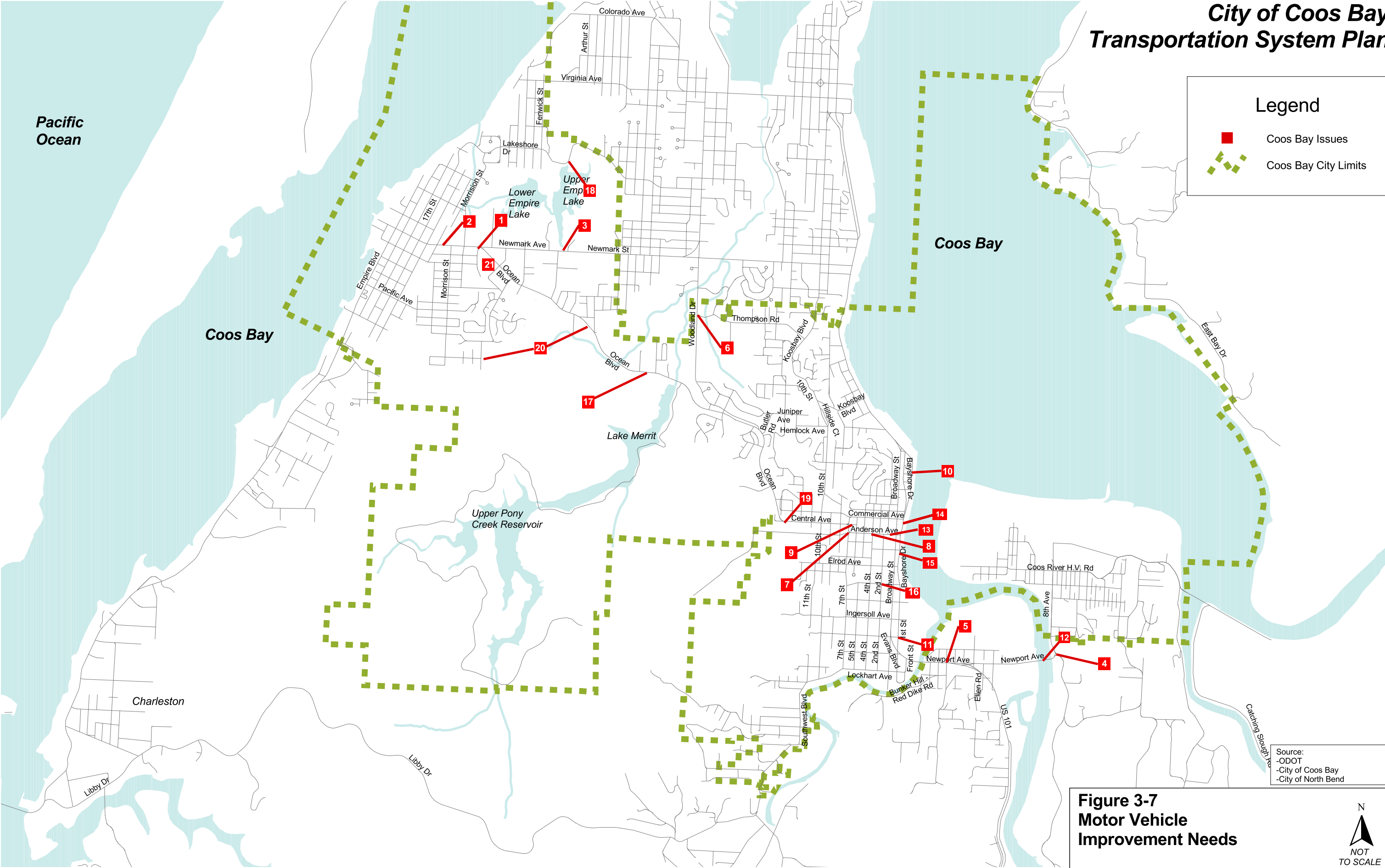
Based upon the evaluation of intersection level of service, none of the study intersections operate at worse than level of service D in the 2020 evening peak hour with planned improvements. In general, the existing roadway network will be sufficient to accommodate the growth predicted for the 20-year period. The primary needs in Coos Bay are to correct existing safety deficiencies as identified previously in the plan and to plan for and accommodate other modes of transportation, including bicycles, pedestrians and transit. Table 3-4 and Figure 3-7 summarize the future street and intersection improvements that will be required in the next 20 years. These improvements are not listed in priority order.

**Table 3-4: Future Street/Intersection Improvements**

| No.                         | Location                                                      | Description                                                                                                                                                                                                                                               | Funding Status  |
|-----------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <i>Action Plan Projects</i> |                                                               |                                                                                                                                                                                                                                                           |                 |
| 3                           | Newmark Avenue between Norman and Ocean Boulevard             | Widen to provide two travel lanes with a center left turn lane/median. Consolidate driveways where possible to maintain facility capacity.                                                                                                                | Current Project |
| 6                           | Woodland Drive/Thompson Road                                  | Install traffic signal. Realign Thompson Road approach to improve sight distance at intersection.                                                                                                                                                         | Not Funded      |
| 7                           | 7 <sup>th</sup> Street/Anderson Avenue                        | Construct median/barrier precluding access from Central/Anderson to 7 <sup>th</sup> Street south of Anderson or to Anderson Street west of 7 <sup>th</sup> Street                                                                                         | Not Funded      |
| 8                           | Central/Anderson between 10 <sup>th</sup> Street and Broadway | Restrict parking near intersections (paint curbs), install curb extensions on corners with major pedestrian crossings, restripe to include bike lane on south side, remove in-road traffic diverters at 4 <sup>th</sup> Street and 2 <sup>nd</sup> Street | Not Funded      |
| 13                          | Anderson Avenue Traffic Flow                                  | Linked with project 8, described previously                                                                                                                                                                                                               | Not Funded      |
| 14                          | US 101/Central Avenue                                         | Modify traffic signal to be pedestrian-actuated                                                                                                                                                                                                           | Not Funded      |
| 15                          | US 101 Southbound from Central Avenue to Elrod Avenue         | Upgrade outdated traffic signal heads and controllers. Install interconnect and coordinate signals between Commercial Avenue and Elrod Avenue                                                                                                             | Not Funded      |
| 17                          | Ocean Boulevard                                               | Restripe entire length to include 3 lanes (two travel lanes and a center left turn lane) and bike lanes                                                                                                                                                   | Not Funded      |
| 18                          | Lakeshore Drive                                               | Consider traffic calming measures to reduce motor vehicle speeds on long straight road segments.                                                                                                                                                          | Not Funded      |
| 20                          | Prefontaine/K-Mart Connection                                 | Conduct feasibility study to determine ability to construct local street connection given topography and right-of-way considerations.                                                                                                                     | Not Funded      |
| 21                          | Michigan Avenue Extension to Ocean Boulevard                  | Conduct feasibility study to determine ability to construct local street connection given existing land development and right-of-way requirements                                                                                                         | Not Funded      |
| <i>Master Plan Projects</i> |                                                               |                                                                                                                                                                                                                                                           |                 |
| 1                           | Newmark/Ocean Boulevard                                       | Realign Ocean Boulevard to meet Newmark opposite Ackerman Street. Relocate traffic signal                                                                                                                                                                 | Not Funded      |
| 2                           | Newmark between Ocean Boulevard and Cape Arago                | Extend local street connection via Michigan Avenue connecting to Ocean Boulevard via one of two                                                                                                                                                           | Not Funded      |

|       |                                                                     |                                                                                                                                                                                                                            |                                          |
|-------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|       | Highway                                                             | possible alignments.                                                                                                                                                                                                       |                                          |
| 4     | Coos River Highway/Olive Barber                                     | Install traffic signal with advance signal head and eliminate southbound to westbound “slip” lane                                                                                                                          | Not Funded                               |
| 5     | US 101 at Bunker Hill/Coos River Highway                            | Incorporate ODOT recommendations into TSP when available                                                                                                                                                                   | Study in Process                         |
| 9     | Central/Anderson between 6 <sup>th</sup> and 7 <sup>th</sup> Avenue | -- Project eliminated --                                                                                                                                                                                                   | N/A                                      |
| 10    | Bayshore Drive/North Front Street Area                              | Create and implement access management plan                                                                                                                                                                                | Not Funded                               |
| 11    | Bayshore/Johnson Avenue                                             | Explore options for improving this intersection. Issues include potential need for eastbound left turn protection, confusion to westbound through traffic and a right-turn drop lane immediately east of the intersection. | Not Funded                               |
| 12    | Isthmus Slough Bridge                                               | Incorporate ODOT recommendations into TSP when available                                                                                                                                                                   | Study in Process—Design and Construction |
| 16    | 2 <sup>nd</sup> /Golden                                             | Explore options to help reduce high collision rate                                                                                                                                                                         | Not Funded                               |
| 19    | Central Avenue/Ocean Boulevard                                      | Further examination of this location will be required. The stop sign on southbound Ocean Boulevard creates backups. Potential solutions should be explored and evaluated.                                                  | Not Funded                               |
| <hr/> |                                                                     |                                                                                                                                                                                                                            |                                          |
| Note: |                                                                     | All projects include sidewalks, bicycle lanes and transit accommodations as required.                                                                                                                                      |                                          |

City of Coos Bay  
Transportation System Plan



## Traffic Control Master Plan

To guide future implementation of traffic signals to locations which have the maximum public benefit by serving arterial/collector/neighborhood routes, a framework master plan of traffic signal locations was developed (Figure 3-8). The intent of this plan is to outline potential locations where future traffic signals would be placed to avoid conflicts with other development site oriented signal placement. To maintain the best opportunity for efficient traffic signal coordination on arterials, spacing of up to 1,000 feet should be considered. No traffic signal should be installed unless it meets **Manual of Uniform Traffic Control Devices** warrants. The following key traffic signal issue should be addressed within the transportation policy of Coos Bay:

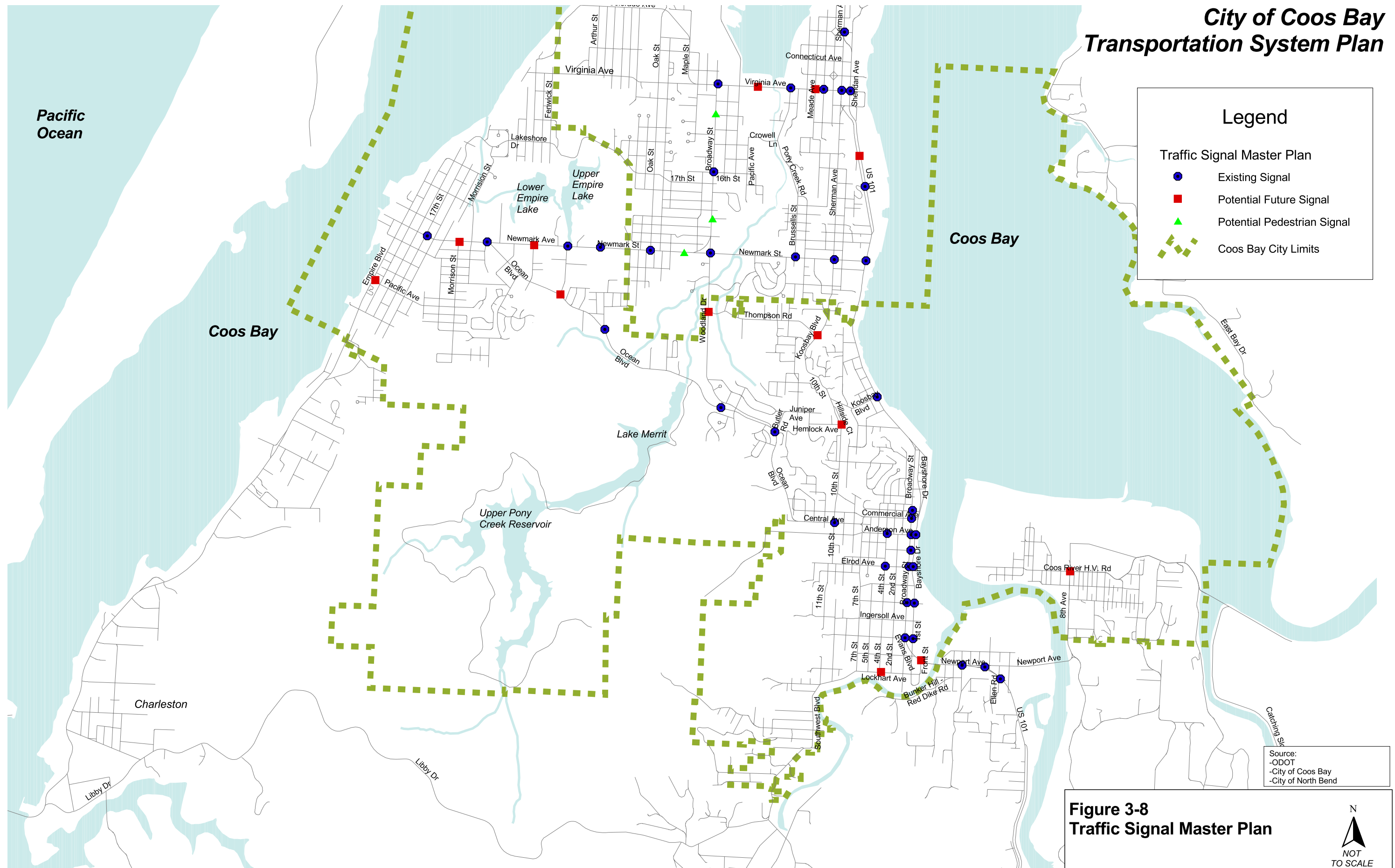
- Establish a traffic signal spacing standard of 1,000 feet and a traffic signal master plan to guide future traffic signal placements. When this standard is not met, additional evaluation should be prepared to assure signal progression could be efficiently maintained.

Traffic signals disrupt traffic flow. Their placement is important for neighborhood access, pedestrian access and traffic control. To not utilize the limited placement of traffic signals to serve private land holdings will limit the potential for use that will generally benefit the public, neighborhoods and pedestrian access. Limiting placement of traffic signals to locations that are public streets would minimize or eliminate the potential for traffic signals solely serving private access.

Emergency Vehicle Preemption – The existing traffic signals do not have the capability to be preempted by emergency vehicles. This is a significant asset to reducing emergency response time. This technology is readily available and includes receivers at each intersection, transmitters in emergency vehicles, and control units attached to the existing signal controllers. The existing controllers may require upgrades to enable this feature. The general cost for adding these units is \$10,000 per intersection. This type of installation is recommended for every traffic signal in the city.

Traffic Signal Coordination – The existing traffic signals along US 101 generally are configured to provide progressive traffic flow through town. They have hardwire interconnect and have time-based coordinated settings. Modern interconnect is preferred and could be either modem interconnect or radio interconnect, depending upon the specific conditions. There are no loop detectors, so during peak periods when volume fluctuates, the controllers are not responsive to changes in demand. To upgrade these signals will likely require new controllers, upgraded communication (either modem or radio interconnect), traffic detector loops and new signal timing plans. The upgrade cost may range up to \$50,000 per signal, depending on the state of the existing equipment.

# ***City of Coos Bay Transportation System Plan***



## Safety Needs

Accident data was obtained for the City of Coos Bay from ODOT. Appendix A provides detailed data regarding motor vehicle accidents in Coos Bay. Several strategies are suggested for improving safety in these City. These strategies are aimed at providing the City with priorities that meet the goals and policies of the City.

- Work with other agencies such as Coos County and ODOT to help prioritize and fund safety programs - coordinated approach
- Develop a citywide safety priority system which identifies high accident locations, ranks the locations and identifies safety mitigation measures
- Address safety issues on an as needed basis

### Suggested Improvements

Most of these high accident locations are included in future street improvements listed previously. In the short term, specific action plans should be prepared to address whether beneficial improvements at these locations can be made without negatively affecting future plans.

A future issue with regard to safety involves the decision to go to three lanes from two lanes or five lanes from four lanes. National research has clearly demonstrated the benefits of providing a turning lane when daily traffic volumes exceed 15,000 vehicles per day<sup>7</sup>. While widening the street can commonly be viewed as pedestrian unfriendly, the potential impact of not having a turning lane is that accident rates will increase substantially (11 to 35 percent) on two lane roads compared to three lane roads.

One safety action that can have an immediate impact is to condition all land use development projects that require access on city streets to maintain adequate sight distance. This should address all fixed or temporary objects (plants, poles, buildings, signs, etc.) that potentially obstruct sight distance. Any property owner, business, agency or utility that places or maintains fixed or temporary objects in the sight distance of vehicles, bicycles or pedestrians should be required to demonstrate that adequate sight distance is provided (per American Association of State Highway and Transportation Officials).<sup>8</sup>

Another safety action that can have an immediate impact is to reprogram traffic signals to include a one-second all-red clearance phase at intersections that have a high number of crossing conflicts. This allows vehicles extra time to clear the intersection before crossing vehicles enter.

## Maintenance

Preservation, maintenance and operation are essential to protect the City's investment in transportation facilities. The majority of current gas tax revenues are used to maintain the transportation system. With an increasing road inventory and the need for greater maintenance of older facilities, protecting and expanding funds for maintenance is critical.

A Pavement Management Program is a systematic method of organizing and analyzing information about pavement conditions to develop the most cost effective maintenance treatments and strategies. As a management tool, it aids the decision-making process by determining the magnitude of the

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<sup>7</sup> Multilane Design Alternatives for Improving Suburban Highways, TRB NCHRP Report No. 282, March 1986.

<sup>8</sup> "A Policy on Geometric Design of Highways and Streets", Green Book American Association of State Highway and Transportation Officials, 1994.

problem, the optimum way to spend funds for the greatest return on the dollar, and the consequences of not spending money wisely. Coos Bay should maintain an annual program of pavement management and monitor conditions in setting priorities for overlays, slurry seals and joint sealing.

A pavement management program can be a major factor in improving performance in an environment of limited revenues. A pavement management program is not and should not be considered the answer to every maintenance question. It is a tool that enables the public works professional to determine the most cost-effective maintenance program. The concept behind a pavement management system is to identify the optimal rehabilitation time and to pinpoint the type of repair that makes the most sense. With a pavement management program, professional judgment is enhanced, not replaced.

Coos Bay has an Overlay Projects schedule for the next 10 years. This schedule was most recently updated in March, 2001 and can be found in the appendix of this plan.

A critical concept is that pavements deteriorate 40 percent in quality in the first 75 percent of their life. However, there is a rapid acceleration of this deterioration later, so that in the next 12 percent of life, there is another 40 percent drop in quality. A pavement management system can identify when pavements will begin to deteriorate before rapid deterioration starts, to focus preventative maintenance efforts cost effectively. These solutions are generally one-fifth to one-tenth the cost required after a pavement is 80 percent deteriorated. Figure 3-9 illustrates the pavement life cycle. For this reason, support of gradual increases to the gas tax to support maintenance is critical.

### Neighborhood Traffic Management (NTM)

Neighborhood Traffic Management (NTM) is a term that has been used to describe traffic control devices typically used in residential neighborhoods to slow traffic or possibly reduce the volume of traffic. NTM is descriptively called traffic calming due to its ability to improve neighborhood livability. Coos Bay has done very little in the way of testing and implementing NTM measures such as speed humps, chokers, pavement texturing, circles, chicanes and other elements. It is recommended that a neighborhood traffic management program be established to take a more proactive position in managing neighborhood concerns. This would include establishing minimum performance criteria, a ranking system, and preferred conditions for implementing other control devices and strategies. The following are examples of neighborhood traffic management strategies:

- speed wagon (reader board that displays vehicle speed)
- speed humps
- traffic circles
- medians
- landscaping
- curb extensions
- chokers (narrows roadway at spots in street)
- narrow streets
- closing streets
- photo radar
- on-street parking
- selective enforcement
- neighborhood watch



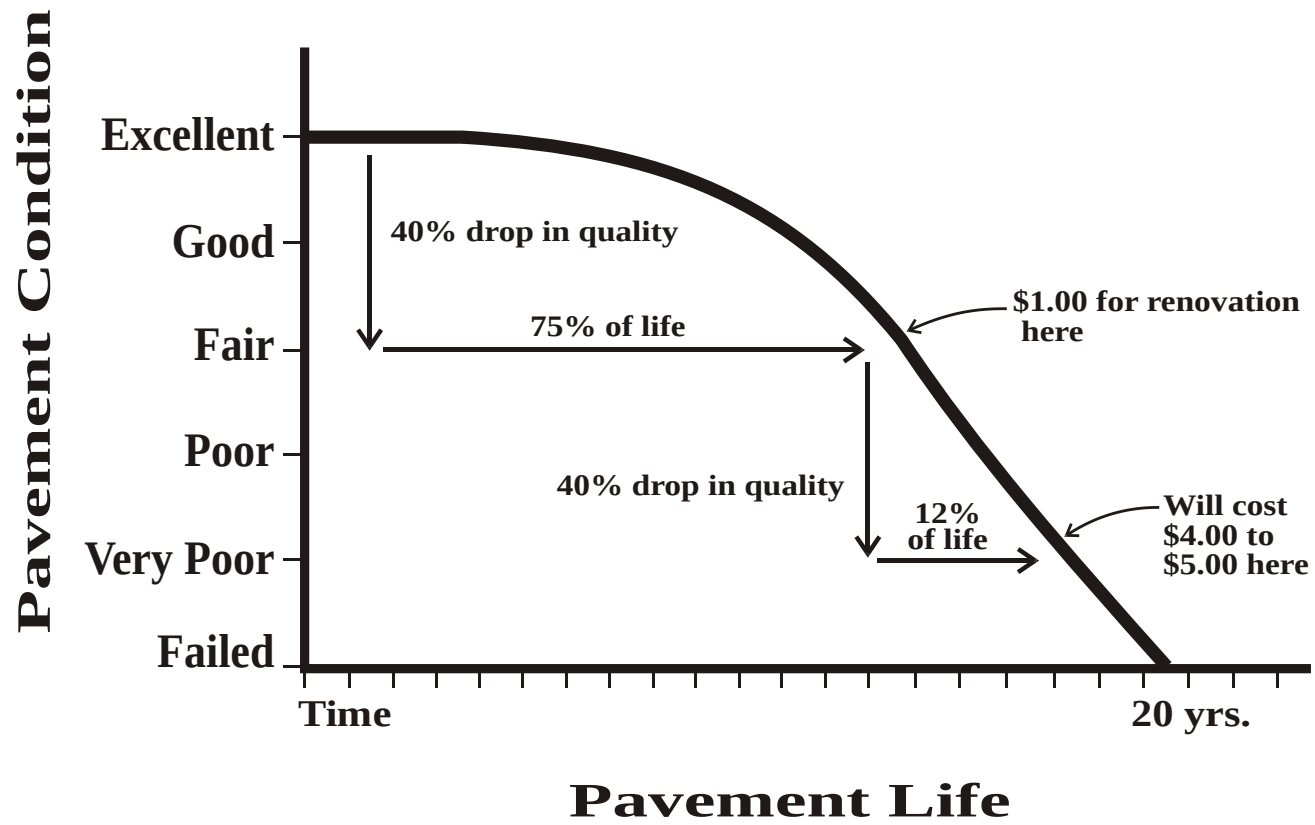


**Figure 3-9  
PAVEMENT LIFE CYCLE**

Typically, NTM can receive a favorable reception by residents adjacent to streets where vehicles travel at speeds above 30 MPH. However, NTM can also be a very contentious issue within and between neighborhoods, being viewed as moving the problem rather than solving it, impacting emergency travel or raising liability issues. A number of streets in Coos Bay have been identified in the proposed functional classification as neighborhood routes. These streets are typically longer than the average local street and would be appropriate locations for discussion of NTM applications. A wide range of traffic control devices are being tested around the state, including such devices as chokers, medians, traffic circles and speed humps. NTM traffic control devices should be tested within the confines of Coos Bay before guidelines are developed for implementation criteria and applicability. Also, NTM may be considered in an area wide manner to avoid shifting impacts between areas and should only be applied where a majority of neighborhood residents agree that it should be done. Strategies for NTM seek to reduce traffic speeds on neighborhood routes, thereby improving livability. Research of traffic calming measures demonstrates their effectiveness in reducing vehicle speeds. Table 3-5 summarizes nationwide research of over 120 agencies in North America.

**Table 3-5: Neighborhood Traffic Management Performance**

| Measures       | No. of Studies | Speed Reduction (MPH) |      |      | Volume Change (ADT) |      |      | Public Satisfaction |
|----------------|----------------|-----------------------|------|------|---------------------|------|------|---------------------|
|                |                | Low                   | High | Ave. | Low                 | High | Ave. |                     |
| Speed Humps    | 262            | 1                     | 11.3 | 7.3  | 0                   | 2922 | 328  | 79%                 |
| Speed Trailer  | 63             | 1.8                   | 5.5  | 4.2  | 0                   | 0    | 0    | 90%                 |
| Diverter       | 39             | -                     | -    | .4   | 85                  | 3000 | 1102 | 72%                 |
| Circles        | 26             | 2.2                   | 15   | 5.7  | 50                  | 2000 | 280  | 72%                 |
| Enforcement    | 16             | 0                     | 2    | 2    | 0                   | 0    | 0    | 71%                 |
| Traffic Watch  | 85             | .5                    | 8.5  | 3.3  | 0                   | 0    | 0    | 98%                 |
| Chokers        | 32             | 2.2                   | 4.6  | 3.3  | 45                  | 4100 | 597  | 79%                 |
| Narrow Streets | 4              | 5                     | 7    | 4.5  | 0                   | 0    | 0    | 83%                 |

SOURCE: *Survey of Neighborhood Traffic Management Performance and Results, ITE District 6 Annual Meeting, by R S. McCourt, July 1997.*

It is recommended that the City of Coos Bay explore the development of a NTM program. This program can use statewide experience and success to help prioritize implementation and address issues on a systematic basis rather than a reactive basis. Criteria should be established for the appropriate application of NTM in the City. This would address warrants, standards for design, funding, special conditions for functional classifications other than neighborhood routes and the required public process. NTM applications on state highways, though unlikely because of their typically arterial status, would require approval from the state highway engineer.

### Access Management

Access management is control or limiting of access on arterial and collector facilities to preserve their functional capacity. Numerous driveways erode the capacity of arterial and collector roadways. Preservation of capacity is particularly important on higher volume roadways for maintaining traffic flow and mobility. Whereas local and neighborhood streets function to provide access, collector and arterials streets serve greater traffic volume. Numerous driveways or street intersections increase the number of conflicts and potential for accidents and decrease mobility and traffic flow. Coos Bay, as with every city, need a balance of streets that provide access with streets that serve mobility.

### Proposed Access Management Strategies

Several access management strategies were identified to improve access and mobility in Coos Bay:

- Provide left turn lanes where warranted<sup>9</sup> for access onto cross streets
- Work with land use development applications to consolidate driveways where feasible
- Meet ODOT access requirements on arterials
- Establish City access standards for new developments on collectors and arterials
- New single family accesses should be prohibited on arterials and collectors, with provisions made for land locked parcels with no alternative access
- Driveways should not be placed in the influence area of intersections. The influence area is that area where queues of traffic commonly form on the approach to an intersection (typically between 100 and 300 feet)<sup>10</sup>.
- Use of ODOT standards for access on arterials and collectors under their jurisdiction.
- Specific access management plans be developed for arterial streets in Coos Bay to maximize the capacity of the existing facilities and protect their functional integrity (in particular, Newmark Avenue between Broadway and Fir Street and Virginia Avenue between US 101 and Harrison). New development should meet the requirements shown in Table 3-6.

**Table 3-6: Proposed Access Spacing Guidelines**

| <i>Functional Classification</i> | <i>Minimum Spacing Between Access Points*</i> |
|----------------------------------|-----------------------------------------------|
| Arterial                         | 500 ft                                        |
| Collector                        | 300 ft                                        |

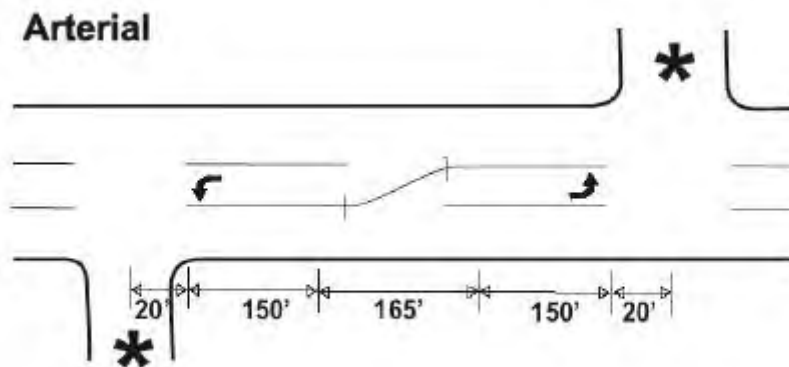
\* Access spacing at intersections may be slightly less, see discussion below. Also, ODOT standards supercede City and County standards on state facilities. On higher classified state facilities, standards may be more stringent (i.e. longer minimum spacing between access points).

<sup>9</sup> Highway Research Record Number 211, Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections.

<sup>10</sup> In a case where a project has less than 100 feet of frontage, the site would need to explore potential shared access, or if that were not practical, place driveway as far from the intersection as the frontage would allow (permitting for 5 feet from the property line).

### Access Spacing

The access spacing criteria presented in Table 3-7 was developed based on creating safe back-to-back deceleration tapers and adequate storage length for vehicles queuing for left turns on opposite sides of the street. 500 feet was chosen for arterials because it adequately allows for two 150 foot left turn storage pockets as well as a 165 foot transition taper in between. While left turn pockets and transition tapers may not actually be striped on the roadway, 500 feet would allow adequate space for vehicles to function as if they were. For collectors, slower speeds require a shorter transition taper and lower volumes would require shorter storage pockets. Overall, the minimum length needed between access points on a collector would be more like 300 feet.



### Intersection Setback

The basis for establishing intersection setback requirements is founded in allowing for adequate vehicle queuing and providing adequate sight distance. At congested arterial/arterial and arterial/collector intersections, vehicle queues commonly extend up to 300 feet from the intersection. These congested intersections typically have dedicated turn lanes, which can create additional conflict points for side-street turning vehicles. Therefore, arterial/arterial and arterial/collector intersections should have a minimum access setback of 300 feet based on vehicle queues.

At collector/collector intersections, vehicle queuing is commonly not a controlling design factor for access spacing. However, maintaining sight distance to access points near the intersection is crucial. The curb radius and turn speed of the intersection controls the required sight distance for this scenario. For turn design speeds of 20 mph or less, access points should be set back at least 100 feet from the intersection. AASHTO stopping sight distance standards can be applied to increase the required setback for higher turn speed designs. Table 3-7 summarizes access spacing guidelines adjacent to intersections.

Existing lots that are currently undeveloped cannot be “land locked.” The maximum access spacing possible should be provided, even if the entire lot frontage is less than the desired access spacing. When corner lots front on two differently classified roadways, all attempts should be made to provide access on the lesser classified street, even if the available frontage is less (assuming the frontage available falls short of the standards on both street classifications). For example, if a residential lot has 50 feet of frontage on a collector and 100 feet of frontage on an arterial, the access should be provided 50 feet from the intersection on the collector, even though the access could be provided further from the intersection on the arterial.

**Table 3-7: Proposed Access Spacing Guidelines at Intersections**

| <i>Intersection Type</i> | <i>Minimum Access Spacing From Intersection</i> |
|--------------------------|-------------------------------------------------|
| Arterial/Arterial        | 300 feet                                        |
| Arterial/Collector       | 300 feet                                        |
| Collector/Collector      | 100 feet-150 feet*                              |

\* 150 feet is desired, 100 feet is minimum for 20 mph design speed.

#### How Does Access Management Work on Non-Compliant Built Roadways?

Access management is not easy to implement and requires long institutional memory of the impacts of short access spacing—increased collisions, reduced capacity, poor sight distance and greater pedestrian exposure to vehicle conflicts.

Access management policies are applied in two cases:

- **New Development** – New development on a vacant parcel (or soon to be vacant parcel with demolition), which requires some sort of land use permit,
- **Re-Development/Re-Use** – A re-development or remodel project makes application for approval that may only require a building permit.

Depending on the City's land use compliance review process, there may or may not already be a mechanism for enforcing access management for the second category. If the current land use compliance process is not required for building-only improvements, this step should be added into the process. The land use review will then trigger the street and access management standards.

#### Added Policy Narrative Enable Requirements

The foundation for authorizing the City to require street improvements, stub streets, access consolidation will lie in the purpose statement of the standards section. The purpose statement should include language such as *"Proposed development shall provide necessary street improvements and access management to maintain an adequate level of service and safety of abutting public streets as required by the TSP."*

A section could be added in the standards that gives the City explicit powers to do so. Some codes include a section titled: Conditions of Approval - The City may require the closing of existing curb cuts, consolidation of vehicle access points, recording of reciprocal access easements for shared driveways, street improvements, installation of traffic control devices, and/or other mitigation measures to ensure the safe and efficient operation of the transportation system.

Reciprocal access easements are an exaction or condition of approval and grant it for free, but are complicated by timing. You have to get them one at a time. The first parcel in may have to stub a connection to adjacent parcel and record an easement, but have temporary access elsewhere with a condition that it be closed when alternative access becomes available. Then, when the adjacent parcel comes in for a permit, they are required to grant an access easement and complete the connection. If the first parcel has no alternative access, then it is up to them to acquire an access easement prior to development.

The same is true for street stubs in a subdivision. Street stubs are required to adjacent vacant property, but are by their nature secondary access. The first development gets to set the stub points, unless they have been predetermined in the TSP. If it is a public street, then there is no access easement issue. Private streets will require a reciprocal access agreement. Then, it is a waiting game for the future development. The second development must connect to stubs and, if private streets, grant reciprocal access as a condition of approval. The authority to

require stubs and access, if private streets, goes back to authority to implement TSP, which ultimately is a public safety issue.

### Transportation Demand Management

The Transportation Planning Rule outlines a goal of reducing vehicle miles traveled (VMT) per capita. Transportation Demand Management is the general term used to describe any action that removes single occupant vehicle trips from the roadway network during peak travel demand periods. The following are examples of TDM measures:

- Work with employers to install bicycle racks
- Work with property owners to place parking stalls for carpoolers near building entrances
- Provide information regarding commute options to larger employers
- Encourage linkage of housing, retail and employment centers
- Encourage flexible working hours
- Encourage telecommuting
- Provide incentives to take transit and use other modes (i.e. free transit pass)
- Schedule deliveries outside of peak hours

### Transportation System Management

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system. Measures that can optimize performance of the transportation system include signal improvements, intersection channelization, access management (noted in prior section), HOV lanes, ramp metering, rapid incident response, and programs that smooth transit operation. The most significant measure that can provide tangible benefits to the traveling public is traffic signal coordination and systems. Traffic signal system improvements can reduce the number of stops by 35 percent, delay by 20 to 30 percent, fuel consumption by 12.5 percent and emissions by 10 percent<sup>11</sup>. This can be done without the major cost of roadway widening.

Several of the strategies are elements of an Intelligent Transportation System (ITS) plan being implemented regionally by ODOT and participating agencies. ITS focuses on a coordinated, systematic approach toward managing the region's transportation multi-modal infrastructure. ITS is the application of new technologies with proven management techniques to reduce congestion, increase safety, reduce fuel consumption and improve air quality. One element of ITS is Advanced Traffic Management Systems (ATMS). ATMS collects, processes and disseminates real-time data on congestion alerting travelers and operating agencies, allowing them to make better transportation decisions. Examples of future ITS applications include routine measures such as automated vehicle performance (tested recently in San Diego), improved traffic signal systems, improved transit priority options and better trip information prior to making a vehicle trip (condition of roads - weather or congestion, alternative mode options - a current "real time" schedule status, availability/pricing of retail goods). Most of this information will be developed by ODOT or other ITS partners (private and public). The information will be available to drivers in vehicles, people at home, at work, at events or shopping.

### Trucks

Efficient truck movement plays a vital role in maintaining and developing Coos Bay's economic base. Well planned truck routes can provide for the economical movement of raw materials, finished products and services. Trucks moving from industrial areas to regional highways or traveling through Coos Bay are different than trucks making local deliveries. The transportation system should be

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<sup>11</sup> *Portland Regionwide Advanced Traffic Management System Plan*, ODOT, by DKS Associates, October 1993.

planned to accommodate this goods movement need. The establishment of through truck routes provides for this efficient movement while at the same time maintaining neighborhood livability, public safety and minimizing maintenance costs of the roadway system. A map of proposed through truck routes in Coos Bay/North was developed (Figure 3-10) based on ODOT's existing freight route designations and logical origins and destinations for trucks in the Coos Bay area. This is aimed at addressing the through movement of trucks, not local deliveries. The objective of this route designation is to allow these routes to focus on design criteria that is "truck friendly", i.e., 12 foot travel lanes, longer access spacing, 35 foot (or larger) curb returns and pavement design that accommodates a larger share of trucks.

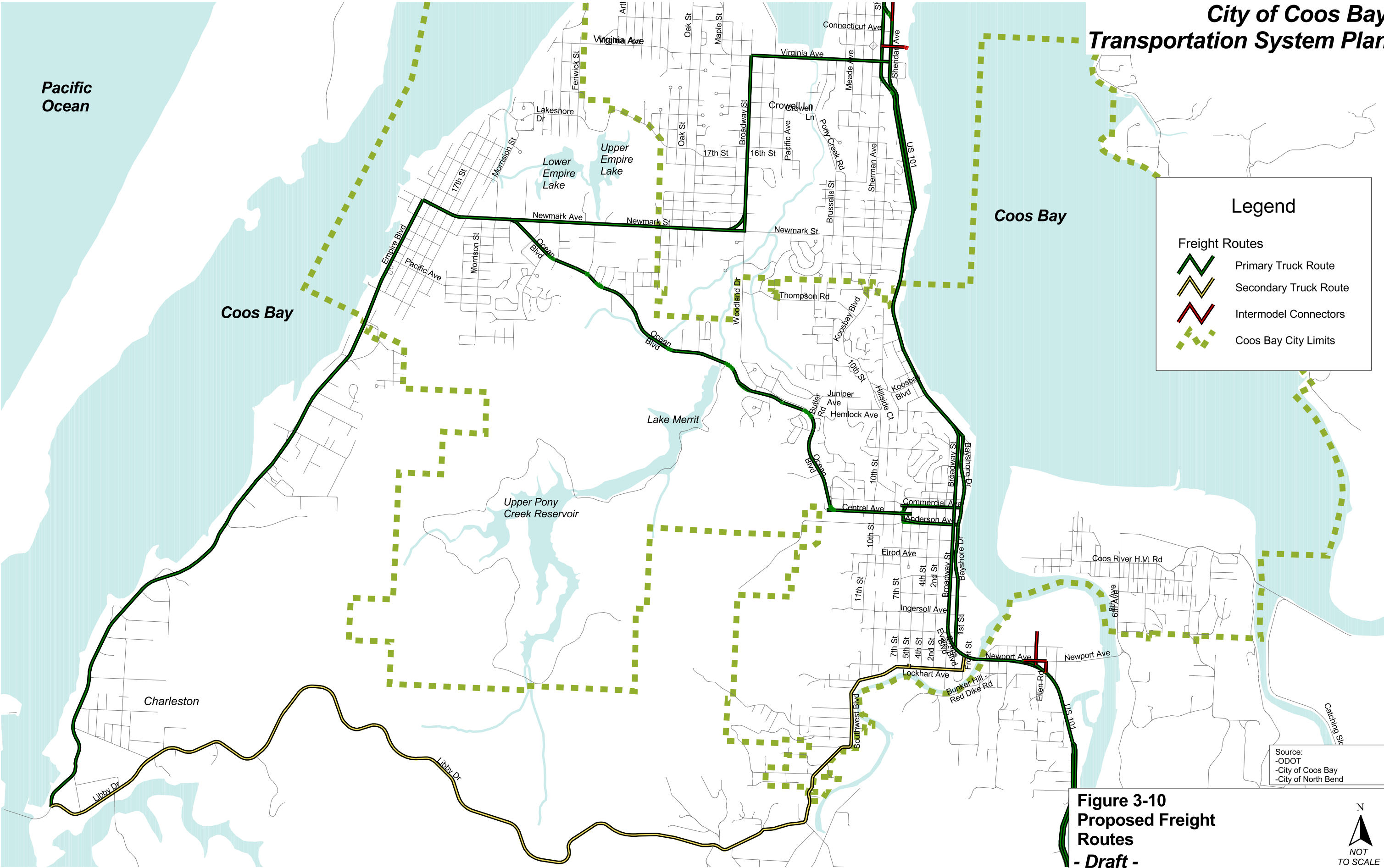




**Table 3-8: ODOT Freight Designations (Proposed Truck Routes)**

| <i>Facility</i>                                  | <i>ODOT Freight Designation</i> |
|--------------------------------------------------|---------------------------------|
| US 101                                           | Road Connector                  |
| Newport Avenue between Edwards Street and US 101 | Intermodal Connector            |
| Mullen Street                                    | Intermodal Connector            |
| Edwards Street                                   | Intermodal Connector            |

## Bicycle Action Plan

The existing Bicycle Route map reflects bicycle accessibility in Coos Bay. Bikeway improvements are aimed at closing the gaps in the bicycle network along arterial and collector roadways. A number of bicycle strategies have been identified and are listed from most important to least important:

- Connect Key bicycle corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.)
- Fill in gaps in the network where some segments of bikeway exist
- Bicycle corridors that connect neighborhoods
- Construct bike lanes with roadway improvement projects
- Bicycle corridors that commuters might use
- Bicycle corridors providing mobility to and within commercial areas

The Bicycle Master Plan builds from state policy from the Transportation Planning Rule and from the City of Coos Bay policies that all arterial and collector roads have bikeways. The Action Plan is consistent with plans developed by Coos County and the State. Additional linkages with lanes or accommodations are outlined to make a complete network. The Bicycle Action Plan (Table 3-9) consists of projects that the City should actively try to fund in the next ten years. With the action plan, a substantial bicycle network would be in place and would allow attention to move toward Master Plan projects. The bicycle plan will require incremental implementation. As development (or redevelopment) occurs, streets are rebuilt and other project funding opportunities (such as grant programs) arise, projects on the Master Plan should be integrated into project development. Many of the projects would be elements of multi-modal street improvement projects. The City, through its Capital Improvement Program, joint funding with other agencies (County, State) and development approval would implement these projects.

### Cost Estimates

Rough cost estimates were made for the Bicycle Action Plans, however, the general unit cost for providing bike facilities depends on a number of factors, including whether sufficient pavement width is available (requiring only restriping), or if roadway widening is required. If roadway widening is required, there are a number of additional factors to consider, including whether there are existing sidewalks that need to be torn out and replaced, whether there are drainage issues that need to be accommodated, etc. For planning purposes, a cost of \$180 per lineal foot was assumed. This cost does not include the acquisition of right-of-way and does not include the cost of installing sidewalks. The specific unit costs vary depending on the number of travel lanes, and the need for additional right-of-way; but, in general, re-striping is ten times less expensive than roadway widening. The project list should be reviewed to determine where re-striping can be performed without compromising motor vehicle capacity.

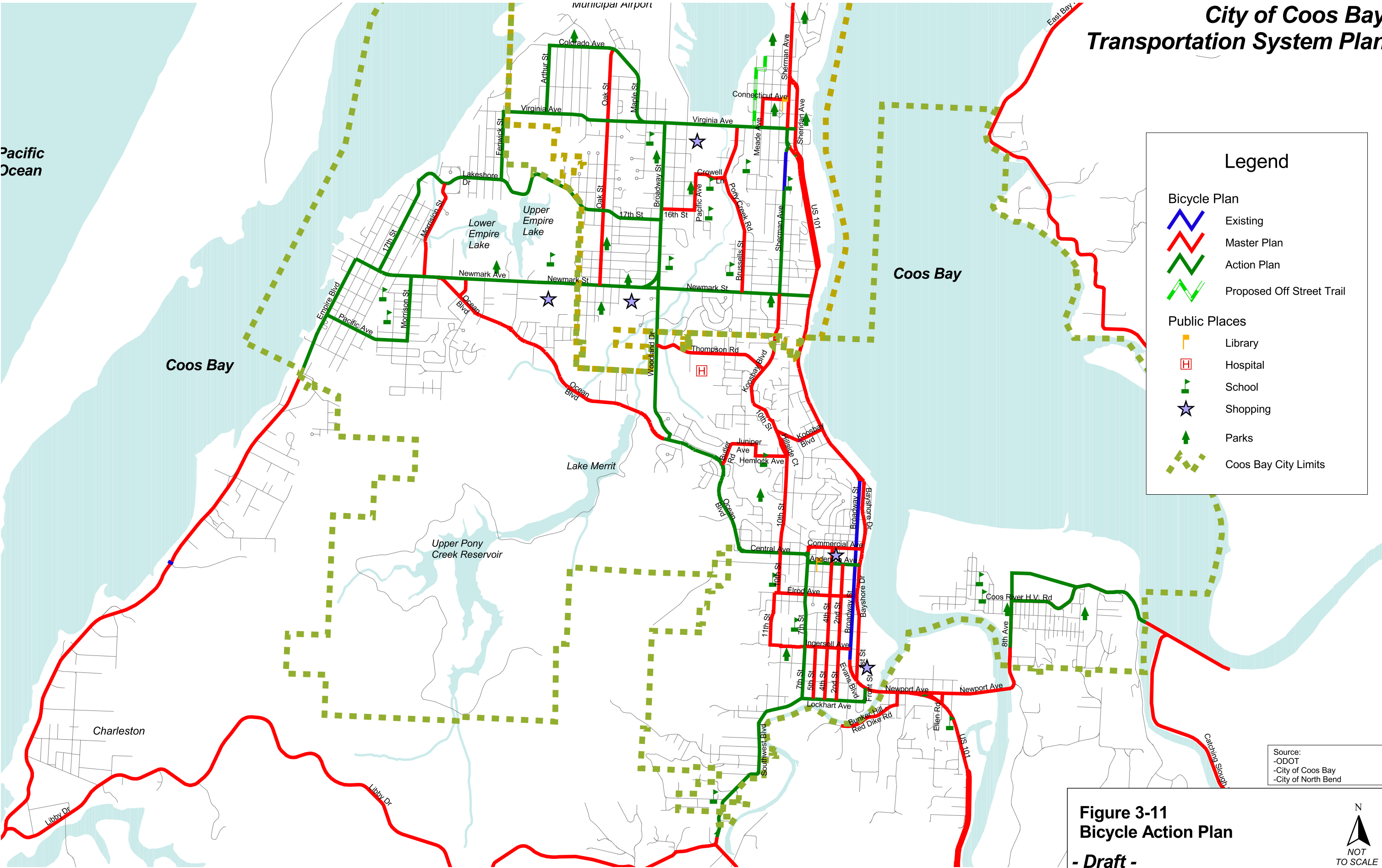
An example in Coos Bay would be Ocean Boulevard. The length of the improvement requiring bike

lanes is 21,000 feet. If this segment could be re-striped to add bike lanes, the estimate cost would be \$210,000 to \$420,000. If the paved width were not sufficient to carry motor vehicle traffic and minimum width bike lanes, then roadway widening is needed at a cost of up to \$6.3 million. This difference is very significant, and the need for roadway widening to facilitate bike lanes should be considered as bike lane projects are further developed.

**Table 3-9 : Bicycle Action Plan**

| <i>Project</i>                                                                                                  | <i>From</i>            | <i>To</i>              | <i>Approximate<br/>Project Length</i> |
|-----------------------------------------------------------------------------------------------------------------|------------------------|------------------------|---------------------------------------|
| <b><i>Priority: Previously funded projects*</i></b>                                                             |                        |                        |                                       |
| Newmark Street                                                                                                  | Ocean Boulevard        | LaClair Street         | 2550 ft                               |
| <b><i>Priority: Connect key bicycle corridors to schools, parks, recreational uses and activity centers</i></b> |                        |                        |                                       |
| Newmark Street                                                                                                  | Empire Boulevard       | Ocean Boulevard        | 3700 ft                               |
| Central Avenue                                                                                                  | Ocean Boulevard        | 7 <sup>th</sup> Street | 2100 ft                               |
| 7 <sup>th</sup> Street                                                                                          | Commercial Avenue      | Lockhart Avenue        | 5000 ft                               |
| Anderson Avenue                                                                                                 | 7 <sup>th</sup> Street | Bayshore Drive         | * ft                                  |
| Southwest Boulevard                                                                                             | Idaho Avenue           | S&J Lane               | 3250 ft                               |
| Coos River Road                                                                                                 | 8 <sup>th</sup> Avenue | East City Limits       | 4900 ft                               |
| 8 <sup>th</sup> Avenue                                                                                          | South City Limits      | Coos River Road        | 2000 ft                               |
| Commercial Avenue                                                                                               | Bayshore Drive         | 7 <sup>th</sup> Street | 1700 ft                               |
| Southwest Boulevard                                                                                             | 7 <sup>th</sup> Avenue | South City Limits      | 5700 ft                               |
| <b><i>Priority: Fill in gaps in bicycle network</i></b>                                                         |                        |                        |                                       |
| Southwest Boulevard                                                                                             | Minnesota Avenue       | 7th Street             | 1050 ft                               |
| Lockhart Avenue                                                                                                 | 7th Street             | Front Street           | 2400 ft                               |
| Empire Boulevard                                                                                                | South City Limits      | Newmark Avenue         | 2100 ft                               |
| Ocean Boulevard                                                                                                 | Newmark Avenue         | Central Avenue         | * ft                                  |
| Woodland Drive                                                                                                  | North City Limits      | Ocean Boulevard        | 3750 ft                               |
| <b>Bicycle Action Plan Projects Total Length (represents both directions):</b>                                  |                        |                        | <b>76,900 ft.</b>                     |
| <b>Bicycle Action Plan Estimated Cost</b>                                                                       |                        |                        | <b>\$13.7 million</b>                 |
| Note: Locations flagged with an * denote bike improvements included with motor vehicle projects.                |                        |                        |                                       |

City of Coos Bay  
Transportation System Plan



## Pedestrian Action Plan

The existing pedestrian system network map reflects pedestrian accessibility in Coos Bay. In most cases, sidewalk improvements are aimed at closing gaps in the existing sidewalk network to provide connectivity rather than capacity. In other words, it is much more important that a continuous sidewalk be available than it be of a certain type or size.

The most important existing pedestrian need in Coos Bay is a well-connected pedestrian system within a half-mile grid and connectivity to key centers in Coos Bay (parks, schools, retail, etc.). Needs include safe, direct and convenient access to transit and crossings of large arterial streets which act as barriers to pedestrian movement, as well as an inventory of local street sidewalk locations in order to complete a detailed sidewalk connectivity plan. In the future, pedestrian needs will be similar in the City, but there will be additional activity centers that will need to be considered and interconnected. A number of pedestrian strategies have been identified and they are listed from most important to least important:

- Connect key pedestrian corridors to schools, parks, recreational uses and activity centers (public facilities, commercial areas, etc.)
- Fill in gaps in the network where some sidewalks exist
- Pedestrian corridors to transit stations and stops
- Signalized pedestrian crossings
- Pedestrian corridors that connect neighborhoods
- Improve streets having sidewalks on one side to two sides
- As development occurs, construction of sidewalks by developers
- Pedestrian corridors that commuters might use
- Reconstruct all existing substandard sidewalks to the City of Coos Bay and City of North Bend Standards

The Pedestrian Master Plan is an overall plan and summarizes the desired framework plan to meet local policy. The more specific, shorter-term Action Plan (Table 3-10 and Figure 3-12) consists of projects that the City or responsible agency could give priority to when funding becomes available. As development occurs, streets are rebuilt, and other opportunities (such as grant programs) arise, projects on the Master Plan should be pursued as well. In addition, all development projects should include an inventory of local street sidewalk conditions in order to populate the City database of sidewalk locations.

An initial cost estimate for the Coos Bay Pedestrian Action Plan is \$7 million. This estimate assumes 6 foot wide sidewalks and new curbs where projects are indicated in Table 3-10, and do not consider additional costs related to extra right-of-way, storm drainage relocation or improvements, or relocation of utility poles. Further engineering study is required to provide a more accurate cost estimate for budgeting these improvement projects.

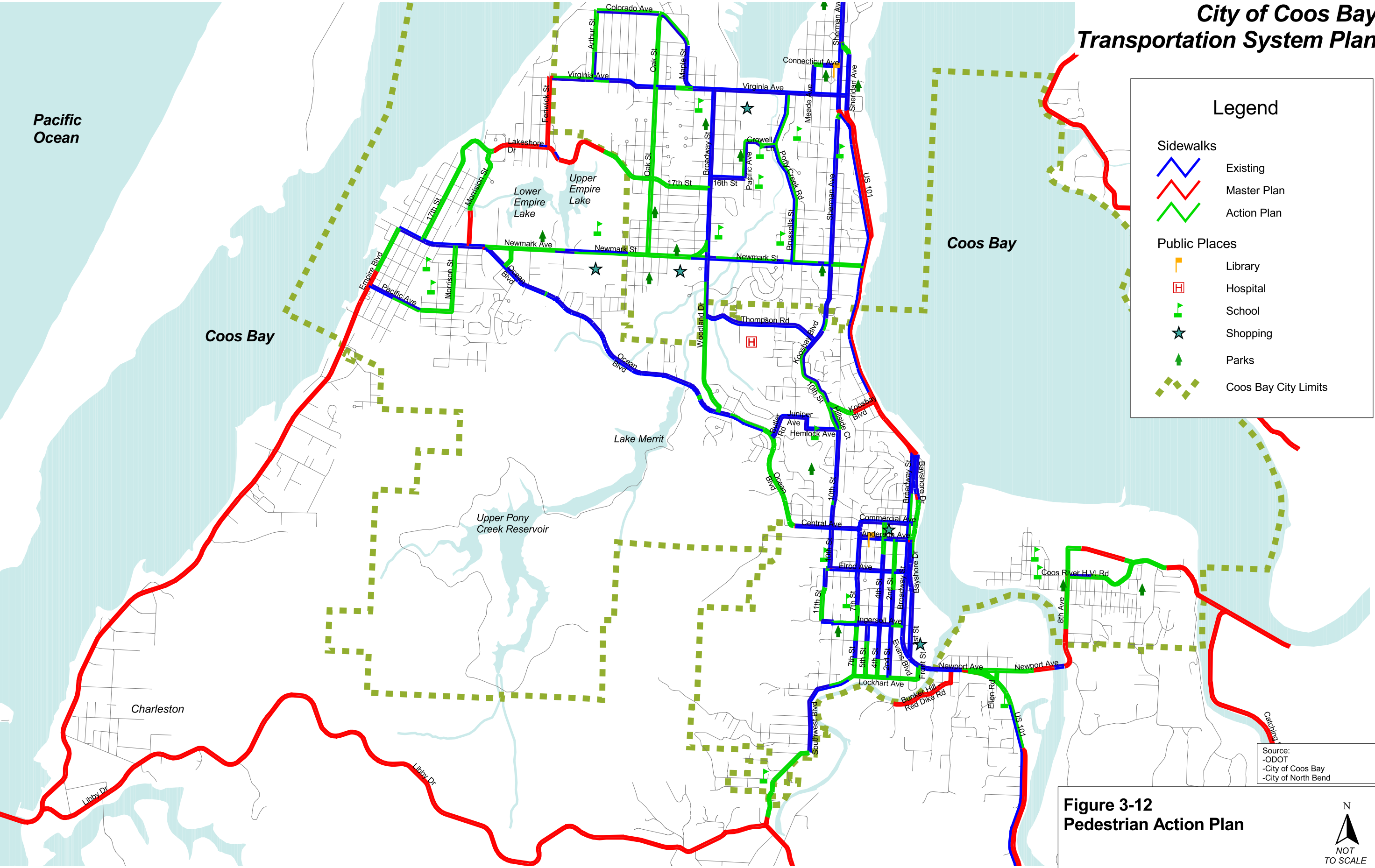
**Table 3-10: Pedestrian Action Plan**

| <i>Project</i>                                                                                                     | <i>From</i>             | <i>To</i>               | <i>Project Length</i> |
|--------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|-----------------------|
| <b><i>Priority: Connect key pedestrian corridors to schools, parks, recreational uses and activity centers</i></b> |                         |                         |                       |
| Southwest Boulevard                                                                                                | Libby Drive             | Montana Avenue          | 2800 ft               |
| Empire Boulevard                                                                                                   | Newmark Avenue          | Montgomery Ave          | 1600 ft               |
| Shoneman-Morrison Street                                                                                           | Harris Avenue           | Lakeshore Drive         | 2100 ft               |
| Morrison Street                                                                                                    | Pacific Avenue          | Newmark Avenue          | 2100 ft               |
| Pacific Avenue (one side)                                                                                          | Wasson Street           | Fillmore Street         | 1000 ft               |
| Pacific Avenue                                                                                                     | Fillmore Street         | Morrison Street         | 1000 ft               |
| 17 <sup>th</sup> Street                                                                                            | Newmark Avenue          | Lakeshore Drive         | 4500 ft               |
| 17 <sup>th</sup> Street                                                                                            | East City Limits        | Grant Street            | 750 ft                |
| Newmark Avenue                                                                                                     | Ocean Boulevard         | LaClair Street          | 2000 ft               |
| Newmark Avenue (one side)                                                                                          | East City Limits        | LaClair Street          | 1600 ft               |
| Koosbay Boulevard                                                                                                  | 10 <sup>th</sup> Street | 8 <sup>th</sup> Street  | 1000 ft               |
| 10 <sup>th</sup> Street (one side)                                                                                 | Teakwood Avenue         | Hemlock Avenue          | 3100 ft               |
| Koosbay Boulevard (one side)                                                                                       | North City Limits       | Vine Street             | 400 ft                |
| Coos River Highway                                                                                                 | “H” Street              | Applewood               | 5600 ft               |
| 7 <sup>th</sup> Street                                                                                             | Hall Avenue             | Johnson Avenue          | 1200 ft               |
| 7 <sup>th</sup> Street                                                                                             | Kruse Avenue            | Lockhard Avenue         | 600 ft                |
| 11 <sup>th</sup> Street                                                                                            | S. of Ferguson Avenue   | Ingersoll Avenue        | 1100 ft               |
| Lockhart                                                                                                           | 10 <sup>th</sup> Street | 4 <sup>th</sup> Street  | 1650 ft               |
| Ingersoll Avenue (one side)                                                                                        | 10 <sup>th</sup> Street | 7 <sup>th</sup> Street  | 800 ft                |
| 5 <sup>th</sup> Street                                                                                             | Johnson Avenue          | Lockhart Avenue         | 1150 ft               |
| Ocean Boulevard                                                                                                    | 19 <sup>th</sup> Avenue | Highland                | 2400 ft               |
| Ocean Boulevard                                                                                                    | 14 <sup>th</sup> Avenue | Central                 | 300 ft                |
| <b><i>Priority: Fill in gaps in pedestrian network</i></b>                                                         |                         |                         |                       |
| Ocean Boulevard (between)                                                                                          | Norman Avenue           | LaClair Street          | 80 ft                 |
| Ocean Boulevard                                                                                                    | West of Woodland        | West of Woodland        | 180 ft                |
| Ocean Boulevard (one side)                                                                                         | 19 <sup>th</sup> Street | West Hills<br>Boulevard | 500 ft                |
| Ocean Boulevard                                                                                                    | North of Highland       | Central                 | 1600 ft               |
| Woodland Avenue                                                                                                    | North City Limits       | Thompson Road           | 450 ft                |
| Woodland Avenue                                                                                                    | Thompson Road           | Ocean Boulevard         | 3300 ft               |
| 4 <sup>th</sup> Street                                                                                             | Commercial Avenue       | Curtis Avenue           | 1050 ft               |
| 2 <sup>nd</sup> Street                                                                                             | Anderson Avenue         | Golden Avenue           | 1600 ft               |
| Lockhart Avenue                                                                                                    | 4 <sup>th</sup> Street  | US 101                  | 1300 ft               |
| Front Street                                                                                                       | Lockhart Avenue         | US 101                  | 500 ft                |
| 4 <sup>th</sup> Street                                                                                             | Kruse Avenue            | Lockhart                | 550 ft                |
| Ingersoll                                                                                                          | 2 <sup>nd</sup> Street  | Broadway Drive          | 400 ft                |
| Newmark Street                                                                                                     | Ocean Boulevard         | Wallace Street          | 700 ft                |
| Wallace Street                                                                                                     | Ocean Boulevard         | Newmark Avenue          | 650 ft                |
| <b>Pedestrian Action Plan Projects Total Length:</b>                                                               |                         |                         | <b>93,720 ft.</b>     |
| <b>Pedestrian Action Plan Projects Estimated Cost (without ROW costs)**</b>                                        |                         |                         | <b>\$6.6 M</b>        |

\*Sidewalks to be built with roadway improvement projects are dependent on the ROW and alignment of the road improvement and would not be built without the road improvement

\*\* Cost estimate assumes 3-foot wide sidewalk at \$10 per square foot construction cost plus \$10 per linear foot for curb construction. No allocation for ROW or other improvements (storm drain relocation, etc.) assumed.

City of Coos Bay  
Transportation System Plan



## Transit Plan

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCTA has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational.

This section outlines a transit plan for the City of Coos Bay. It incorporates input from the local transit district (CCAT), as well as input obtained over the course of the project through the technical advisory committee and open houses with local citizens.

The highest priority for transit in Coos Bay is obtaining a stable source of funding. Assuming a base level of funding could be restored and additional funding could be secured, Table 3-11 summarizes projects that would be desirable in Coos Bay. Many of these projects were recommendations from a Transit Feasibility Study conducted for Coos and Curry Counties by Weslin Consulting Services in 1999.

**Table 3-11: Potential Transit Projects**

| <i>No.</i> | <i>Project</i>                                                                         |
|------------|----------------------------------------------------------------------------------------|
| 1          | Reestablish Previously Existing Fixed Route Service (“East Loop” and “West Loop”)      |
| 2          | Add third fixed route                                                                  |
| 3          | Add a home-to-work job commuter service                                                |
| 4          | Provide weekend service                                                                |
| 5          | More fully integrated inter-city services connecting communities throughout the county |
| 6          | Providing service connections with Reedsport, Eugene and Roseburg                      |
| 7          | Transit depot                                                                          |
| 8          | Additional shelters                                                                    |
| 9          | A vanpool program to be coordinated with large area employers                          |
| 10         | More demand-response (dial-a-ride) service                                             |

## Other Modal Plans

### Rail

No planned changes in rail service have been indicated by the Oregon International Port of Coos Bay. The most significant rail-related issue in Coos Bay is the Coos Bay Rail Bridge. It is owned by the Oregon International Port of Coos Bay (Port), who acquired it from UP in August, 2000, in order to access state and federal funds for long-term rehabilitation of the bridge. Phase I of the rehabilitation is under way now and involves rebuilding the swing span and minor repair of two approach spans. Phase I construction should be completed within two years. Phase II will involve the complete rehabilitation of the approach spans to provide a minimum 25 year additional service life for the structure. Port staff is working on acquiring the funding for Phase II.

### Air

An Airport Master Plan for the North Bend Municipal Airport was completed in December, 2001,

updating the previous Master Plan from 1997. The plan will serve as the development document for the airport during a 20-year planning period. The most significant improvements planned for the next 10 years are additional navigation system upgrades and the relocation and construction of a new passenger terminal. In 1999, management and operations of the North Bend Municipal Airport transferred from the City of North Bend to the Oregon International Port of Coos Bay under an intergovernmental agreement. In November, 2002, Coos County voters approved the formation of a new Coos County Airport District. The district is scheduled to take over operations at the North Bend airport on July 1, 2003.

The North Bend airport complex includes more than 100 acres of non-aviation related property designated as the North Bend Airport Business Park. The property is located south and west of the runways and primary aviation facilities, and is being developed for commercial and light industrial tenants and uses. Vehicle traffic accessing the business park uses Maple Street and Colorado Avenue as feeders to and from Virginia Avenue. A multi-year development plan for the park projects an additional access to Virginia Avenue being established near the southwest corner of the property as demand warrants in future years.

## Water

The information reported here is based on the Bay Area Transportation Study (1995). The following challenges are key to increasing utilization and providing effective future development of the marine transportation system at the Port of Coos Bay:

- Dependable rail service and additional improvements to the highway system are key to capitalizing on opportunities in the changing worldwide maritime industry.
- There is limited availability of fully serviced commercial and industrial sites and developable industrial property.
- Some ships are limited in their hours of access to the port by the channel depth (35 feet) and by the orientation of the railroad bridge, which has a narrow opening and is oriented in a way that makes it very difficult to maneuver under the McCullough Bridge.
- Greater cooperation and coordination between business owners is necessary to achieve the long term development of the harbor. Short-term and competing interests prevent development of a long term vision, making the Port less likely to realize its full potential as a deep-draft west coast port.

## Pipeline

The only major pipeline facility that would affect the location of future transportation corridors in Coos Bay is a planned high-pressure natural gas feeder line. The approximate proposed pipeline location is shown in Figure 3-13. At the time this document was published, it was reported that the mainline had been mostly completed (by October, 2003) and a number of diversions had been made from the plan, but that “as-builts” had not yet been completed<sup>12</sup>. Therefore, maps are provided in this document are based on the originally planned route.

The purpose of the proposed pipeline is to construct a 12 inch natural gas transmission pipeline from near Roseburg to Coos County. Natural gas transported by the pipeline would provide an alternative source of energy for existing or potential residential, commercial or industrial customers within the Coos County service area. The total length of the pipeline is about 60 miles. Approximately 28 miles of smaller pipeline laterals would eventually be constructed to serve the Coos County cities of Coquille, Myrtle Point and possibly Bandon. Gas distribution systems would be built in each city, most likely by Northwest Natural Gas (hereafter referred to as NW Natural). The laterals and distribution lines would be located entirely on private properties. Coos County has never had direct

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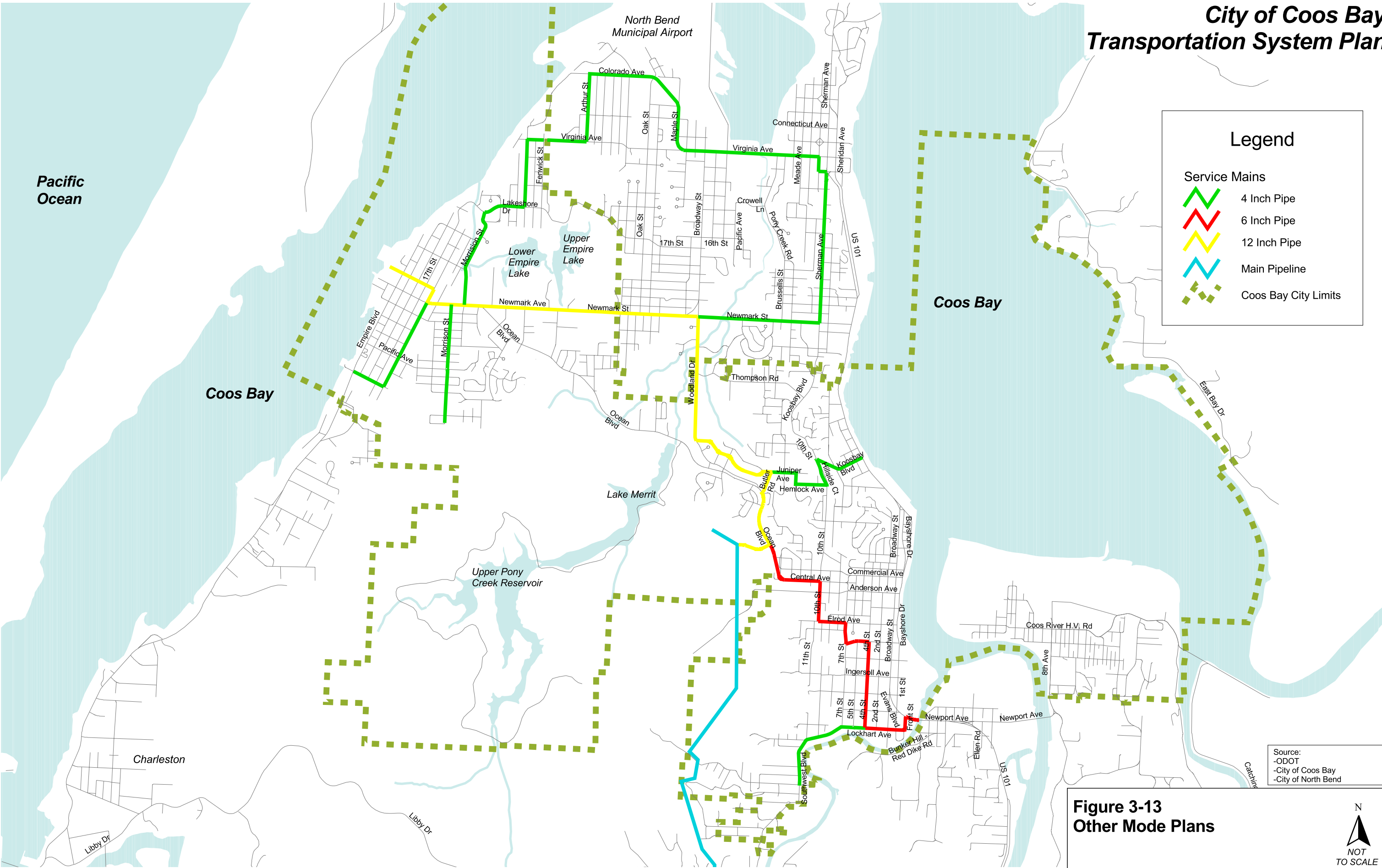
<sup>12</sup> Per telephone conversation with Paul Rodriguez, Bureau of Land Management, October 14, 2003.



access to natural gas as an energy source, but has relied on petroleum products and propane, electricity, or wood for energy sources. A ballot measure authorizing additional taxpayer funds for construction of a natural gas pipeline, was passed by Coos County voters in November 1999.

Coos County is the owner of the pipeline main and, except in one location to the south near Coquille where the pipeline passes about 20 feet underneath US 101, the main is mostly isolated from transportation facilities in Coos Bay. Northwest Natural is in the process of developing a distribution system within Coos Bay that is typically put in with about 3 feet of cover. Northwest Natural will need to coordinate with the City of Coos Bay and Coos County when locating their distribution pipes to minimize the need for any pipeline changes in the future.

City of Coos Bay  
Transportation System Plan



## 4. FINANCING AND IMPLEMENTATION

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This chapter presents the estimated costs for the projects and programs identified in the Coos Bay Transportation System Plan, and describes existing and potential new funding mechanisms that will be required to implement the TSP over the next 20 years. The recommended changes to the land development codes and ordinances that are required to implement the various policies and standards are identified in the final section of this chapter.

### Overview

Table 4-1 shows that existing city revenues for transportation projects and programs in Coos Bay are about \$800,000. This amounts to \$16 million over 20 years for capital projects and roadway maintenance.

**Table 4-1: Existing Transportation Funding Sources (2003 Dollars)**

| Source                                         | Annual Revenue<br>(\$1,000) |
|------------------------------------------------|-----------------------------|
| State Motor Vehicle Fees to City               | \$0                         |
| State Gas Tax to City (1)                      | \$600                       |
| Miscellaneous                                  | \$200                       |
| Annual TOTAL                                   | \$800                       |
| <b>20 YEARS OF CURRENT FUNDING (\$1,000's)</b> | <b>\$16,000</b>             |

Notes: (1) The City collects \$600,000 in state gas taxes annually, but this amount is allocated to maintenance expenses, and none is available for capital project funding.

Table 4-2 summarizes the costs outlined in the TSP to implement the Action Plans for Streets, Bicycles, Pedestrians, and several other recommended transportation programs (see Table 4-3 for details). The 20-year cost is estimated at \$56.7 million, which is \$40.7 million higher than current revenues provide. The great majority of new costs are associated with retrofitting roadways to bikeway projects (nearly \$40 million). The following sections outline several methods for increasing transportation funding or seeking alternative solutions to better balance transportation costs and revenue.

**Table 4-2: Coos Bay Transportation Action Plans Costs over 20 years (2003 Dollars,)**

| <b>Transportation Element</b>                                                    | <b>Approximate Cost (\$1,000)</b> |
|----------------------------------------------------------------------------------|-----------------------------------|
| Street Improvement Projects: Funded (1)                                          | \$1,900                           |
| Unfunded Action Plan                                                             | \$2,005                           |
| Road Maintenance (\$270,000/yr)                                                  | \$5,400                           |
| Bicycle Action Plan                                                              | \$13,700                          |
| Pedestrian Action Plan                                                           | \$6,600                           |
| Pedestrian/School Safety Program (\$10,000/yr)                                   | \$200                             |
| Sidewalk Grant Program (\$50,000/yr)                                             | \$1,000                           |
| Neighborhood Traffic Management (\$75,000/yr)                                    | \$1,500                           |
| TSP Support Documents (i.e. Design standard update, TSP updates)                 | \$500                             |
| <b>20 YEAR TOTAL in 2003 Dollars (1)</b>                                         | <b>\$32,805</b>                   |
| <b>Initial Funding Shortfall for 20-year plan (minus \$16 million available)</b> | <b>\$16,805</b>                   |

**Note:** (1) Funded street project on Newmark Avenue not included in 20-year plan total since revenues were provided from ODOT as part of the transfer to city ownership and maintenance.

## Recommended Projects and Programs

This section present the recommended projects and programs developed for the City of Coos Bay to serve local travel for the coming 20 years. The Pedestrian, Bicycle and Motor Vehicle projects were identified in the Action Plan for each mode, and represent those projects that have the highest short-term need for implementation to satisfy performance standards, or other policies established for the Coos Bay Transportation System Plan. The costs for the remaining motor vehicle projects noted in the Master Plan are identified, but these have not been included in the funding needs analysis for the city.

### Project Cost Estimates

Cost estimates (general, order of magnitude) were developed for the projects identified in the motor vehicle, bicycle and pedestrian elements. Cost estimates from the existing CIP projects in Coos Bay were used in this study, if any. Other projects were estimated using general unit costs for transportation improvements, but do not reflect the unique project elements that can significantly add to project costs<sup>13</sup>. Development of more detailed project costs can be prepared in the future with more refined financial analysis. Since many of the projects overlap elements of various modes, the costs were developed at a project level incorporating all modes, as appropriate. It may be desirable to break project mode elements out separately, however, in most cases, there are greater cost efficiencies of undertaking a combined, overall project. Each of these project costs will need further refinement to detail right-of-way requirements and costs associated with special design details as projects are pursued.

<sup>13</sup> General plan level cost estimates do not reflect specific project construction costs, but represent an average estimate. Further preliminary engineering evaluation is required to determine impacts to right-of-way, environmental mitigation and/or utilities. Experience has shown that individual projects costs can increase by 25 to 75 percent as a result of the above factors.

All cost estimates are based on 2003 dollars. Historical construction costs price index has risen by 2.5 to 2.75 percent per year according to Engineering News Record research<sup>14</sup> on historical construction costs. Since 1979, construction costs have increased 100 percent over 20 years.

### Transportation Programs

Table 4-3 summarizes the elements of the plan that were not specifically defined in the recommended project lists, and explains how costs will be addressed for these elements.

**Table 4-3: Non-Auto, Pedestrian and Bicycle Costs Issues**

| Travel Mode                           | Issues                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parking                               | The TSP does not define specific projects. Off-street parking will be provided by private property owners as land develops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Neighborhood Traffic Management (NTM) | Specific NTM projects are not defined. These projects will be subject to neighborhood consensus based upon City placement and design criteria. A city NTM program, if desired, should be developed with criteria and policy adopted by the City Council. Traffic humps can cost \$2,000 to \$4,000 each and traffic circles can cost \$3,000 to \$8,000 each. A speed trailer can cost about \$10,000 (the City already has one). It is important, where appropriate, that any new development incorporate elements of NTM as part of its on-site design. The City currently has no allocation for NTM in the current budget. |
| Public Transportation                 | CCAT will continue to develop costs for implementing transit related improvements. The Cities can supplement this by incorporating transit features through development exactions and roadway project design. Developing new transit services in Coos Bay will require CCAT to reallocate funding or seek additional sources of operating funds.                                                                                                                                                                                                                                                                              |
| Trucks/Freight                        | Roadway funding will address these needs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Rail                                  | Costs to be addressed and funded by private railroad companies and the state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Air, Water, Pipeline                  | Not required by the City                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Transportation Demand Management      | Not required by the City                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### Transportation Projects

Tables 4-4 and 4-5 summarize the key projects in the TSP by Bicycle and Pedestrian (detailed information about specific projects was listed in Chapter 3) and Motor Vehicle improvements. These tables also indicate the cost responsibility for each project between the city, state and private parties. In a few cases, it is assumed that project costs would be shared between city and state agencies. It was assumed that this cost sharing would be 50/50 between the agencies, but the specific cost allocations may be subject to further negotiations. An additional cost item is listed in Table 4-5 for right-of-way acquisition reserve funds. This was assumed equivalent to 50% of the estimated construction cost.

**Table 4-4: Bicycle and Pedestrian Modes Cost Summary**

| Project                | Cost Estimate  |
|------------------------|----------------|
| Bicycle Action Plan    | \$13.7 million |
| Pedestrian Action Plan | \$6.6 million  |

<sup>14</sup> Engineering News Record Construction Cost Index as reported for the past ten years for 20 cities around the United States. Reference: <http://www.enr.com/features/conEco/costIndexes/constIndexHist.asp>

**Table 4-5: Motor Vehicle Project List (Action Plan)**

| <b>ID</b> | <b>Location</b>                                                     | <b>Description</b>                                                                                                                                                                                                                                                  | <b>Funding Status/<br/>Responsibility</b> | <b>Cost<br/>(1,000's)</b> |
|-----------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------|
| 3         | Newmark Avenue<br>between Staples and<br>Ocean Boulevard            | Widen to provide two to four travel<br>lanes with a center left turn<br>lane/median. Consolidate<br>driveways where possible to<br>maintain facility capacity.                                                                                                      | Current Project<br>(City)                 | \$1,900                   |
| 6         | Woodland<br>Drive/Thompson<br>Road                                  | Install traffic signal and modify<br>Thompson Road approach to<br>improve sight distance.                                                                                                                                                                           | Not Funded<br>(City)                      | \$500                     |
| 7         | 7 <sup>th</sup> Street/Anderson<br>Avenue                           | Construct median/barrier precluding<br>access from Central/Anderson to 7 <sup>th</sup><br>Street south of Anderson or to<br>Anderson Street west of 7 <sup>th</sup> Street                                                                                          | Not Funded<br>(City)                      | \$60                      |
| 8 &<br>13 | Central/Anderson<br>between 10 <sup>th</sup> Street<br>and Broadway | Restrict parking near intersections<br>(paint curbs), install curb extensions<br>on corners with major pedestrian<br>crossings, re-stripe to include bike<br>lane on south side, remove in-road<br>traffic diverters at 4 <sup>th</sup> St. and 2 <sup>nd</sup> St. | Not Funded<br>(City)                      | \$400                     |
| 14        | US 101/Central<br>Avenue                                            | Modify traffic signal to be<br>pedestrian-actuated                                                                                                                                                                                                                  | Not Funded<br>(State)                     | \$125                     |
| 15        | US 101 Southbound<br>from Central Avenue<br>to Elrod Avenue         | Upgrade outdated traffic signal<br>heads and controllers. Install<br>interconnect and detection to allow<br>for real-time coordination signals<br>between Commercial Avenue and<br>Elrod Avenue                                                                     | Not Funded<br>(State)                     | \$750                     |
| 17        | Ocean Boulevard                                                     | Re-stripe to 3 lanes (two travel<br>lanes plus continuous center left<br>turn lane) plus bike lanes                                                                                                                                                                 | Not Funded<br>(City)                      | \$210                     |
| 18        | Lakeshore Drive<br>between Seagate<br>Avenue and Crocker<br>Street  | Evaluate and install traffic calming<br>measures to slow traffic                                                                                                                                                                                                    | Not Funded<br>(City)                      | \$100                     |
| 20        | Prefontaine/K-Mart<br>Connection                                    | Conduct feasibility study to<br>determine ability to construct local<br>street connection given topography<br>and right-of-way requirements                                                                                                                         | Not Funded<br>(City)                      | \$50                      |
| 21        | Michigan Avenue<br>Extension to Ocean<br>Boulevard                  | Conduct feasibility study to<br>determine ability to construct local<br>street connection given existing land<br>development and right-of-way<br>considerations                                                                                                     | Not Funded<br>(City)                      | \$50                      |
|           |                                                                     | Subtotal Unfunded Coos Bay<br>Projects                                                                                                                                                                                                                              | See Note 1                                | \$1,470                   |
|           |                                                                     | Right-of-Way Contingency (50% of<br>construction cost)                                                                                                                                                                                                              |                                           | \$635                     |
|           |                                                                     | <b>Coos Bay Total</b>                                                                                                                                                                                                                                               |                                           | <b>\$2,005</b>            |

| ID                 | Location | Description                                                                                                                                                                                      | Funding Status/<br>Responsibility | Cost<br>(1,000's) |
|--------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|
| <b>State Total</b> |          |                                                                                                                                                                                                  | See Note 2                        | <b>\$875</b>      |
| <b>Total</b>       |          |                                                                                                                                                                                                  | <b>All Jurisdictions</b>          | <b>\$2,880</b>    |
| <b>Note:</b>       | (1)      | Project #3 is funded by other monies transferred to the city from ODOT when Newmark Avenue became a city street. It is not included in the total for future funding needs.                       |                                   |                   |
|                    | (2)      | The projects noted for state funding have been assumed, and are not necessarily supported by the State until the Statewide Transportation Improvement Plan is updated to include these projects. |                                   |                   |

An additional \$4.3 million in long-range capital projects for city facilities is noted in the Master Plan Motor Vehicle Project list in Table 4-6 below. Further studies will be required to better define the project scopes and cost estimates.

**Table 4-6: Master Plan Motor Vehicle Project List**

| ID | Location                                               | Description                                                                                                                                                                                           | Funding Status/<br>Responsibility                                  | Cost<br>(1,000's) |
|----|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------|
| 1  | Newmark/Ocean Avenue                                   | Realign Ocean Avenue to meet Newmark opposite Ackerman Street. Relocate traffic signal                                                                                                                | Not Funded<br>(City)                                               | \$900             |
| 2  | Newmark between Ocean Boulevard and Cape Arago Highway | Extend local street connection via Michigan Avenue connecting to Ocean Avenue via one of two possible alignments.                                                                                     | Not Funded<br>(City)                                               | \$1,300           |
| 4  | Coos River Highway/Olive Barber                        | Install traffic signal with advance signal head and eliminate "Y" intersection for southbound to westbound turns. Coordinate with on-going ODOT studies for Isthmus Slough Bridge replacement design. | Not Funded<br>(State)                                              | \$875             |
| 5  | US 101 at Bunker Hill                                  | Incorporate ODOT recommendations into TSP when available                                                                                                                                              | Study in Process<br>(State)                                        | \$15,000          |
| 10 | Bayshore Drive/North Front Street Area                 | Create and implement access management plan                                                                                                                                                           | Not Funded<br>(City)                                               | \$500             |
| 11 | Bayshore/Johnson Avenue                                | Modify traffic signal to allow for protected-permissive phasing in the eastbound direction, including restriping one through lane to a left-only lane.                                                | Not Funded<br>(City/State)                                         | \$130             |
| 12 | Isthmus Slough Bridge                                  | Incorporate ODOT recommendations into TSP when available                                                                                                                                              | Study in Process—<br>Design and Construction Not Funded<br>(State) | \$10,000          |
| 16 | 2 <sup>nd</sup> /Golden                                | Explore options to reduce high collision rate and implement solution                                                                                                                                  | Not Funded<br>(City)                                               | \$50              |

| ID                                                  | Location                       | Description                                                                                                                                                              | Funding Status/<br>Responsibility | Cost<br>(1,000's) |
|-----------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|
| 19                                                  | Central Avenue/Ocean Boulevard | Further examination of the location will be required. The stop sign on southbound Ocean Boulevard creates backups. Potential solutions should be explored and evaluated. | Not Funded<br>(City)              | \$50              |
| Subtotal Coos Bay Projects                          |                                |                                                                                                                                                                          |                                   | \$2,865           |
| Right-of-Way Contingency (50% of construction cost) |                                |                                                                                                                                                                          |                                   | \$1,408           |
| <b>Coos Bay Total</b>                               |                                |                                                                                                                                                                          |                                   | <b>\$4,273</b>    |
| <b>State Total</b>                                  |                                |                                                                                                                                                                          |                                   | <b>\$25,940</b>   |
| <b>Grand Total</b>                                  |                                | <b>All Jurisdictions</b>                                                                                                                                                 |                                   | <b>\$30,213</b>   |

It is noted that inclusion of an improvement in the TSP does not represent a commitment by ODOT to fund, allow, or construct the project. Projects on the State Highway System that are contained in the TSP are not considered “planned” projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a state highway cannot be considered mitigated for future development or land use actions until they are programmed into the STIP. Highway projects that are programmed to be constructed may have to be altered or cancelled at a later time to meet changing budgets or unanticipated conditions such as environmental constraints.

## Funding Alternatives

Due to the complexity of today’s transportation projects, it is necessary to seek several avenues for funding projects. Unique or hybrid funding of projects generally will include many of the funding sources identified in this section. Table 4-7 summarizes several funding options available for transportation improvements. Examples of funding sources which generally do not provide funding for roadways include: Property Tax General Funds, Car Rental Tax, Transient Lodging Tax, Business Income Tax, Business License Tax and Communication Services Tax. Packaging of transportation funding to provide various improvements or service is summarized in Table 4-8.

Local funding for major transportation projects is typically brought to a vote of the public for approval. Specific projects are often outlined for use of public funds. Because of the need to gain public approval for transportation funding, it is important to develop a consensus in the community that supports needed transportation improvements. That is the value of the Transportation System Plan.

**Table 4-7: Potential Transportation Revenue Sources**

| Type | Description |
|------|-------------|
|------|-------------|



| Type                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Development Charges (SDC)  | SDCs or Traffic Impact Fees have been used in Oregon and throughout the United States. The cornerstone to development of SDC's involves two principals: 1) there must be a reasonable connection between growth generated by development and the facilities constructed to serve that growth (generally determined by level of service or connectivity); and 2) there must be a general system-wide connection between the fees collected from the development and the benefits development receives. Charges are typically developed based on a measurement of the demand that new development places on the street system and the capital costs required to meet that demand. As an example, Washington County has a traffic impact fee (TIF) which was voter approved. SDCs do not require a vote of the public. |
| Gas Tax                           | The State, cities and counties provide their basic roadway funding through a tax placed on gasoline. State gas tax is approved legislatively while local gas taxes are approved by voters. State funds are dedicated to roadway construction and maintenance, with one percent allocated to pedestrian and bicycle needs. This tax does not fall under the Measure 5 limits, because it is a pay-as-you-go user tax.                                                                                                                                                                                                                                                                                                                                                                                                |
| Other Motor Vehicle Fees          | The state collects truck weight mile taxes, vehicle registration fees, and license fees. These funds are pooled together with the gas tax in distributing state motor vehicle fees to local agencies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Street Utility Fees               | Certain cities have used street utility fees for maintenance. The fees are typically collected monthly with water or sewer bills. These funds are not for capacity improvements, but for supporting local roadway maintenance based upon land use type and trip generation. This frees other revenue sources for capacity needs. Utility fees can be vulnerable to Measure 5 limitations, unless they include provisions for property owners to reduce or eliminate charges based on actual use.                                                                                                                                                                                                                                                                                                                    |
| Exactions                         | Frontage improvements are common examples of exaction costs passed onto developers. These have been used to build much of Coos Bay's local street system. Developers of sites adjacent to unimproved roadway frontage are responsible to provide those roadway improvements. Developers of sites adjacent to improvements identified as SDC projects can be credited the value of their frontage work, which is included in the SDC project-list cost estimate.                                                                                                                                                                                                                                                                                                                                                     |
| Local Improvement Districts (LID) | LIDs provide a means for funding specific improvements that benefit a specific group of property owners. LIDs require owner/voter approval and a specific project definition. Assessments are placed against benefiting properties to pay for improvements. LIDs can be matched against other funds where a project has system wide benefit, beyond benefiting the adjacent properties. Fees are paid through property tax bills.                                                                                                                                                                                                                                                                                                                                                                                   |
| Special Assessments               | Varieties of special assessments are available in Oregon to defray costs of sidewalks, curbs, gutters, street lighting, parking and CBD or commercial zone transportation improvements. These assessments would likely fall within the Measure 5 limitations. As an example, in Washington County, examples of transportation assessments include MSTIP (Major Streets Transportation Improvement Program) and the local maintenance property tax levy. Both of these are property tax assessments, which have been imposed through votes of the public. Another example would be the Westside LRT (Light Rail Transit) where the local share of funding was voter approved as an addition to property tax.                                                                                                         |
| Driveway Fees                     | As an example, Gresham collects a Public Street Charge and a Driveway Approach Permit Fee. These fees are project specific and vary year to year based upon development permits. These funds are used for city maintenance and operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Employment Taxes                  | As an example, Tri-Met collects a tax for transit operations in the Portland region through payroll and self-employment taxes. Approximately \$120 million are collected annually in the Portland region for transit using employment taxes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Oregon Special Public Works Fund  | The Special Public Works Fund (SPWF) Program was created by the legislature in 1985 as an economic development element of the Oregon Lottery. The program provides grants and loan assistance to eligible municipalities. There has been limited use of these                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Type | Description                                                        |
|------|--------------------------------------------------------------------|
|      | funds on urban arterials. This is commonly used on state highways. |

**Table 4-8: Funding Source by Project Type**

| Source                                                                                 | Bicycle | Pedestrian | Streets | Maintenance | Transit |
|----------------------------------------------------------------------------------------|---------|------------|---------|-------------|---------|
| Traffic Impact Fee (TIF)                                                               | •       | •          | ♦       |             |         |
| System Development Charges (SDC)                                                       | ♦       | ♦          | ♦       |             |         |
| Gas Tax/Motor Vehicle Fees                                                             |         |            |         |             |         |
| State                                                                                  | •       | •          | ♦       | ♦           | ♦       |
| Federal                                                                                | ♦       | ♦          | ♦       | ♦           |         |
| Street Utility Fees                                                                    |         |            |         | ♦           |         |
| Exactions                                                                              | •       | ♦          | ♦       |             |         |
| Local Improvement Districts (LID)                                                      | •       | •          | ♦       |             |         |
| Tax Increment Financing                                                                | ♦       | ♦          | ♦       |             |         |
| Special Assessments                                                                    |         | •          | ♦       | ♦           | ♦       |
| Driveway Fees                                                                          |         |            | ♦       | ♦           |         |
| Payroll Employee Tax                                                                   |         |            |         |             | ♦       |
| Oregon Special Public Works Fund                                                       | •       | •          | ♦       |             | ♦       |
| ♦ = Primary                                                                            |         |            |         |             |         |
| • = Secondary. Typically as part of roadway project where other modes are incorporated |         |            |         |             |         |

## Codes and Ordinances

This section identifies proposed changes to the City of Coos Bay's Comprehensive Plan and Land Development Ordinance to implement the Transportation System Plan and to comply with the Transportation Planning Rule (TPR) (OAR 660, Division 12). Further details and recommended language is provided in the separate Technical Appendix.

### Comprehensive Plan

The transportation sections should be wholly replaced with new sections that are based on the findings of the Transportation System Plan and should include the following sections:

- Section 5.5 - Update system descriptions for each mode of travel (e.g. air, rail, ports, highway, freight, and transit).
- Section 7.8 - Update "Problem and Issues" discussion, including list of proposed improvement projects.
- Section 7.8 - Adopt new goals and policies (see attached).

## Article 3 of the Land Development Ordinance

The City of Coos Bay's Land Development Ordinance (Ordinance No. 93) includes Article 3, which establishes development standards that apply to all lands, buildings, and development in the City. In keeping with this structure, changes to this article are proposed (see attached). These changes encompass the following topics:

- Transportation Impact Studies
- Functional Classifications and Street Standards
- Access Management
- Pedestrian Connectivity
- Improvements
- Bicycle Parking

## Article 5 of the Land Development Ordinance

Article 5 of the Land Development Ordinance addresses the administrative procedures for reviewing different kinds of permits and land use decisions, which could be strengthened by including a more explicit connection to the Transportation System Plan.

### Chapter 5.3 Public Hearings

The TPR requires local jurisdictions to have process for coordinated review of land use decisions affecting transportation facilities and to provide notice to other public agencies providing transportation facilities and services, which would include Coos County and ODOT. These types of land use decisions usually involve a public hearing before the Planning Commission or City Council. The notice requirements should be amended to include the following:

*Written notice of a public hearing on a variance (5.12), conditional use (5.13), change in zone (5.14), land division – partition II, subdivision (5.16), and ordinance amendment (5.19) shall be sent to the Oregon Department of Transportation, the Port of Coos Bay, Coos County, and the City of North Bend.*

### Chapter 5.14 Change In Zone Designation

The approval criteria should include provisions to ensure the proposed change is consistent with the surrounding transportation system. Recommended code provision:

5. *The change will be consistent with the functions, capacities and levels of service of facilities identified in the adopted Coos Bay Transportation System Plan.*

### Chapter 5.18 Vacation

The approval criteria in Section 6 should be revised to include a specific reference to the Transportation System Plan. Recommended code provision:

*The proposal does not conflict with the comprehensive plan, including the adopted Coos Bay Transportation System Plan, and other ordinances.*

### Chapter 5.19 Amendments

The approval criteria should include provisions to ensure the proposed change is consistent with the Transportation System Plan. Recommended code provision:

3. *The change will be consistent with the functions, capacities and levels of service of facilities identified in the adopted Coos Bay Transportation System Plan.*

## Comprehensive Plan Amendments

The City of Coos Bay's approval criteria for comprehensive plan amendments should fully account for potential impacts to the transportation system. The following language should be added to the list

of approval criteria:

*Amendments to the Comprehensive Plan shall assure that allowed land uses are consistent with the function, capacity, and performance standards of the Transportation System Plan. This assurance shall be accomplished by one of the following:*

- 1) Limiting allowed land uses to be consistent with the planned function of the affected transportation facility; or*
- 2) Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with requirements of the Transportation Planning Rule (OAR 660, Division 12); or*
- 3) Altering land use designations, densities, or design standards to reduce demand for automobile travel and meet travel needs through other modes; or*
- 4) Amending the TSP to modify the planned function, capacity and performance standards, as needed, to accept greater vehicle congestion where multimodal travel choices are provided.*

## A. Existing Conditions

A 2002 conditions assessment was conducted for the City Coos Bay for use as a basis of comparison for future transportation system plan development. This chapter summarizes existing traffic and transportation operations for all the major transport modes including:

- 
- Motor vehicle,
  - Transit,
  - Pedestrian,
  - Bicycle,
  - Truck,
  - Air, rail and pipeline.
- 

### System Inventory and Operational Evaluation

A physical and operational inventory of transportation system facilities in Coos Bay was conducted to provide a benchmark for future assessment of transportation performance in Coos Bay relative to desired policies.

The study area for the Transportation System Plan includes Coos Bay and portions of unincorporated Coos County as shown in Figure A-1.

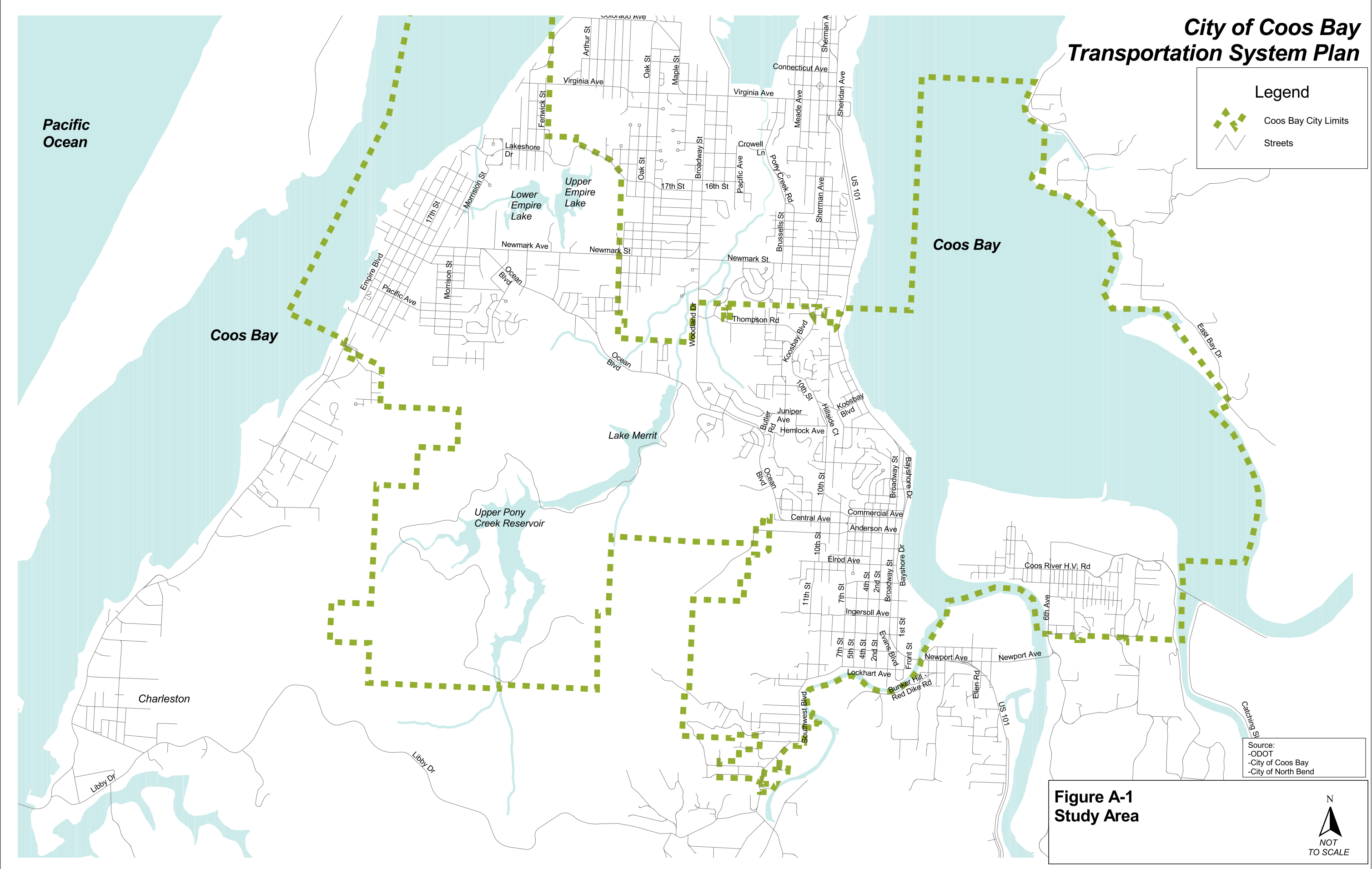
#### Traffic Observations

Traffic volume data (vehicle, trucks, pedestrians, and bicycles) was collected during August 2002 at seventy-three intersections during the evening peak period and sixteen during the morning peak period. Agency staff and the consultant identified these locations as significant for monitoring system performance. Supplemental traffic data from recent transportation studies and state historical data also was applied in the base line evaluation.

#### Operational Analysis

Traffic data was analyzed to evaluate area traffic conditions including volumes and levels of service. Roadway performance was evaluated based on methods defined in the *Highway Capacity Manual*, Transportation Research Board, 2000 and other standards of engineering practice. Other transport systems were evaluated based on factors such as system continuity and general effectiveness.

Field observations at major roadways and intersections were conducted to observe actual traffic conditions, and to confirm analytical evaluations. Observations included videotaping using a 'floating car' technique along major and minor arterials in the study area. Refer to Appendix A for traffic count data.



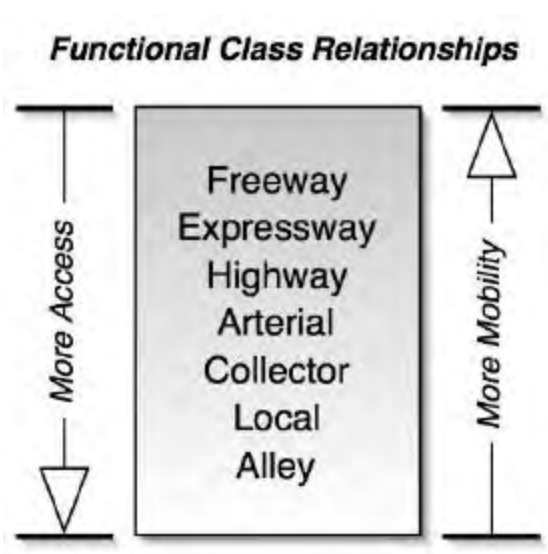
## Motor Vehicle System

The motor vehicle system within the study area was reviewed as to their physical and operational characteristics. The following sections present:

- Definition of Functional Class
- A narrative description of key routes
- Street facility inventory
- Traffic Volumes
- Traffic Controls
- Level of Service Analysis
- Traffic Collision Analysis

### Roadway Functional Classification

Roadways have two primary functions; to provide mobility and to provide access. From a design perspective, these functions can be polar opposites (see diagram below) since high or continuous speeds are desirable for mobility, while low speeds are more desirable for land access.



Arterials emphasize a high level of mobility for through movement; local facilities emphasize the land access function; and collectors offer a balance of both functions. Functional class also can be defined by connectivity. Without connectivity, neither mobility nor access can be served. Roadways that provide the greatest reach of connectivity are the highest-level facilities.

The Coos Bay functional classification system was assumed to be the same as the state designations since the City do not currently have their own adopted functional classification system. These function classes will be re-assessed through this study, and adjusted, as needed. Figure A-2 represents ODOT's functional classification of streets in Coos Bay. Any street not designated as either an arterial or collector is considered a local street.

## Functional Class Definitions

**Arterial streets** interconnect and support the principal highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of a well placed arterial street. Many of these routes connect to City surrounding Coos Bay. There are both major and minor arterial classifications in Coos Bay. Major arterial streets typically provide more connectivity and/or carry more traffic volume than minor arterial streets.

**Collector streets** provide both access and circulation within residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system.

**Local Streets** have the sole function of providing access to immediate adjacent land. Service to “through traffic movement” on local streets is deliberately discouraged by design.

## **Description of Arterial Routes**

The following major routes in Coos Bay are described as to their functional classification, connectivity and roadway volumes. In all cases, the functional classifications noted are as designated by ODOT. These classes will be re-evaluated as a part of this study to determine appropriate classes for each of the City.

### City of Coos Bay

**US 101** (also called Newport Avenue, 1<sup>st</sup> Avenue, Bayshore Drive and Broadway Street) is classified as a Major Arterial. It is a regional route providing access to the rest of the coast, both north and south of Coos Bay. It provides access to arterial and collector streets within Coos Bay. At the south end of Coos Bay, US 101 (known in this area as Newport Avenue) is a two-way roadway with wide shoulders and intermittent sidewalks along its frontage. US 101 splits to a one-way couplet northbound at Front Street (changes names to Bayshore Drive) and southbound on Broadway Street. Highway US 101 carries about 24,000 ADT or about 12,000 ADT per direction in Coos Bay.

**Coos River Highway** (Newport Avenue) is classified as a Minor Arterial. It is a district level state highway. It is a two-lane, two-way roadway. It carries about 10,000 vehicles daily near the Isthmus Slough. Coos River Highway provides access to areas to the south and east of Coos Bay.

**Commercial Avenue** is a Major Arterial that runs east/west through Coos Bay, connecting US 101 with western parts of the City. It is a two-lane street with sidewalks along its frontage. It carries about 4,000 vehicles daily just west of US 101.

**Anderson Avenue** is a Major Arterial and was jurisdictionally transferred to the City. It runs east/west through Coos Bay, connecting US 101 with western parts of the City. It is two-lane, one-way street with sidewalks along its frontage. Commercial Avenue and Anderson Avenue form a one-way east-west couplet around Coos Bay’s downtown core between U.S. 101 and 7<sup>th</sup> Street.

**Central Avenue** is a Major Arterial and was jurisdictionally transferred to the City. It runs east/west through Coos Bay, connecting downtown Coos Bay with western parts of the City. It is a two lane, two-way street with no on-street parking, occasional left turn lanes and sidewalks along its frontage. It has a posted speed of 25 miles per hour and carries about 13,000 vehicles daily just west of 10<sup>th</sup> Street.

**Ocean Boulevard** is a Major Arterial . It runs northwest to southeast through Coos Bay, connecting the downtown area with residential areas to the west. It is typically a four-lane, two-way street with occasional turn lanes at intersections. There are generally no bike lanes, but there are sidewalks along its frontage. Ocean Boulevard carries about 10,000 vehicles daily between LaClair Street and Woodland Drive.

**Newmark Avenue** is classified by ODOT as a Major Arterial west of Broadway Street. It has been jurisdictionally transferred to the City. It runs east and west through Coos Bay. Newmark is generally a



four-lane, two-way roadway between Broadway and Ocean Boulevard with sidewalks in some locations. There are striped shoulders in some locations on the roadway, but there are no dedicated bike lanes. Newmark Avenue carries about 14,000 vehicles daily near LaClair Street.

**Empire Boulevard** is a Major Arterial and is a district level state highway (Cape Arago Highway), but has been jurisdictionally transferred to the City within City limits. It generally runs along the ocean on the west side of Coos Bay, connecting to Newmark Avenue. It is a two-lane, two-way facility with shoulders, but no bike lanes or sidewalks. The posted speed is 35 miles per hour and the roadway carries about 10,000 vehicles daily near Pacific Avenue.

**Koosbay Boulevard** is a Minor Arterial. It is a two-lane, two-way street that carries about 7,000 vehicles daily near Thompson Road.

**10<sup>th</sup> Street** is a Minor Arterial. It is a two-lane, two-way street with left turn lanes at some locations, such as Central Avenue. It carries about 4,000 vehicles daily near Central Avenue. There are generally sidewalks, but no bike lanes.

### Street Facility Inventory Listing

The street facility inventory for Coos Bay is summarized in the appendix. This table lists the physical features of the roadway facilities including:

- Functional classification according to ODOT's designation
- Paved width (distance between curbs or shoulders, as appropriate)
- Estimated average daily traffic volumes
- Posted speed limit
- Provision of pedestrian and bicycle facilities

The estimated traffic volumes were calculated by multiplying the p.m. peak hour two-way volume for a given street segment by 10 to represent average daily travel. Where traffic volume data was not available an entry of "N/A" is indicated.

The street inventory data was further refined to highlight the portion that provide bicycle and pedestrian facilities according to functional class. Table A-1 on the next page summarizes the findings.

Several general observations were made:

- Bike facilities generally are not provided on arterials and collector streets. Overall, bike lanes are present on 3% of the major arterials, 10% of the minor arterials, and 0% of collector streets.
- Sidewalks generally are provided along arterial streets, and generally are not provided along most collector streets. Overall, sidewalks are present on 41% of the major arterials, 0% of the minor arterials, and 5% of the collector streets.
- Collector streets typically have 36 feet paved width.
- Collector streets generally carry 1,000 to 4,000 vehicles daily with a maximum listed of 7,000 (4<sup>th</sup> Street in Coos Bay).
- Minor arterials streets carry 4,000 to 12,000 vehicles daily.
- Major arterial streets carry 8,000 to 23,000 vehicles daily.

City of Coos Bay  
Transportation System Plan

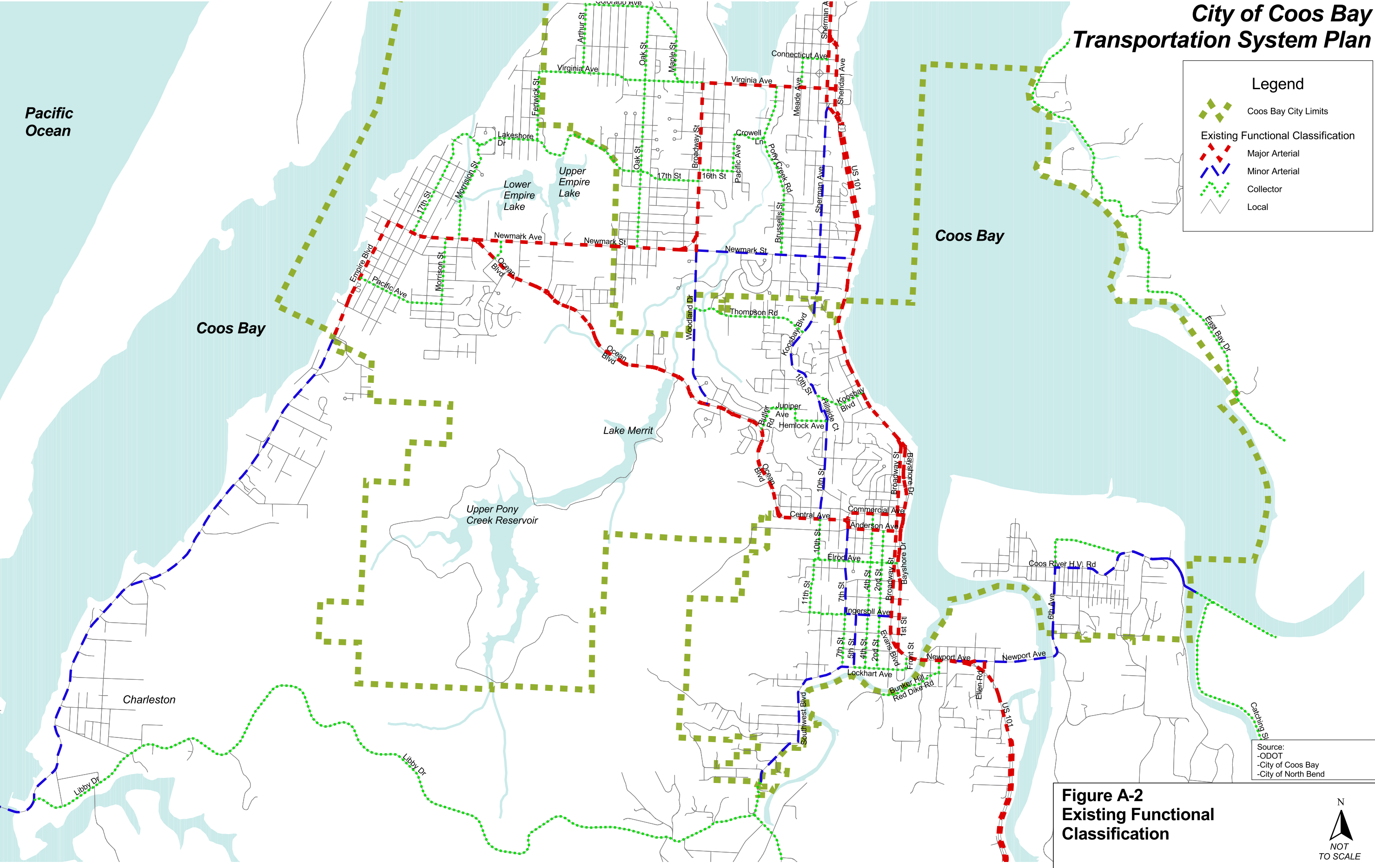


**Table A-1: Street Inventory Related to Bicycle and Pedestrian Facilities**

| <i>Facility Description</i> | <i>Miles of Roadway<br/>(Percent with Bike and Pedestrian Facilities on one or both sides)</i> |
|-----------------------------|------------------------------------------------------------------------------------------------|
|                             | <i>Coos Bay</i>                                                                                |
| Major Arterial              | 10.35                                                                                          |
| With bike lanes/route       | 5%                                                                                             |
| With sidewalks              | 52%                                                                                            |
| Minor Arterial              | 12.53                                                                                          |
| With bike lanes/route       | 11%                                                                                            |
| With sidewalks              | 0%                                                                                             |
| Collector                   | 17.47                                                                                          |
| With bike lanes/route       | 0%                                                                                             |
| With sidewalks              | 3%                                                                                             |

### Traffic Volume

A complete inventory of peak hour traffic conditions was performed in the summer of 2002. The traffic turn movement counts conducted as part of this inventory provide the basis for analyzing existing problem areas as well as establishing a base condition for future monitoring. Turn movement counts were conducted at 75 intersections during the evening (4-6 PM) peak period and at 16 intersections during the morning (7-9 AM) peak period to determine existing operating conditions. These intersections were chosen in coordination with the City of Coos Bay staff to evaluate the existing conditions.

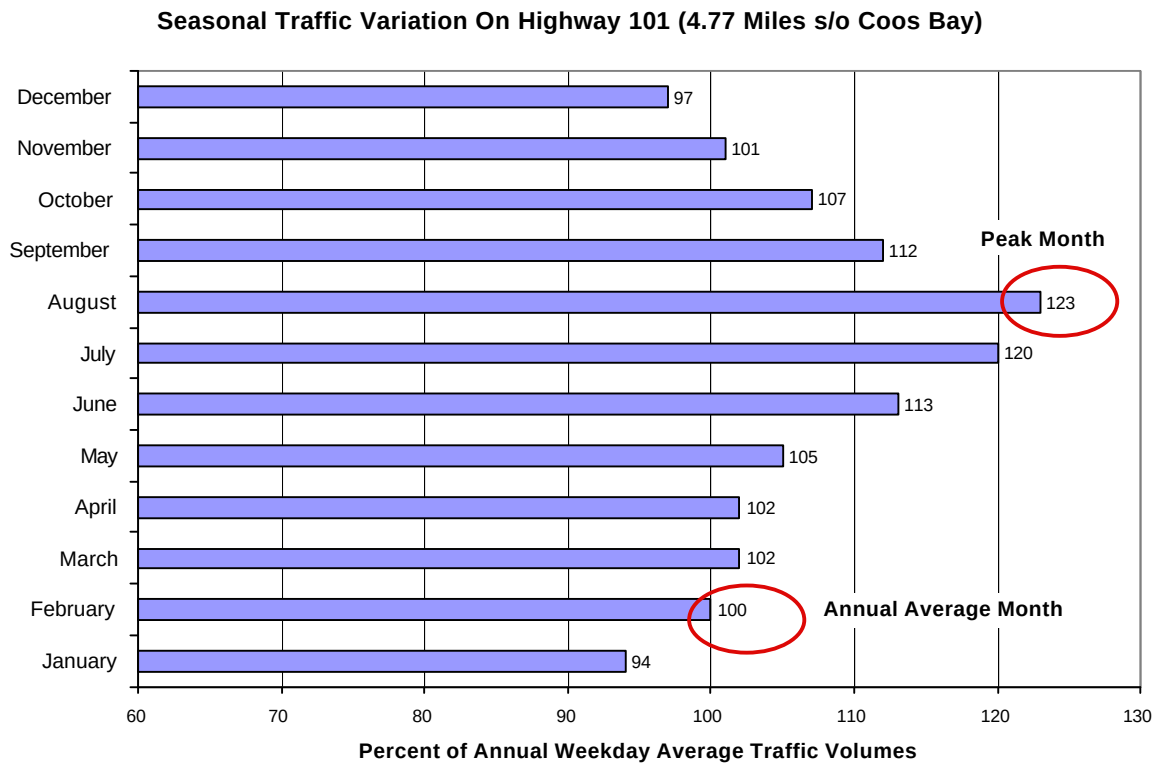


Figure A-3 shows two-way existing traffic volumes in the Coos Bay area based on August 2002 traffic counts. Figure A-4 shows hourly volume summaries, by direction, for three locations in the study area. The three selected locations each represent gateways into the communities. The hourly profiles vary over the day with the heaviest uses generally between noon and 6:00 PM. Also, the peak two-way volumes on Virginia Avenue near Harrison at over 1800 vehicles per hour are roughly two times the level observed on Empire Boulevard south of Newmark Avenue (Cape Arago Hwy.), which carried a peak hour volume of 1000 vehicles per hour.

**Seasonal Traffic Variation** – Traffic counts were conducted during August, which typically has about 120 percent of the annual average weekday volume on Highway 101 (see chart below from ODOT permanent count station recorder). This time frame was selected to be consistent with 30<sup>th</sup> highest annual hour standards for regional facility design.

### Traffic Control

There are 27 existing traffic signals in the Coos Bay area. About half of these traffic signals, 14, are installed on Highway 101. The traffic signal locations and posted speed zones on select arterials and collectors, are shown in Figure A-5.

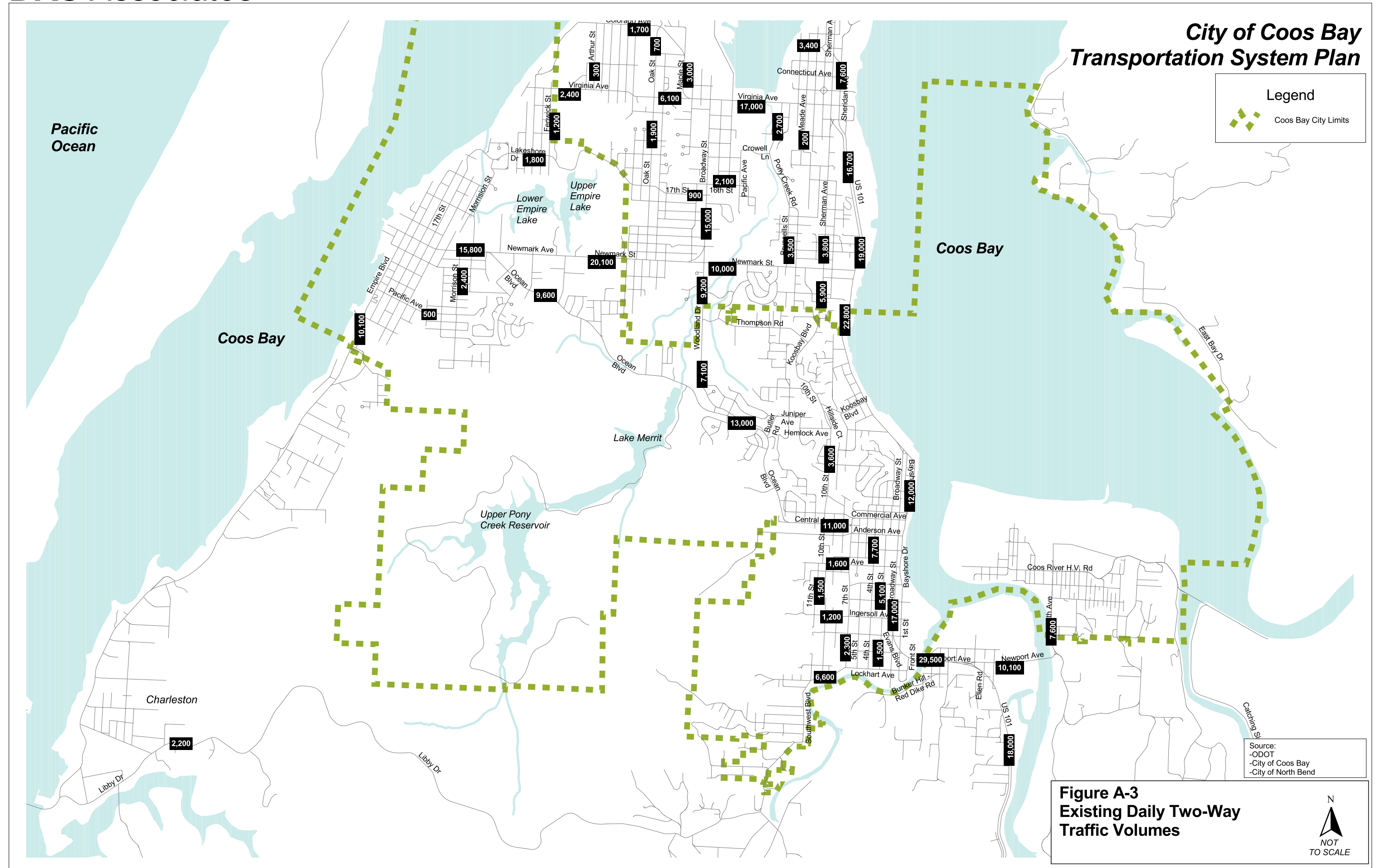
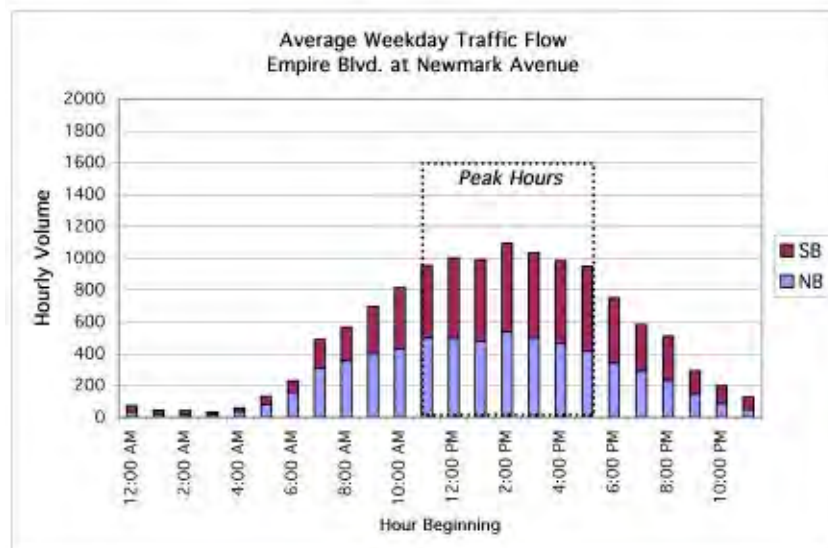
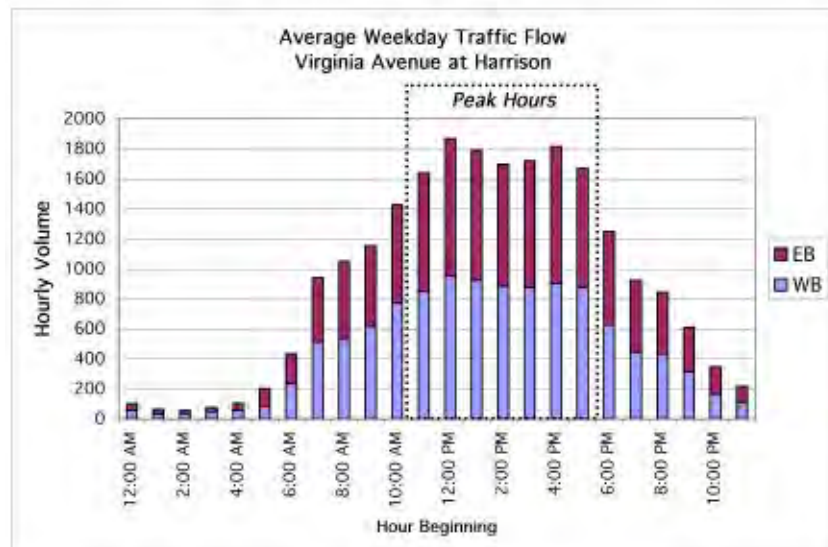
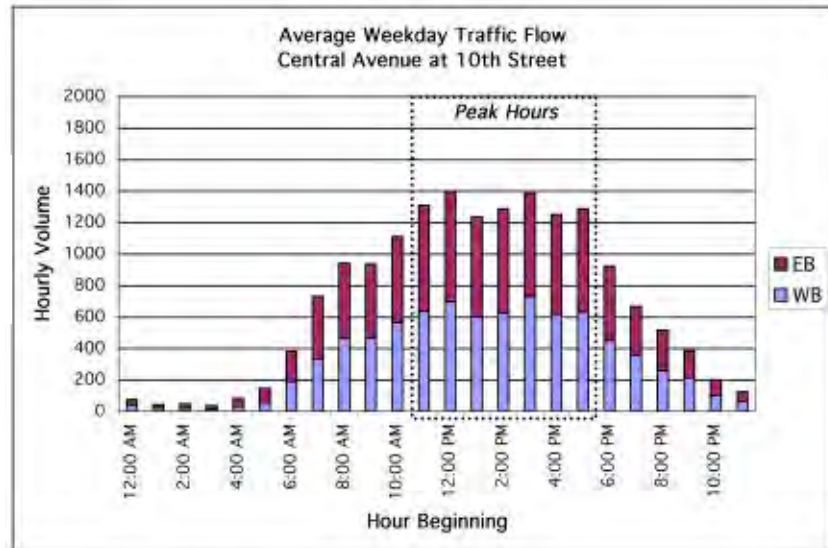


**Figure A-4: Average Weekday  
Hourly Volumes at Selected  
Locations**





## **Traffic Levels of Service**

Level of Service (LOS) is used as a measure of effectiveness for intersection operation. It is similar to a “report card” rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of Service F represents conditions where average vehicle delay exceeds 80 seconds per vehicle entering a signalized intersection and demand has exceeded capacity. This condition is typically evident in long queues and delays. Level of service calculations were based on peak 15-minute volumes<sup>1</sup>.

Level of service D or better is generally the accepted standard for signalized intersections in urban conditions. Coos Bay has not adopted a LOS standard. The appropriate standard will be selected as a part of this study process.

In addition, the Oregon Highway Plan sets maximum volume-to-capacity ratios (v/c) for peak hour operating conditions, based on ODOT’s highway classification and other criteria. For statewide freight routes (i.e. US 101 through Coos Bay), intersections are required to operate at a v/c of 0.75 or better (for speeds <45 mph). All other state facilities in the study area are district level highways, which are required to operate at a v/c of 0.85 or better (for speeds < 45 mph). Under existing conditions, these criteria are met for all state facilities in the study area.

**Intersections Without Traffic Signals** – The level of service assessment for intersections without traffic signals is significantly different. The reported LOS applies only to the major and minor street turning movements, and are not representative of major street through movements. For this reason, LOS E and even LOS F can occur for a specific turning movement; however, the majority of traffic may not be delayed (in cases where major street traffic is not required to stop). LOS E or F conditions at unsignalized intersections generally provide a basis to study intersections further in order to determine availability of acceptable gaps, safety and traffic signal warrants.

A summary of the descriptions for level of service for signalized and unsignalized intersections is provided in the Level of Service Descriptions in the Coos Bay Transportation System Plan technical appendix.

Intersection turn movement counts were conducted during the evening peak periods to determine the existing 2002 LOS based on the *2000 Highway Capacity Manual* methodology for signalized and unsignalized intersections<sup>2</sup> (see Appendix for descriptions). Traffic counts and level of service calculation sheets can be found in the appendix.

The following sections describe existing conditions along several key corridors in Coos Bay. Tables A-3 and A-4 provide a summary of the PM peak hour levels of service for the study intersections in Coos Bay. Most intersections operate at LOS D or better, with some exceptions.

### **Coos Bay**

A total of 13 signalized intersections and 23 unsignalized intersections were analyzed within Coos Bay.

All of the signalized intersections operate at LOS C or better. All but five of the unsignalized intersections operate at a LOS of C or better for the minor street left turns. Table A-4 shows the existing intersection levels of service within Coos Bay. Additionally, all intersections on state highways operate at acceptable levels according to the OHP v/c standards in Coos Bay.

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<sup>1</sup> Peak 15-minute volumes were multiplied by four, as discussed in the *2000 Highway Capacity Manual*, in lieu of using a peak hour factor, to arrive at hourly volumes required for Highway Capacity Manual intersection analysis.

<sup>2</sup> *2000 Highway Capacity Manual*, Transportation Research Board, 2000.

**Table A-2: Intersection Level of Service**

| <i>Intersection</i>                          | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
|----------------------------------------------|-------------------------|----------------------|--------------------------|
| <i>Signalized Intersections</i>              |                         |                      |                          |
| 10 <sup>th</sup> Street/Central Avenue       | C                       | 21.9                 | 0.60                     |
| 1 <sup>st</sup> Street/Hall Avenue           | A                       | 3.7                  | 0.36                     |
| Broadway/Hall Avenue                         | A                       | 6.7                  | 0.48                     |
| Broadway/Johnson Avenue                      | B                       | 17.3                 | 0.57                     |
| Broadway/Market Avenue                       | B                       | 10.3                 | 0.51                     |
| Central Avenue/7 <sup>th</sup> Street        | B                       | 7.3                  | 0.60                     |
| Commercial Avenue/Broadway                   | B                       | 11.7                 | 0.53                     |
| Johnson Avenue/Bayshore Drive                | B                       | 19.3                 | 0.64                     |
| Newmark Avenue/Ocean Boulevard               | B                       | 14.3                 | 0.52                     |
| Ocean Boulevard/Butler Road                  | A                       | 3.7                  | 0.31                     |
| Ocean Boulevard/Woodland Drive               | B                       | 19.8                 | 0.47                     |
| US 101/Koosbay Boulevard                     | B                       | 12.5                 | 0.56                     |
| <i>Unsignalized Intersections</i>            |                         |                      |                          |
| 11 <sup>th</sup> Street/Elrod Avenue         | A/A                     |                      |                          |
| 2 <sup>nd</sup> Street/Ingersoll Avenue      | A/B                     |                      |                          |
| 6 <sup>th</sup> Street/D Street              | A/B                     |                      |                          |
| Bayshore Drive/Alder Avenue                  | A/C                     |                      | 0.18*                    |
| Bayshore Drive/Birch                         | A/B                     |                      | 0.10*                    |
| Bayshore Drive/Cedar Avenue                  | A/B                     |                      | 0.02*                    |
| Bayshore Drive/Commercial Avenue             | A                       |                      | —                        |
| Bayshore Drive/Fir Street                    | A/B                     |                      | 0.01*                    |
| Bayshore Drive/Market Avenue                 | A/D                     |                      | 0.09*                    |
| Broadway/Alder Avenue                        | A/C                     |                      | 0.29*                    |
| Broadway/Fir Street                          | A/C                     |                      | 0.12*                    |
| Empire Boulevard/Pacific Avenue              | A/C                     |                      | 0.10*                    |
| Lockhart Avenue/2 <sup>nd</sup> Street       | A/B                     |                      |                          |
| Lockhart Avenue/7 <sup>th</sup> Street       | A/B                     |                      |                          |
| Newmark Avenue/LaClair Street                | A/C                     |                      | 0.29*                    |
| Newmark Avenue/Morrison Street               | B/C                     |                      | 0.32*                    |
| Ocean Avenue/LaClair Street                  | A/B                     |                      |                          |
| Ocean Boulevard/Radar                        | A/B                     |                      |                          |
| Thompson Road/Koosbay Boulevard              | A/C                     |                      |                          |
| US 101/1 <sup>st</sup> Street                | C/D                     |                      | 0.44*                    |
| US 101/S. Front Street                       | C/F                     |                      | 0.31*                    |
| Woodland Drive/Thompson Road                 | A/B                     |                      |                          |
| <i>All-Way Stop Controlled Intersections</i> |                         |                      |                          |
| 4 <sup>th</sup> Street/Elrod Avenue          | B                       | 11.3                 | 0.41                     |
| 7 <sup>th</sup> Street/Ingersoll Avenue      | A                       | 8.7                  | 0.33                     |
| Broadway/Lockhart Avenue                     | A                       |                      |                          |

\*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

### Coos County

Two signalized and seven unsignalized intersections were analyzed in the County outside of Coos Bay.

Two intersections currently operate at LOS E. The other intersections operated at a LOS of D or



better. All of the study intersections in Coos County meet ODOT's v/c standards. Table A-6 shows the existing conditions at the study intersections in the County.

**Table A-3: Intersection Level of Service in Coos County (PM Peak Hour)**

| <i>Intersection</i>              | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
|----------------------------------|-------------------------|----------------------|--------------------------|
| <i>Signalized Intersection</i>   |                         |                      |                          |
| US 101/Flanagan                  | B                       | 10.4                 | 0.64                     |
| <i>Unsignalized Intersection</i> |                         |                      |                          |
| Coos River Highway/Edwards       | A/B                     | —                    | 0.01*                    |
| Coos River Highway/Mullen        | A/D                     | —                    | 0.07*                    |
| Coos River Highway/Olive Barber  | A/C                     | —                    | 0.33*                    |
| Libby/Wilshire                   | A/A                     | —                    | —                        |
| US 101/Edwards                   | A/E                     | —                    | 0.21*                    |

\*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

Figure A-6 provides a summary of intersections operating at or near capacity based on level of service calculations. The majority of the study intersections are currently operating at capacity levels of LOS D or better.

### Morning Peak Hour Levels of Service

Level of service calculations were made for the several selected intersections where morning volumes were to be monitored. Table A-7 summarizes the results of this analysis.

**Table A-4: Intersection Level of Service (AM Peak Hour)**

| <i>Intersection</i>                    | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
|----------------------------------------|-------------------------|----------------------|--------------------------|
| <i>Coos Bay</i>                        |                         |                      |                          |
| <i>Signalized Intersections</i>        |                         |                      |                          |
| 10 <sup>th</sup> Street/Central Avenue | C                       | 21.4                 | 0.46                     |
| Commercial/Broadway                    | B                       | 14.4                 | 0.34                     |
| Newmark Avenue/Ocean Boulevard         | B                       | 13.1                 | 0.22                     |
| Ocean Boulevard/Woodland Avenue        | B                       | 18.3                 | 0.38                     |
| <i>Unsignalized Intersections</i>      |                         |                      |                          |
| 6 <sup>th</sup> Street/D Street        | A/F                     | —                    | —                        |
| US 101/1 <sup>st</sup> Street          | B/B                     | —                    | 0.12*                    |
| Bayshore/Commercial                    | A/A                     | —                    | —                        |
| Bayshore/Fir Street                    | A/A                     | —                    | —                        |
| Broadway/Fir Street                    | A/B                     | —                    | 0.02*                    |

\*Controlling movement v/c. Used for determining compliance with ODOT's OHP v/c ratio thresholds.

Typically peak traffic volumes occur in the evening peak period (4-6 PM). However, on occasion, there are instances where some intersections operate at a poorer level of service in the morning than the evening due to commuting patterns. The primary purpose in calculating morning level of service is to make sure that any of these problems are identified and analyzed.

All of the study intersections selected for morning analysis operate at level of service C or better, with the exception of 6<sup>th</sup> Street/D Street in Coos Bay. All study intersections meet ODOT's v/c criteria during the morning peak hour. Peak hour signal warrants were calculated for this intersection using AM volumes and were not met.

### Traffic Signal Warrants

Peak hour signal warrants (MUTCD Warrant 3—Peak Hour Volume Warrant) were checked for all study area unsignalized intersections to determine whether traffic signals were warranted at any of the

study intersections under existing traffic volume conditions. The results of this warrant analysis is shown in Table A-8.

**Table A-5: Peak Hour Signal Warrant Analysis**

| <i>Intersection</i>             | <i>Peak Hour Warrant Met?</i> |
|---------------------------------|-------------------------------|
| Lakeshore Drive/Crocker Street  | N                             |
| Libby/Wilshire                  | N                             |
| Coos River Highway/Olive Barber | N                             |
| Coos River Highway/Edwards      | N                             |
| Coos River Highway/Mullen       | N                             |
| US 101/Edwards                  | N                             |

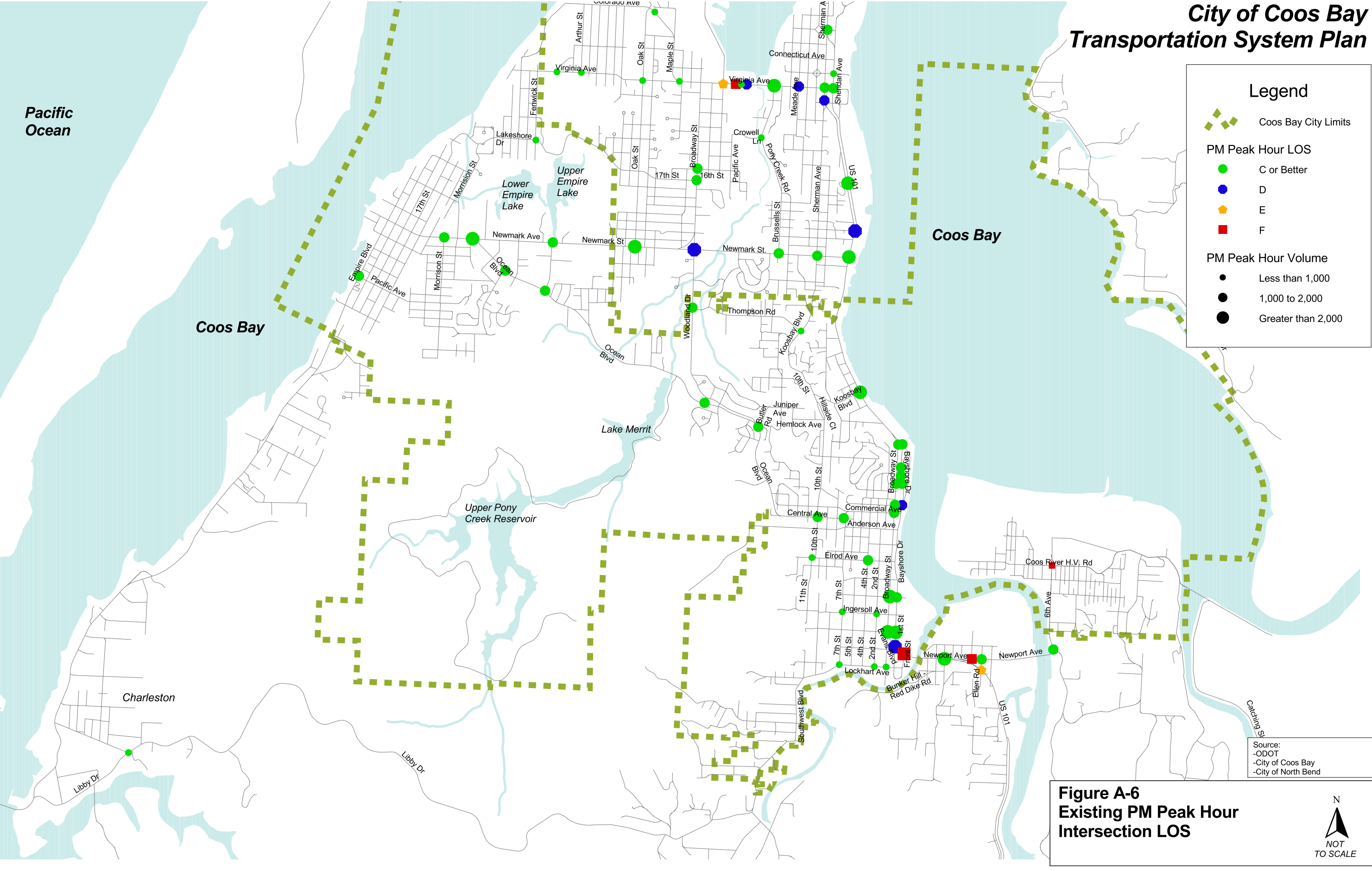
Two intersections meet peak hour signal warrants under existing traffic volume conditions. They are the two driveways for the Pony Village shopping center onto Virginia Avenue. Further analysis should be conducted (examination of further traffic signal warrants) to determine whether or not a traffic signal is currently warranted at one or both of the driveways. None of the other surveyed intersections without traffic signals met this first tier warrant. ODOT only recognizes Warrant 1 for preliminary signal warrant purposes. This warrant is evaluated in the Future Needs section of this TSP.

### Other Traffic Operational Issues

Several notes were made during field observations that add to the technical analysis based above. These issues include:

- Absence of separate left-turn lanes on arterial facilities reduces facility capacity (vehicles per hour) and inhibits traffic safety. A prime example is Highway 101 at East Bay Drive immediately north of the McCullough Bridge. Other examples are on Ocean Boulevard and Virginia Avenue.
- Traffic signal coordination in downtown Coos Bay on Highway 101 should be reviewed. Rolling vehicle queues in the southbound direction were observed extending several blocks north of Commercial Avenue.
- High frequency of driveway cuts along arterials increases vehicle conflict potential. Prime examples along Newmark Street near the Bi-Mart Shopping Center.

City of Coos Bay  
Transportation System Plan



## Collisions

Vehicle, pedestrian, and bicycle collision data was obtained from ODOT and used to develop the high collision intersection and segment lists for the Coos Bay Transportation System Plan. Table A-9 shows crash locations within Coos Bay at intersections where traffic count data was available and where at least one accident per year was reported. The number of collisions within 200 feet of an intersection were included in the total. Locations approaching or above a crash rate of 1.00 per MEV are considered significant and should be investigated. The highest rate location in Coos Bay is 2<sup>nd</sup> Street at Ingersoll Avenue is a relatively low volume intersection. The next three locations, 10<sup>th</sup>/Central, Thompson/Woodland, and Woodland/Ocean each are arterial intersections with much higher volumes and crash frequencies. The highest number of crashes and the highest crash rate intersection in North Bend is Newmark Avenue at Broadway.

There are some locations that had more than three crashes over the three-year period, but traffic volume data was not available to calculate a crash rate. For those locations, traffic volumes were estimated based on similar intersections and an estimated crash rate was calculated. These estimated crash rates are shown in Table A-10 on the next page.

**Table A-6: Coos Bay High Collision Locations (1999-2001)**

| <i>Street</i>           | <i>Cross Street</i> | <i>Number of Collisions<br/>(1999-2001)</i> | <i>Collision Rate<br/>(Collisions per MEV*)</i> |
|-------------------------|---------------------|---------------------------------------------|-------------------------------------------------|
| <i>Coos Bay</i>         |                     |                                             |                                                 |
| 2 <sup>nd</sup> Street  | Ingersoll Avenue    | 4                                           | 1.57/MEV                                        |
| 10 <sup>th</sup> Street | Central Avenue      | 19                                          | 0.98/MEV                                        |
| Thompson Road           | Woodland Drive      | 10                                          | 0.90/MEV                                        |
| Woodland Boulevard      | Ocean Boulevard     | 15                                          | 0.86/MEV                                        |
| Ocean Boulevard         | Butler Avenue       | 9                                           | 0.59/MEV                                        |
| 4 <sup>th</sup> Street  | Elrod Avenue        | 4                                           | 0.39/MEV                                        |
| US 101                  | Koosbay Boulevard   | 9                                           | 0.36/MEV                                        |
| Ocean Boulevard         | Cape Arago Highway  | 8                                           | 0.36/MEV                                        |
| LaClair Street          | Ocean Boulevard     | 4                                           | 0.34/MEV                                        |

\* MEV=million entering vehicles

**Table A-7: Coos Bay Estimated High Accident Locations (1999-2001) -- Estimated Volumes**

| <i>Street</i>           | <i>Cross Street</i>     | <i>Number of Collisions<br/>(1999-2001)</i> | <i>Est. Accident Rate<br/>(Collisions per MEV*)</i> |
|-------------------------|-------------------------|---------------------------------------------|-----------------------------------------------------|
| <i>Coos Bay</i>         |                         |                                             |                                                     |
| Golden                  | 2 <sup>nd</sup> Street  | 8                                           | 3.14/MEV                                            |
| Kruse Avenue            | 4 <sup>th</sup> Street  | 5                                           | 1.05/MEV                                            |
| Woodland                | Inland                  | 8                                           | 0.87/MEV                                            |
| Hall Avenue             | 4 <sup>th</sup> Street  | 4                                           | 0.84/MEV                                            |
| Koosbay Boulevard       | 10 <sup>th</sup> Street | 5                                           | 0.51/MEV                                            |
| Elrod Avenue            | 2 <sup>nd</sup> Street  | 5                                           | 0.49/MEV                                            |
| 10 <sup>th</sup> Street | Anderson Avenue         | 6                                           | 0.46/MEV                                            |

\* MEV=million entering vehicles

Crash rates for segments on the state highway system in the study area (SPIS<sup>3</sup> data) were also obtained from ODOT for the years 1999-2001. Those segments with accident rates in the top 15 percent of all state highways are listed in Table A-11. SPIS values above 45.47 are in the top 10 percent for Oregon. Figure A-7 shows the location of the high accident intersections and segments on the study area map. The safety at these intersections and segments should be addressed in this TSP. The potential safety elements to be considered for the locations listed below are: absence of separate left-turn lanes, provision of on-street parking, and high frequency of driveway access from adjoining properties.

**Table A-8: State Highway Segments with Crash Rates Above Statewide Facility Average**

| <i>Street</i>   | <i>From</i>       | <i>To</i>                       | <i>Average<br/>SPIS Score</i> |
|-----------------|-------------------|---------------------------------|-------------------------------|
| <i>Coos Bay</i> |                   |                                 |                               |
| US 101          | Koosbay Boulevard | Just south of Koosbay Boulevard | 46.32                         |
| US 101          | Market Avenue     | South of Anderson Avenue        | 43.23                         |
| US 101          | Curtis Avenue     | Elrod Avenue                    | 46.95                         |
| US 101          | Golden Avenue     | Hall Avenue                     | 48.07                         |
| US 101          | Ingersoll Avenue  | Johnson Avenue                  | 42.03                         |
| US 101          | Harriet Street    | Flanagen Avenue                 | 50.17                         |

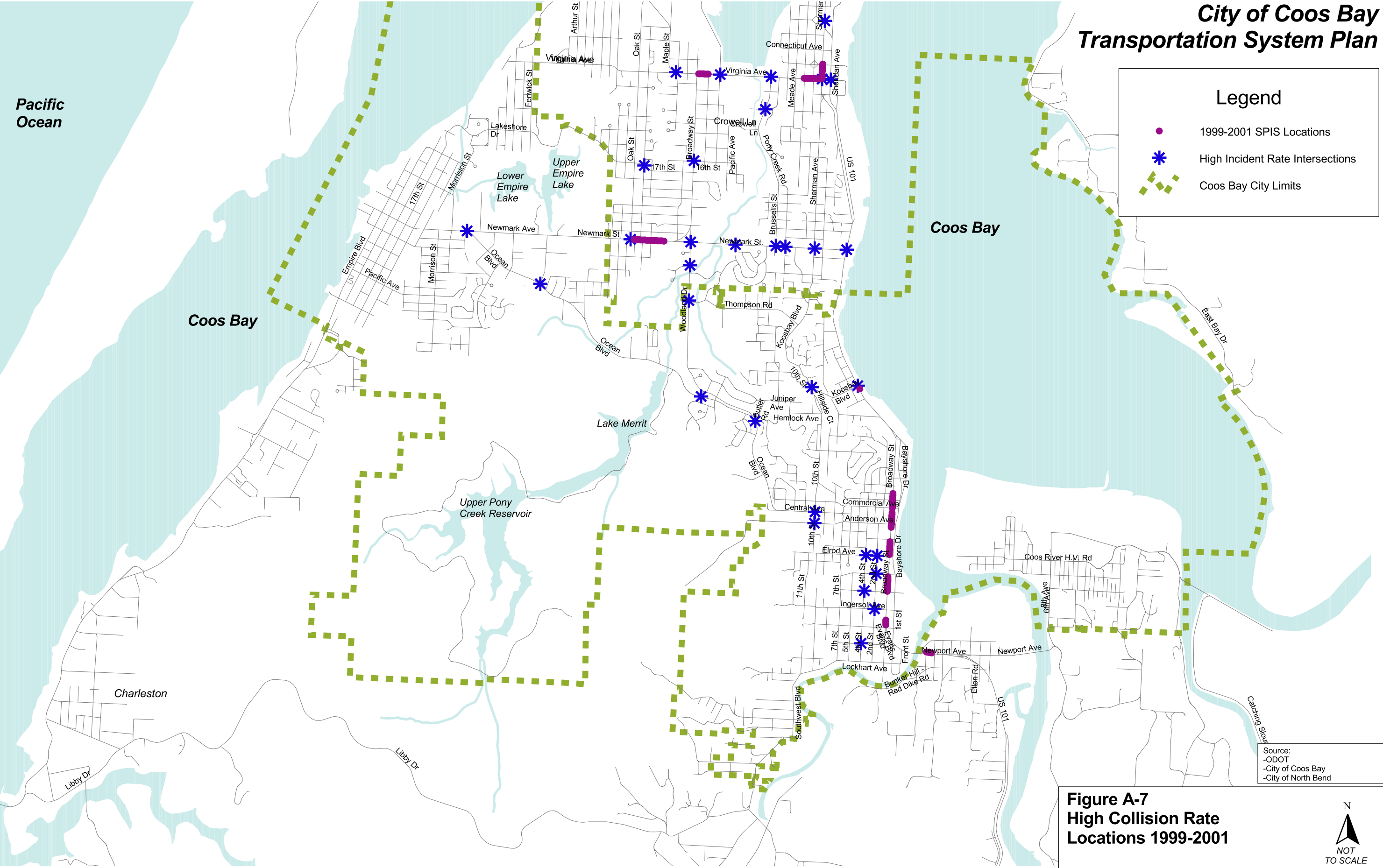
\* MEV=million entering vehicles

Existing collision data was plotted on an intersection by intersection basis to determine where potential safety issues may exist. While no conclusions can be drawn at many of the intersections, there are some issues that should be noted at the following locations:

- **Newmark between Oak and Broadway Streets:** Multiple crashes are reported in the areas near Cedar and Ash Streets. In particular, many of the crashes involve vehicles either crossing Newmark Street or making left or right turns onto Newmark Street
- **Broadway Street at Newmark Street:** Multiple rear-end type crashes for vehicles traveling southbound and northbound on Broadway/Woodland.
- **Sherman Avenue at Virginia Avenue:** A number of crossing collisions for vehicles traveling eastbound on Virginia and southbound on Sherman. This is likely due to vehicles running red lights.
- **10th Street/Central Avenue:** A few crossing collisions, similar to Sherman/Virginia, likely due to red light running.
- **2nd Street/Golden Avenue:** A large number of crossing collisions, indicating that drivers are ignoring stop signs in one or both directions. This is not a study intersection, so intersection geometry and traffic count data were not available, but it is a very low volume intersection for such a high number of collisions.

<sup>3</sup> Safety Priority Indexing System.

City of Coos Bay  
Transportation System Plan



## Transit

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCTA has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational. The discussion below is written assuming that funding and service is restored to previous levels.

Transit service is provided by Coos County Area Transit (CCAT). Figure A-8 shows current CCAT fixed bus routes and the location of current bus stops and shelters throughout the study area. There are six covered shelters in the transit system today with the remainder having combinations of benches or posted signs only.

Weekday bus boarding information was reported by CCAT for the current 2000 census. Table A-12 shows the ridership for the routes serving Coos Bay over the past two years. The fixed route loop services have grown about 20 percent and the dial-a-ride service has grown almost 50 percent in the past year. Table A-13 reports the frequency of service for the various fixed route and express route operations. Dial-a-ride services are scheduled by appointment on an as needed basis.

Note: Since this chapter of the TSP was written, all federal funding for CCAT has been withdrawn.

**Table A-9: Average Weekday Boarding Rides on CCAT Routes on Coos Bay & North Bend**

|                  | <i>Loops</i> | <i>Dial-a Ride*</i> |
|------------------|--------------|---------------------|
| <i>2000-2001</i> |              |                     |
| Seniors          | 4,675        | 3,991               |
| Disabled         | --           | 3,848               |
| Public           | 17,289       | 2,781               |
| Total            | 21,964       | 10,620              |
| <i>2001-2002</i> |              |                     |
| Seniors          | 3,131        | 4,842               |
| Disabled         | --           | 4,400               |
| Public           | 23,104       | 6,467               |
| Total            | 26,235       | 15,709              |
| % Growth         | 20%          | 48%                 |

**Table A-10: Transit Boarding Service in Study Area**

| <i>Route</i>                  | <i>Approximate Frequency</i>                          |
|-------------------------------|-------------------------------------------------------|
| Bay Area Loop Service         | 90 minutes                                            |
| Myrtle Point Bus              | Twice Daily +<br>Dial-A-Ride                          |
| Coquille Bus                  | Twice Daily +<br>Dial-A-Ride                          |
| Bandon Bus                    | Dial-A-Ride                                           |
| CB/NB Bus #1                  | Twice in AM Peak<br>Twice in PM Peak +<br>Dial-A-Ride |
| CB/NB Bus #2                  | Twice in AM Peak<br>Twice in PM Peak +<br>Dial-A-Ride |
| Coastal Express<br>(Bay Area) | Hourly                                                |
| Coastal Express               | Twice in AM Peak<br>Twice in PM Peak                  |

Porter Stage Lines, Greyhound and Coos County Area Transit (CCAT) combine to provide the transit options for individuals in the Coos Bay/ North Bend area. Porter Stage Lines has 7 buses that can carry between 11 and 47 passengers each and provide service twice a day to Eugene/Bend/Ontario. Likewise, Greyhound provides inter-jurisdictional connectivity thorough routes that provide access to many areas of the State including Eugene/Portland/Medford and other large cities in Oregon.

The majority of intra-jurisdictional transit trips are provided by CCAT, which has ten service vehicles (5 in good condition, 4 in fair condition, and 1 in poor condition) that are all ADA accessible and has annual operating expenses over \$200,000. Currently, the service is provided on a demand responsive basis and focuses mainly on the transportation disadvantaged population, such as the handicapped, elderly and economically disadvantaged. Two dial a ride buses operate Monday-Friday in the Coos Bay/North Bend area, another in Coquille and a fourth in Bandon. Approximately 37,000 trips will be provided system wide this year, with 15,000 of those trips occurring in Coos Bay/North Bend. This does not begin to meet demand, however, as over 90,000 unlinked trips were provided system wide before the fixed route service was discontinued.

Since a fixed route service was originally operational in Coos Bay/North Bend, much of the infrastructure is still present. The City has identified bus stop locations, and signs and shelters are in place. The opportunity for increasing transit modal share is large as is shown in both revealed preference actions such as the ridership numbers before fixed routes were discontinued, and in stated preference assertions such as the opinion survey prepared for the 1995 STIP plan that indicated considerable support for expanded service. Additionally some of the capital costs associated with the implementation of route start-up have already been provided. The largest obstacle to the provision of fixed route service is the identification of a funding mechanism required for operation costs, as fare box recovery is expected to be a very small percentage of total operating costs.

## Bicycle

Bicycle counts were conducted during the evening peak period (4:00 to 6:00 PM) at the study intersections in Coos Bay and are shown in Figure A-9, along with the existing bike lanes, designated bikeways and off-street bike pathways. There is only one small section of US 101 that has designated bike lanes in the entire Coos Bay study area. There are a number of roadways that have paved shoulders that could be used for bicyclists. A specific inventory of these wide shoulder locations was not undertaken.

A Bikeway Master Plan for the Coos Bay Bay Area and Coos County Parks was completed in 1991.<sup>4</sup> As part of this plan, use patterns were determined based on public input. Within the City, bicycle trips are typically made for utility purposes between core areas such as US 101, Ocean, Newmark and other arterial and collector streets. Outside the City, trips are more recreational in nature.

The Oregon Coast Bike Route (OCBR) is the only marked bike route in the area. It is a combination of shared roadway, shoulder and bike lane types. As mentioned previously, the only designated bike lanes exist on US 101.

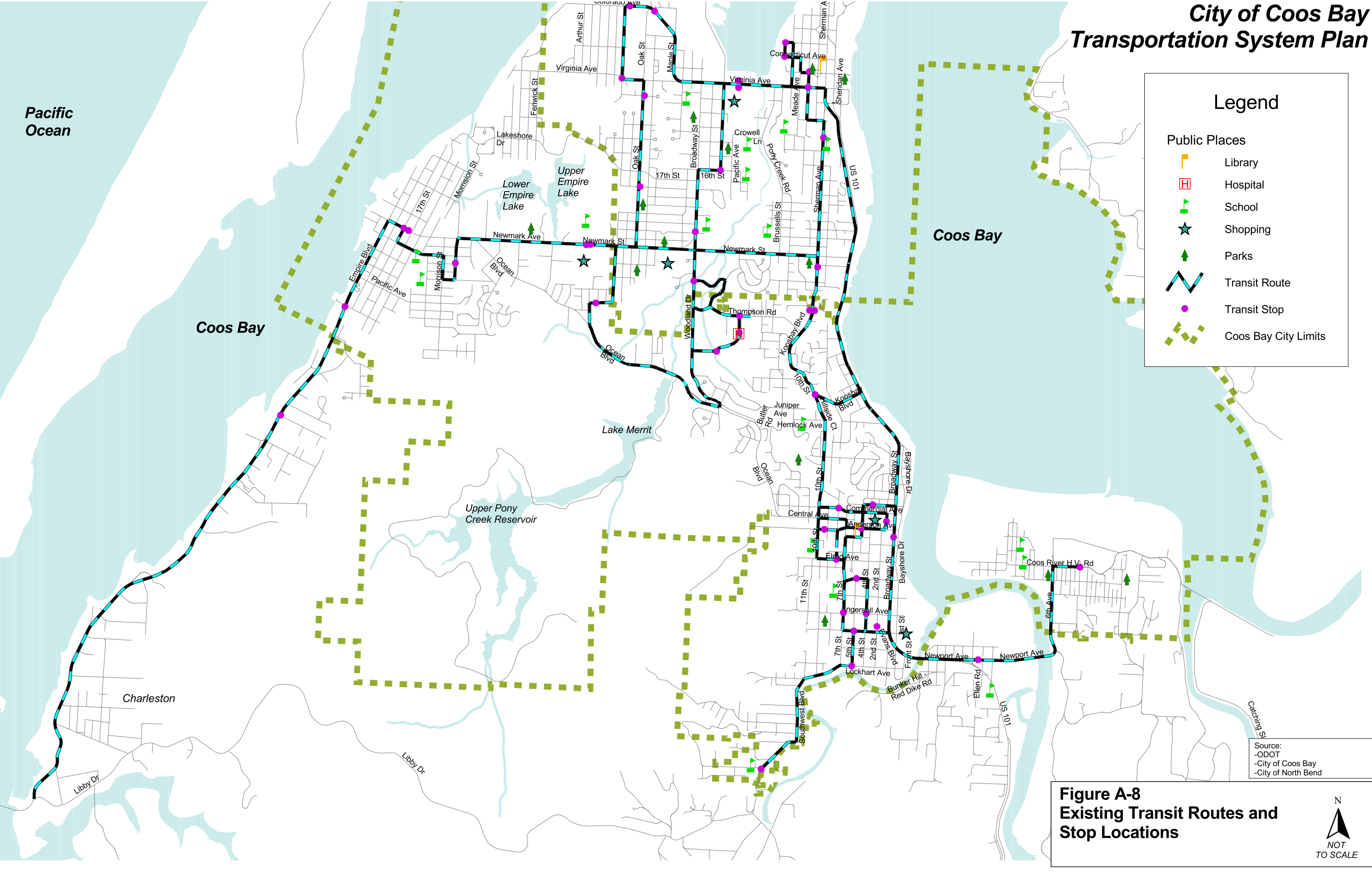
Due to the lack of bike lanes and sporadic paved shoulders (less than 10 percent of arterials and collectors have bike facilities), there is limited connectivity for bicyclists traveling to activity centers in Coos Bay. Bicycles are permitted on all roadways in the both City. Bicycle use in Coos Bay is generally for recreational, school and commuting purposes.

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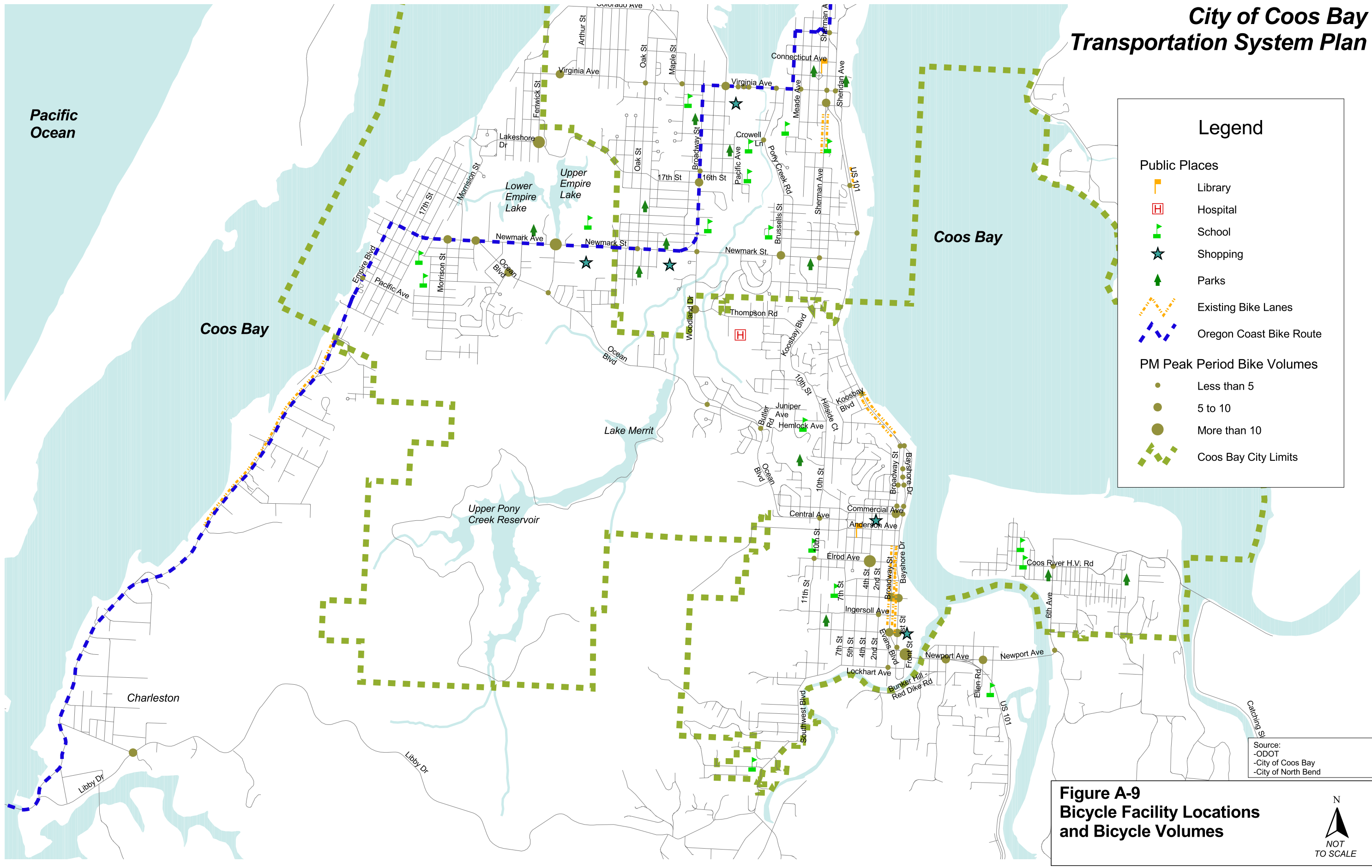
<sup>4</sup> *Bikeway Master Plan for Coos Bay Bay Area and Coos County Parks*, Gary L. Dyer, June, 1991.



City of Coos Bay  
Transportation System Plan



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Transportation System Plan



## Pedestrians

Figure A-10 shows the existing sidewalks on arterial and collector streets in Coos Bay. A majority of arterial and collector streets in Coos Bay have sidewalks on at least one side of the street. There are some locations where sidewalks are not connected; however, connectivity and pedestrian linkages are relatively good. In addition, besides the facilities that are shown on this map, many residential streets also have sidewalks.

Pedestrian counts were conducted in conjunction with the intersection PM peak turn movement counts. The pedestrian movement counts are also shown in Figure A-10. The most significant pedestrian volumes in the Coos Bay area are in the city's respective downtown's and near the Southwest Oregon Community College, which are large pedestrian generators. The most significant pedestrian movements occur in the Coos Bay downtown area on Broadway, Commercial and Elrod Avenue and in the North Bend downtown area on Virginia Avenue at Sherman Avenue. The intersection of Newmark Avenue at LaClair Street in Coos Bay had the single highest one-hour pedestrian volume, 108 persons.

Based on the street inventory, most major arterials facilities have sidewalks (84%) while minor arterial and collector streets have very limited existing sidewalk facilities (less than 10%). Sidewalks at least five feet wide are required in all new development. All newly constructed sidewalks include wheelchair ramps at intersections to permit easy ingress/egress for wheelchairs. The most important needs are to fill in the gaps on the arterial system such as on Newmark Avenue and Bayshore Drive. However, the City of Coos Bay should work to continue increasing the sidewalk coverage on all arterials, collectors, and residential streets in the Coos Bay area.

## Parking

Downtown parking studies were conducted in both Coos Bay in 1997<sup>5</sup>. Existing on-street parking locations for both City are shown in Figure A-11 for arterial and collector streets. In Coos Bay, several parking-related issues were identified through the public involvement process and included the following:

- Convenient parking is difficult to find
- Some off-street parking lots are perceived as unsafe at night
- On-street parking isn't readily available for patrons and visitors to downtown
- Parking system is confusing
- Abuses of on-street parking supply limits customer access

Meetings, stakeholder surveys and public open houses were conducted to determine the key issues in the parking situation in downtown Coos Bay. The following was concluded:

- Most parking (both on and off-street) is underutilized in the peak hour (based on parking surveys conducted by both the City and the Consultant)
- There is a sense that the parking system is not easily understood or convenient
- There are complaints that 1 hour meters (or controlled areas) are not sufficient to support short term access requirements.

An inventory was taken to determine the relationship between supply and demand. Overall utilization was determined to be about 44 percent of the available supply. This does not indicate an existing parking supply deficiency.

In North Bend, parking inventory and demand studies were conducted. There were a total of 1,633 parking spaces in the downtown area (including 597 on-street spaces and 1,036 off-street spaces).

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<sup>5</sup> *City of Coos Bay Downtown Parking and Circulation Study*, Kittelson & Associates, Inc., September 1997.  
*City of North Bend Downtown Parking Study*, David Evans and Associates, Inc., December 1997.

Parking occupancies were observed for three weekday time periods (7-9 AM, 11:30 AM-1:30 PM and A-5 PM) and on Saturday from 12:00-1:30 PM. The occupancy surveys were conducted in April, which may be lower than in the summer, which is peak season along the coast. According to ODOT traffic counts, average daily traffic (ADT) in April represents about 94% of normal. Occupancies ranged from about 28 percent occupancy on Saturday to 45 percent occupancy in the weekday evening peak period. This does not indicate an overall parking deficiency.

The above occupancy survey findings contrast sharply with opinions expressed by the general public and local merchants regarding the availability of parking. The quantitative studies do not support the reported view that parking is limited. It is apparent that the parking surveys identified 'available parking' outside of the walking distance many of the patrons or merchants desire. A more focused assessment that separated parking availability relative to ranges of walking distances may be more revealing.

## Trucks

The truck (heavy vehicle) volumes as well as percentages as a portion of through traffic at the study intersections were collected with the current turn movement counts. The current truck percentages, which range from 0 to 9 percent, are shown on Figure A-12. US 101 through Coos Bay is the only designated freight route in the study area<sup>6</sup>. Existing through truck routes and intermodal connectors are also shown in Figure A-12.

The 1999 Oregon Highway Plan designates a State Highway Freight System. The OHP can be found at [http://www.odot.state.or.us/tdb/planning/highway/highway\\_plans.htm](http://www.odot.state.or.us/tdb/planning/highway/highway_plans.htm). A map of the State Highway Freight System can be viewed at [http://www.odot.state.or.us/intermodal-freight/Maps/web\\_page\\_pdf\\_maps/corridors,volumes,routes/1freight\\_rts.pdf](http://www.odot.state.or.us/intermodal-freight/Maps/web_page_pdf_maps/corridors,volumes,routes/1freight_rts.pdf). The State Highway Freight System is based on freight volume, connectivity and linkages to major intermodal facilities. US 101 through Coos Bay is designated as part of the State Highway Freight System.

Efforts to improve truck freight mobility and capacity within the planning area should first focus on the roadways comprising the local freight system. Other truck freight concerns that should be investigated are lack of turning lanes, narrow lanes, narrow shoulders, difficulties in accessing business sites, turning radii at intersections or bridges with weight or height concerns.

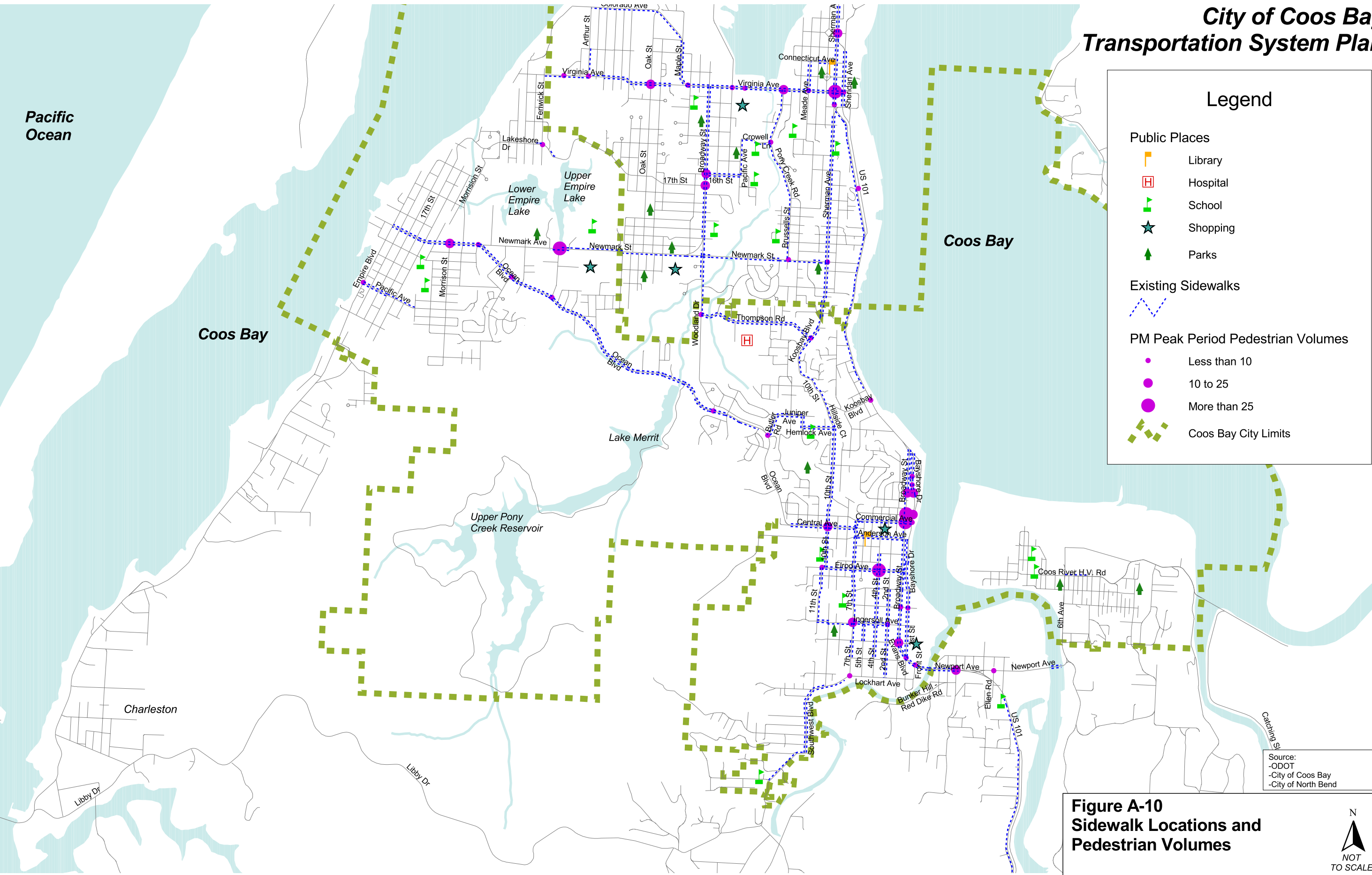
Some freight-related provisions in the Highway Plan include policies and actions relating to access from highways to adjacent properties. The Highway Plan's discussion of access management is intended to balance access to developed properties while ensuring the safe and efficient movement of through traffic and local traffic. The plan identifies a range of policies, actions, and standards pertaining to interchange development, driveway and roadway spacing and design, traffic signal location, median design and spacing of openings, and other factors associated with managing access along various types of urban and rural highways. Managing access includes providing for through truck movements as well as for the pick up and delivery of goods and materials to and from adjacent

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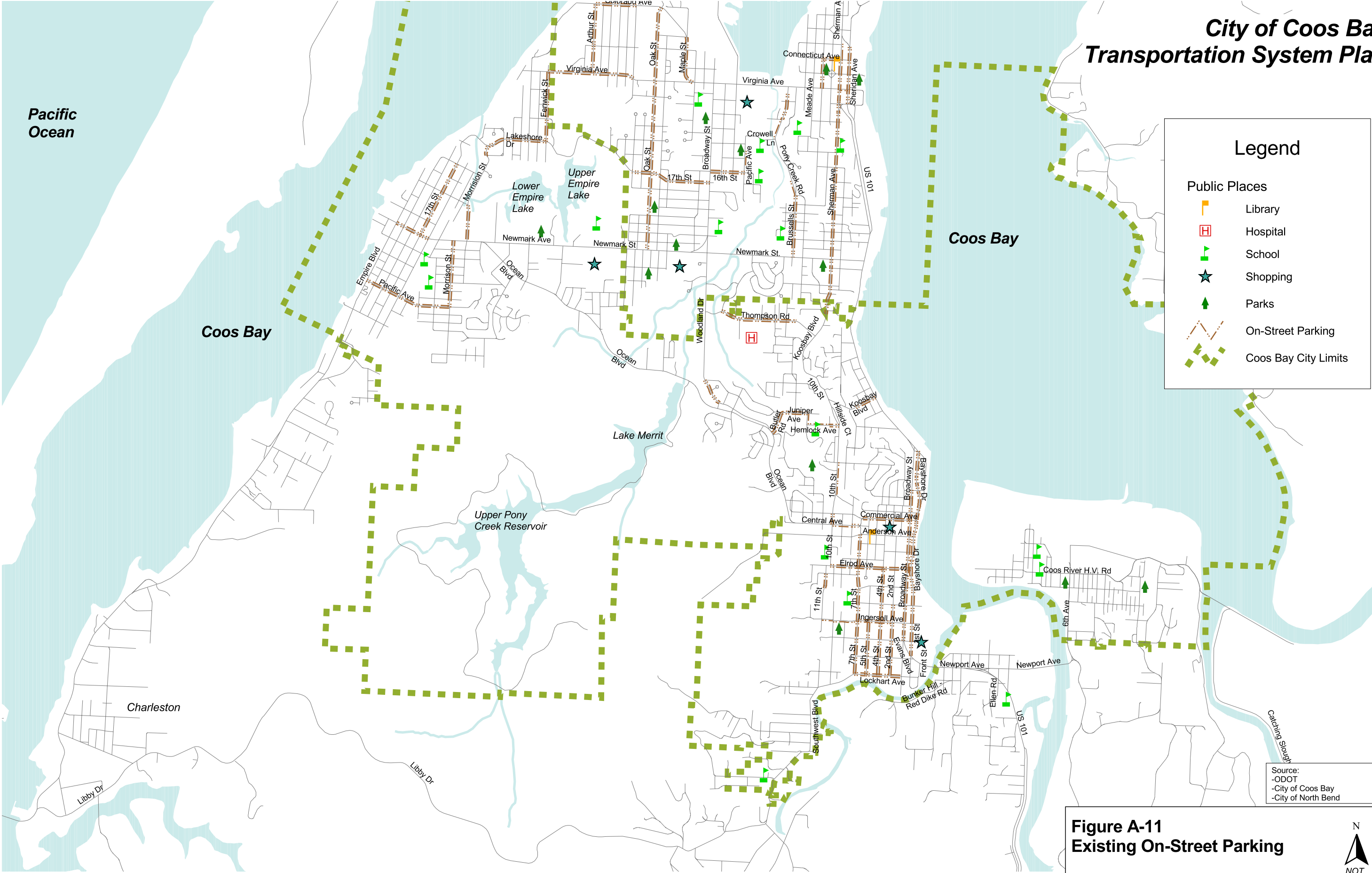
<sup>6</sup> 1999 Oregon Highway Plan, The Oregon Department of Transportation, Appendix D: Highway Classification by Milepoint.



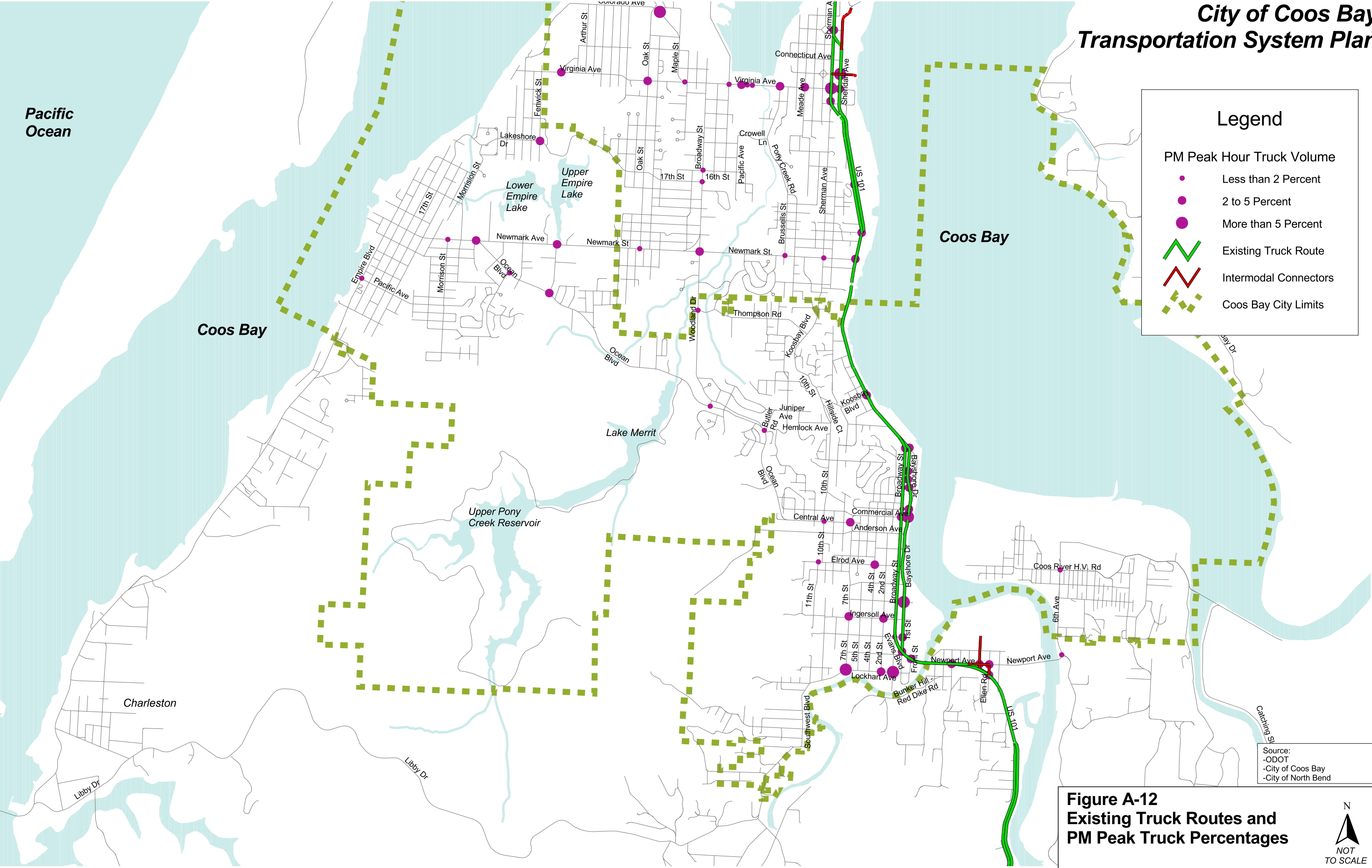
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commercial and industrial properties. The Coos Bay roadway system includes several intermodal connectors. An intermodal connector is a road connecting an intermodal freight or passenger facility through which goods or people move between modes. Some intermodal connectors are part of the National Highway System (NHS). Intermodal freight movements, for example, involve the movement of goods and materials by road, rail, water, air, and pipeline through truck-rail facilities, marine terminals, airports, and pipeline terminals. Most intermodal connectors are local roads, not state highways. Intermodal connectors in Coos Bay serve primarily marine facilities and are shown in Figure A-12.

The purpose of this section of the TSP is to identify the major routes (and shippers) associated with the movement of freight by truck in Coos Bay. A few of the concerns and needs about maintaining and enhancing current truck freight mobility are also mentioned. Some of the motor vehicle needs identified in the TSP will also improve truck freight mobility.

As in other cities, freight moves primarily by trucks in the Coos Bay area. Truck tractor-trailer combinations are the most common type of freight carrier and move the greatest variety of goods and commodities, ranging from low-value bulk commodities to high-value, time-sensitive commodities. The major commodities moved by truck in Coos Bay are wood chips, logs, plywood, particle board, petroleum products, seafood and general merchandise. Trucks, along with intercity buses, have the greatest locational mobility among freight modes in that they can go, subject to size and weight limitations, wherever roads go.

The closest ODOT ATR (automatic traffic recorder) is located approximately 5 miles south of Coos Bay on US 101 (mp 243.99). In 2002, the average daily traffic (ADT) was approximately 15,000 vehicles, with 16 percent truck traffic. This equates to approximately 2,400 trucks per day. Percent truck traffic is higher on state highways in the rural areas because there are less cars there than in the urban areas. Many of the trucks using these intersections are going to or coming from local industries and port facilities located in Coos Bay near the US 101 and the Isthmus Slough. These industries and facilities include the Oregon Chip Terminal, Tyree Oil, Dedicated Fuels Inc. and the Port of Coos Bay.

Several industries are located southeast of Coos Bay in the Bunker Hill (Coos County) area and account for some of the truck traffic at the US 101/Coos River Highway intersection and other US 101 intersections. They include the Georgia-Pacific Chip Terminal, Coos Bay Docks, Coastal Fiber, Coos Head Timber and a Georgia-Pacific Sawmill. Some of the truck traffic is also generated by the commercial businesses in the Coos Bay/North Bend area such as Wal-Mart, Bi-Mart, K-Mart and the larger chain grocery stores.

In order to better handle truck traffic, some intersections on US 101 in Coos Bay need to be improved. Some of the intersection curb radii are too sharp to accommodate the turning movements of the larger trucks (especially right turns). For example, trucks heading south on US 101 in North Bend wanting to turn west on to Virginia Avenue (Cape Arago Highway) must swing out into the other travel lane. This problem is also present at other intersections on US 101 such as Commercial/US 101 and California Ave/US 101. These movements are unsafe for other motor vehicles and reduce the capacity of the roadways. The US 101/Coos River Highway intersection is a bottleneck because of its triangular configuration and proximity to other busy intersections in the immediate area.

## Bridges

The Coalbank Slough and Isthmus Slough bridges provide access between Coos Bay and points east. ODOT's bridge sufficiency rating ranges from 0 (extremely poor/does not meet standards to 100 (excellent). The following information was provided by ODOT regarding the condition of the bridges:



## Coalbank Slough

Sufficiency Rating = 85.0

|                      |                                          |
|----------------------|------------------------------------------|
| Approach Condition   | 3 Serious                                |
| Deck Wearing Surface | 6 Satisfactory                           |
| Deck                 | 6 Satisfactory                           |
| Superstructure       | 7 Good                                   |
| Substructure         | 7 Good                                   |
| Channel              | 6 Bank beginning to slump                |
| Scour                | T Over tidal waters / No eval            |
| Bridge Rail          | 1 Meets acceptable standards             |
| Transitions          | N Not Applicable                         |
| Approach Rail        | N Not Applicable                         |
| Rail Ends            | N Not Applicable                         |
| Structural           | 7 Better than present minimum criteria   |
| Deck Geometry        | 9 Superior to present desirable criteria |
| Waterway             | 9 Superior to present desirable criteria |
| Approach Alignment   | 8 Equal to present desirable criteria    |

## Isthmus Slough

Sufficiency Rating = 4.0

|                      |                                                                      |
|----------------------|----------------------------------------------------------------------|
| Approach Condition   | 5 Fair                                                               |
| Deck Wearing Surface | 4 Poor                                                               |
| Deck                 | 5 Fair                                                               |
| Superstructure       | 6 Satisfactory                                                       |
| Substructure         | 3 Serious                                                            |
| Channel              | 7 Bank needs minor repairs                                           |
| Bridge Rail          | 0 Does not meet standards                                            |
| Transitions          | 0 Does not meet standards                                            |
| Approach Rail        | 0 Does not meet standards                                            |
| Rail Ends            | 0 Does not meet standards                                            |
| Structural           | 2 Basically intolerable requiring high priority of replacement       |
| Deck Geometry        | 3 Basically intolerable requiring high priority of corrective action |
| Waterway             | 9 Superior to present desirable criteria                             |
| Approach Alignment   | 4 Meets minimum tolerable limits to be left in place as is           |

## Water Transportation

The Coos Bay estuary is a U-shaped body of water about 15 miles long and 1 mile wide at its widest point.

Major marine activities include domestic and international maritime commerce, marine industrial transportation and manufacturing, commercial fishing, marine-related recreation and tourism, and oyster aquaculture. Woodchips, lumber and plywood, pulp and paper, and logs are the principal waterborne commodities handled through marine terminals in the harbor.

The principal waterfront facilities are located as follows:

- at Charleston, near the ocean entrance to the bay;
- at the western and northern shorelines of the lower bay on the North Spit, the eastern shoreline of the lower bay at Empire, at the localities of Coos Bay, North Bend and Bunker Hill on the western and southern shorelines of the upper bay, and
- at the location where the Coos River flows into the southeastern end of the bay.

The Oregon International Port of Coos Bay currently lists seven active marine terminal cargo facilities on Coos Bay, five with deep-draft berths. Two facilities are dedicated to barge operations. In addition, there are 13 other marine facilities in the harbor, six inactive cargo facilities and seven utility and/or work dock sites. The public Port Authority itself does not own or operate any of the active cargo facilities. Four of the marine facilities are located downstream from the Coos Bay railroad bridge (one on the east side of the channel and three on the west and north sides of the channel). The remaining marine facilities are located upstream of the railroad bridge primarily on the west side of the channel. There also are five public boat launch ramps with small floating dock facilities on the main bay.

Three of the active marine terminals handle wood chips. Two terminals handle logs, one is a deep-draft facility and one is a barge facility. One terminal handles breakbulk (non-containerized) general cargo. One inactive terminal is used for storage of petroleum products delivered by tanker truck, but also provides dockside fuel service to large fishing boats and tugboats.

At the present time, the seven active marine terminal cargo facilities provide more than 4,000 feet of deep-draft berthing space and more than 1,500 feet of barge moorage; more than 90 acres of open storage space; and more than 200,000 square feet of covered storage. The two inactive bulk petroleum terminals have a combined storage capacity of nearly 200,000 barrels.

The six terminals that primarily handle wood chips or logs (four deep-draft and two barge) represent a total of approximately 4,850 feet (3,350 feet deep-draft and 1,500 feet barge) or about 88 percent of the marine cargo terminal berthing space available at the Port of Coos Bay. The one terminal specializing in the handling of general cargo represents approximately 640 feet or about 12 percent of the available berthing space, although this terminal shares another 600 foot berth with a wood chip facility.

**Table A-11: Marine Cargo Summary**

| <i>Cargo Type</i>        | <i>Number of Terminals</i> | <i>Percent of Total Cargo Berthing Space</i> |
|--------------------------|----------------------------|----------------------------------------------|
| Wood Chips/ Logs         | 6                          | 88%                                          |
| General Cargo            | 1                          | 12%                                          |
| Mineral Ores             | 2 (inactive)               | 11%                                          |
| Utility & Work Functions | 7                          | 11%                                          |
| Petroleum Products       | 2 (inactive)               | 7%                                           |

Note: There are two inactive facilities with four deep-draft berths that are not included in this chart.

The seven active and six inactive marine terminal cargo facilities have good connections to the local highway system, and more than 85 percent of the *facilities* have either a rail spur on site or are located adjacent to an active rail line.

### Commercial Fishing

Commercial fishing operations at Coos Bay are a major contributor to the local and statewide economy. According to a 1989 study prepared by the Ports Division of the Oregon Economic Development Department, commercial fishing operations at Coos Bay contributed more than \$34 million to the regional economy in 1987. According to the study, the Coos Bay commercial fishing fleet accounted for 29,688,856 landed pounds in 1987, the third highest amount in the state behind Astoria and Newport. In 1987 Coos Bay had 328 fishing vessel moorages with an average occupancy rate of 100 percent. Commercial fishing moorages and fish-handling facilities are located primarily in the Charleston area near the entrance to the bay. None of the fish-handling facilities have rail connections.

### Cargo Variety

Waterborne commerce through the Port of Coos Bay in 2001 reflected continuing significant downturns in overall tonnage. This is occurring for a variety of reasons, including ongoing weakness in the

Asian/Pacific Rim export market (primarily Japan), shifting worldwide market demand and increased competition from new wood fiber producing regions such as South America, New Zealand, and the Russian Far East, declines in timber harvest and lumber production in the US Pacific Northwest, and increases in harvest and production in the Southeast US and the Pacific Coast region of Canada. Declines occurred in outbound lumber, plywood particle board, linerboard/pulp, and wood chips. A portion of these declines, however, was offset by increases in outbound and inbound whole logs. Fish and seafood landings were down substantially, due primarily to increased federal and state regulation and reduced quotas for west coast fisheries. Total cargo movement for 2001 was 2,026,266 short tons, a decrease of 22 percent from 2000. Total vessel calls of 64 were down 23 percent from the previous year, although barge traffic through the harbor has been increasing annually since the mid-1990's.

The staff at the Oregon International Port of Coos Bay annually compiles information from terminal operators on cargo types and volumes, and the number of deep-draft vessel and cargo barge calls at terminals in the Coos Bay harbor. They also compute various averages for this data. The average number of deep draft vessel calls per year at cargo terminals in Coos Bay during the period 1992-2001 was 151. In addition, there was an average of 146 loaded cargo barge calls in the harbor during the period of 1996-2001.

### **Barge Traffic**

Barge traffic also is a major component of vessel activity in the main bay. Barge traffic includes barges loaded at marine cargo terminals with wood products and other commodities outbound to domestic and foreign destinations; inbound barges bringing unprocessed logs to regional mills; and barges brought to the harbor for moorage between voyages or for repairs and maintenance. The biennial channel maintenance dredging that occurs between July and December in project years dramatically increases the amount of barge traffic throughout the bay and over the bar at the ocean entrance. The average number of total barge movements at the Port of Coos Bay during the 8-year period from 1994 through 2001 was approximately 218 per year. The average number of round-trip barge loads (from dredging sites in the bay to the ocean disposal area and back again) during maintenance dredging is estimated to be in the range of 200 to 225 trips per project cycle.

### **Commercial Fishing**

Commercial fishing operations at Coos Bay are a major contributor to the local and statewide economy. According to data available from the Oregon Department of Fish and Wildlife, commercial fishing fleets operating out of Coos Bay accounted for 26,793,886 landed pounds of fish and shellfish in 2001, the third highest amount in the state behind Astoria and Newport. The estimated value of this catch at the fishermen's level is \$12,416,139. In 2001 Coos Bay had approximately 150 commercial fishing boats home ported in the harbor. The majority of the commercial fishing moorages and all of the fish-handling and processing facilities are located in the Charleston area near the ocean entrance to the bay, although some vessel moorage is available at the Coos Bay City Docks in the upper bay. None of the fish-handling facilities have rail connections.

### **Rail**

Freight rail service for the Coos Bay area is provided by the Central Oregon & Pacific (CORP) Railroad, which operates the Coos Bay Branch Line from the Union Pacific (UP) Railroad yard at Eugene to the end of the line at Coquille. The Coos Bay line provides rail access to industrial operations at various locations between Eugene and Coquille and intermodal connections for marine terminals in the Port of Coos Bay. CORP is owned by RailAmerica Inc., the largest shortline and regional freight railroad operator in North America.

The Coos Bay line runs west from Eugene within the approximate corridor of State Highway 126, except for a portion of the line east of Mapleton which parallels State Highway 36 for several miles before

intersecting the highway 126 corridor. The line crosses the Siuslaw River at Cushman and runs east of Siltcoos and Tahkenitch Lakes north of Reedsport, and is separated from U.S. Highway 101 by several miles. At Reedsport, the line crosses the Umpqua River and proceeds south within the approximate corridor of U.S. 101.

The Coos Bay line enters the City of North Bend at the northwest corner of the North Bend peninsula by crossing the Coos Bay Railroad Bridge from Jordan Point. The line proceeds south, crossing east under U.S. 101 near the Simpson Heights neighborhood. The line then runs south through North Bend and the City of Coos Bay on the east side of U.S. 101, crossing Coalbank Slough at the south city limits of Coos Bay, continuing adjacent to marine and industrial waterfront property in the Bunker Hill area, crossing under State Highway 241, and then proceeding south along the west side of Isthmus Slough and on to the Coquille area.

CORP's Coos Bay line accesses rail spurs and sidings in North Bend at several locations; a spur serving industrial property on the North Bend peninsula (under the south end of the McCullough highway bridge), several sidings near the Ocean Terminals marine cargo facility, and two spurs at a marine industrial site owned by Weyerhaeuser Company.

In the City of Coos Bay, the line accesses one spur at a marine industrial facility known as Central Dock. Just south of the Central Dock site, the line runs for several blocks within the Front Street vehicle traffic corridor to the north end of the railroad's primary marshalling yard for the Coos Bay and Coos County area. This yard is adjacent to the upper Coos Bay waterfront and contains a number of rail sidings and spurs. After crossing Coalbank Slough, the Coos Bay line accesses two spurs serving marine and industrial sites in the Bunker Hill area.

There are daily – Monday through Sunday – rail movements on the Coos Bay line. Six to either times per week CORP moves long trains (35 to 50 cars) inbound from Eugene yard to the Coos Bay yard and outbound from the Coos Bay yard to Eugene. In addition, there are daily switching activities that originate in the Coos Bay yard that spot loaded and/or unloaded cars at various spurs and sidings within the Coos Bay area, or that move cars to Coquille and industrial sites north of the Coos Bay railroad bridge. The majority of the switching activity is Monday through Friday, but there is some switching on weekends, primarily in support of the inbound or outbound Eugene yard train.

There are numerous rail grade crossings in the corridor from North Bend through Coos Bay and Bunker Hill that are blocked for short periods at various times of the day. The most impacted rail crossings or corridor sections are the entry/exit crossing at The Mill Casino-Hotel in North Bend and the Front Street corridor in Coos Bay. There is one pedestrian crossing in Coos Bay, at the entry to the Coos Bay Boardwalk and City Docks that is blocked for short periods each day by rail car movements on the Coos Bay line.

CORP owns the Coos Bay Branch Line from Danebo Junction, west of the Eugene UP rail yard to the north end of the Coos Bay Railroad Bridge near Cordes Junction. The Oregon International Port of Coos Bay (Port) owns the Coos Bay Railroad Bridge, which consists of a north approach trestle, 12 steel truss spans, including a swing span, and a south approach trestle. CORP operates and maintains the rail bridge. The portion of the Coos Bay line from the south end of the bridge to the end of the line at Coquille is owned by UP, but is leased and operated by CORP.

The Port acquired the rail bridge from UP in August 2000, in order to access state and federal funds for long-term rehabilitation of the bridge. Phase I of the rehabilitation is underway now and involves rebuilding the swing span and minor repair of the two approach spans. Phase I construction should be completed within two years. Phase II will involve the complete rehabilitation of the approach spans to provide a minimum 25-year additional service life for the structure. Port staff is working on acquiring the funding for

Phase II.

## Air

North Bend Municipal Airport (OTH) is a commercial and general aviation facility located on Pony Point in the City of North Bend. The North Bend airport is the only commercial air passenger facility on the Oregon coast, with service provided by Horizon Air, a feeder subsidiary airline of Seattle-based Alaska Airlines.

Horizon operates four flights per day between North Bend and it's hub at Portland International Airport (PDX). Horizon currently uses the 37-passenger Bombardier Dash 8 200 aircraft on this route. As Horizon upgrades its fleet and adds more 70-passenger Dash 8 4002, they will use the larger aircraft as required during the higher demand late spring early fall season.

Air cargo service for the Coos Bay area and for the south coast region is available from several vendors, including UPS, FedEx, Airborne Express, Horizon Air and others. In some cases vendors operate their own aircraft, while other firms utilize contract carriers that operate throughout the northwest or west coast regions.

North Bend Municipal Airport is located approximately one and a quarter road miles west of U.S. Highway 101. Access is via Virginia Ave. and Maple St. in the City of North Bend. Virginia Ave. is a major arterial in North Bend. Ground transportation services available for commercial and general aviation passengers is currently limited to taxi and limousine services, and courtesy cars from local and regional lodging facilities.

The airport currently has three (3) paved runways, but a major rehabilitation project scheduled for 2003 will upgrade the primary north/south runway (1A-31) and decommission the shortest and least used runway.

| <i>Runway Designation</i> | <i>Length</i> | <i>Width</i> | <i>Surface</i> | <i>Navigational Equipment</i>   |
|---------------------------|---------------|--------------|----------------|---------------------------------|
| 4-22                      | 5,321 ft.     | 150 ft.      | Asphalt        | ILS,MLS,VOR,VOR/DME, ADF, GPS   |
| 1A-31                     | 4,586 ft.     | 150 ft.      | Asphalt        | VOR-Alpha, VOR/DME,Bravo, GPS   |
| 16-34                     | 2,320 ft.     | 150 ft.      | Asphalt        | (scheduled for decommissioning) |

### Technical Information

|                            |                                                        |
|----------------------------|--------------------------------------------------------|
| Airport designation:       | OTH – North Bend Municipal Airport; North Bend, Oregon |
| Sector Aeronautical Chart: | Klamath Falls                                          |
| Airport Latitude:          | 4A-25-01.700N                                          |
| Airport Longitude:         | 124-15-45.700W                                         |
| Airport Elevation:         | 17 ft above mean sea level                             |

General aviation operations at the North Bend airport are supported by a Fixed Base Operator (FBO), which provides fuel (AVGAS and Jet A), charter flights and flying instruction. An aviation mechanic also operates an aircraft maintenance facility at the airport. The North Bend airport maintains rental hangar facilities and aircraft tie-downs. Air ambulance service is available at the airport.

North Bend Municipal Airport also is home to a U.S. Coast Guard air operation – Group North Bend / Air Station North Bend. The station maintains a fleet of all-weather helicopters for search and rescue

operations and law enforcement activities, and patrols from the Oregon-California border to just north of Depoe Bay.

The North Bend airport recently completed a Federal Aviation Administration (FAA) mandated and funded Master Plan. The plan will serve as the development documentation for the airport during a 20-year planning period. The most significant improvements planned for the next 10 years are additional navigation system upgrades and the relocation and construction of a new passenger terminal.

In 1999, management and operations of the North Bend Municipal Airport transferred from the City of North Bend to the Oregon International Port of Coos Bay under an intergovernmental agreement. In November 2002, Coos County voters approved the formation of a new Coos County Airport District. The district is scheduled to take over operations at the North Bend airport on July 1, 2003.

The North Bend airport complex includes more than 100 acres of non-aviation related property designated as the North Bend Airport Business Park. The property is located south and west of the runways and primary aviation facilities, and is being developed for commercial and light industrial tenants and uses. Vehicle traffic accessing the business park uses Maples St. and Colorado Ave. as feeders to and from Virginia Ave. A multi-year development plan for the park projects an additional access to Virginia Ave. being established near the southwest corner of the property as demand warrants in future years.

## Pipelines

There are no regional natural gas or petroleum pipelines serving the Coos Bay area. A Final Environmental Impact Statement (FEIS) has been prepared (Coos County Natural Gas Pipeline Final EIS, November, 2002) for a proposed right-of-way permit from the BLM for construction of a natural gas pipeline from Roseburg, Oregon to Coos Bay, Oregon of approximately 60 miles in length and anticipated follow-up construction of another 28 miles of smaller-sized lateral pipelines from Fairview, Oregon to Bandon, Coquille and Myrtle Point, Oregon. It is intended for perpetual and continuous operation to supply natural gas to consumers in Coos County. Granting of the right-of-way easement would also trigger construction of a distribution facility in Coos Bay by Northwest Natural Gas, the distribution company associated with the proposed gas pipeline project.

Additional (smaller) pipelines would likely be installed to the communities of North Bend, Coquille, Myrtle Point, Empire, Charleston and Bandon if these communities grant a franchise to NW Natural. These future projects would be planned based on market needs within the area they would serve, which would include determination of pipeline size. Funding for these projects, except in the case of Bandon, will be provided by NW Natural. Bandon would have the option to build their own distribution system, including a pipeline extending from the proposed action or its lateral pipelines, if they decide to have natural gas supplied to their community.

Although the final locations of the laterals are not known, it is anticipated that 28 miles of pipeline laterals would likely be constructed to Coquille, Myrtle Point and Bandon. Impacts associated with construction of the laterals are anticipated to be similar to, but of lower magnitude than, the main pipeline because the laterals would cross fewer streams and would not be adjacent to late-successional habitats.

## Planned Roadway Improvements

The City of Coos Bay were contacted to determine if there were any capital improvement projects planned in the near term (i.e. next five years). Both City spend the majority of their funds on maintaining the existing street system rather than building new projects. The City of North Bend had no capital improvement projects planned. The City of Coos Bay also did not have any capital improvement projects planned, but did provide a maintenance (overlay) schedule for the next 10 years. This schedule can be found in the appendix of this report.

## Existing Transportation Problems That Need To Be Addressed

This section lists motor vehicle issues identified by citizen's early on in the process that need to be addressed in the Transportation System Plan:

- Coos Bay – Anderson Ave needs re-evaluation between 7<sup>th</sup> and Hwy 101. Pulling onto Anderson from parkway along the sides by the Coos Bay library is frightening.
- No complete sidewalk from downtown NB to CB. One must wade through mud puddles and/or cross 101 on the lower route or on the Sherman/10<sup>th</sup> st. route cross the street twice to access pavement.
- WalMart access to Newmark overloaded with traffic. This problem will worsen at the completion of the WalMart addition and the development of the commercial area to the west.
- LaClair is increasingly used by traffic from the Coos Bay area for access to SWOCC and WalMart. Needs additional lanes and traffic signals at each end.
- Coos Bay Core Area- confusing system of one-way/two-way streets. The changes at the intersection of 4<sup>th</sup> and Anderson and the latest change to a 2-way on Anderson between Broadway and 2<sup>nd</sup> appear to have caused more problems than they solved. A first-time visitor to Coos Bay would likely find the traffic pattern in this area a complete mystery.
- Hwy 101 Corridor.....N.B. Bridge- this is a huge problem when it becomes critical. The bridge appears to be near capacity at times. At times southbound traffic on Broadway in Coos Bay is solid behind traffic lights starting at Park Ave.
- Lack of turn lanes on Ocean Blvd. and Cape Arago Hwy.
- Traffic congestion on Hwy 101 SB in Coos Bay.
- CB/Central Ave from Ocean Blvd to 10<sup>th</sup> street traffic backup at stop sign eastbound and production from 4 to 2 lanes.
- Constant excessive speeding on Lakeshore between Fenwick and Morrison, a 25 mph zone. Main drop off for school buses, but no sidewalks, very wide road. Traffic often exceeds 40 mph. This is a main route for residents traveling between Empire and N. Bend. Outer edge of city limits with minimal police presence.
- Suggest that cab drivers and police officers be interviewed regarding hazardous locations.
- Newmark's 2-lane sections are the most hazardous. At least build a three-lane section with a decent shoulder if a four-lane section not feasible.

## Other Problems For Different Types Of Users

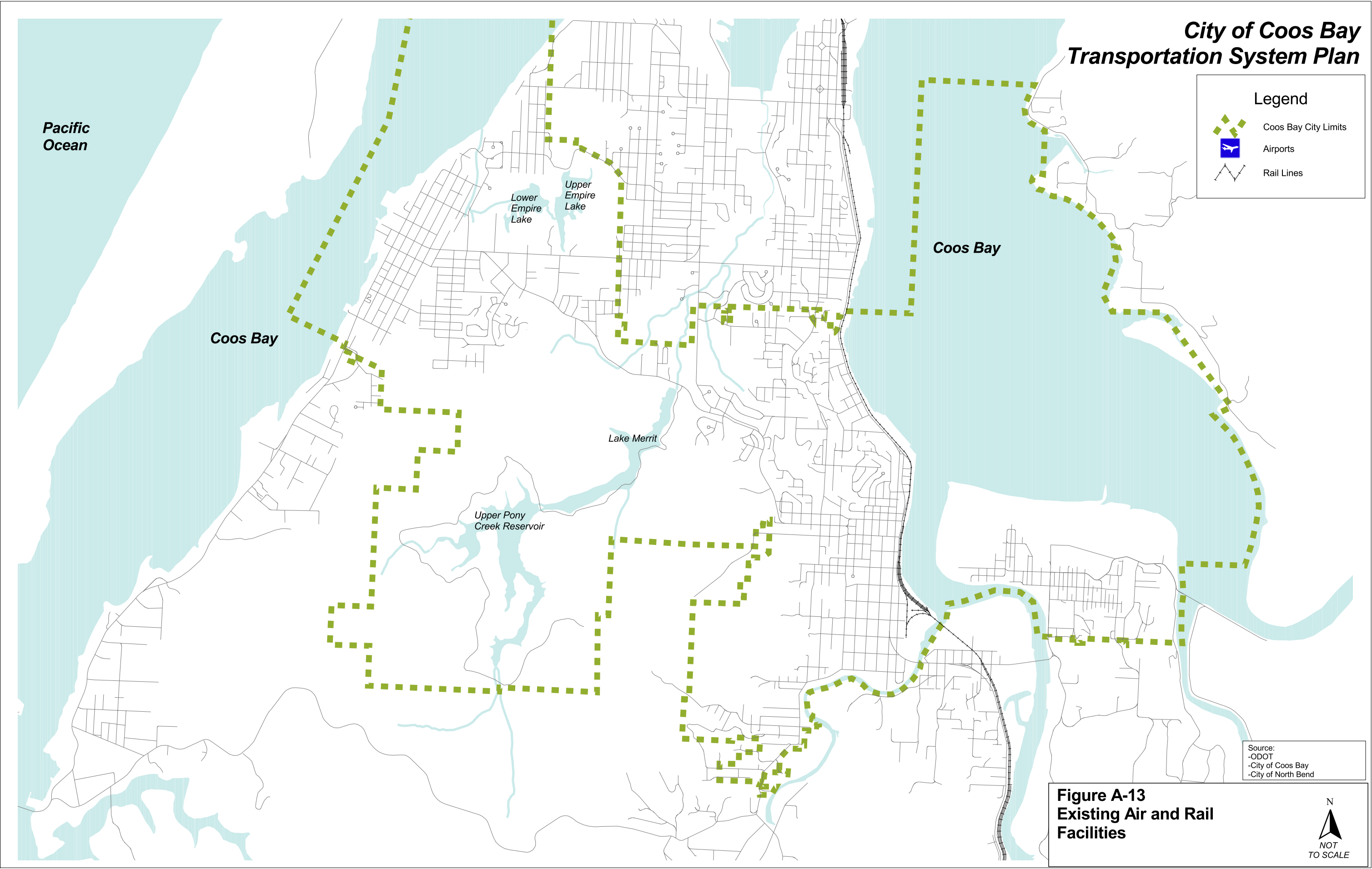
This section lists issues identified by citizen's related to modes of transportation other than motor vehicle, early on in the process that need to be addressed in the Transportation System Plan:

- 10<sup>th</sup> Street in Coos Bay south of Marshfield has beautiful new pavement; however it needs sidewalks and street lights due to pedestrians along the side of the road. Sidewalks exist but are sporadic.
- The CCAT (bus)route takes over an hour to get from downtown NB to downtown CB. I can walk it faster. Need a bus stop on the S/west corner which would enable some riders to avoid a half hour loop.
- Need a complete bike path between the town.
- How about a trolley service to Coquille? The tracks are still there.
- Highway 101- bike lanes would be ideal. Develop bike lanes where space permits. A bike route could be designated off Hwy 101 in places...example-use 4<sup>th</sup> street between Commercial and Kruse.
- Major routes – develop bike lanes and/or designated bike routes between:
  1. Hwy 101 at North Bend to SWOCC, WalMart shopping area, Empire and beaches via Virginia Ave./Broadway, Newmark, Empire Blvd.
  2. Hwy 101 at Coos Bay to Empire and the beaches via Central and Ocean Blvd. Connect across to Newmark at Woodland and LaClaire for traffic to SWOCC and WalMart shopping area.
- Bicycles have seldom been used for basic transportation in the Coos Bay area, in part due to the hilly terrain and occasional severe weather conditions. Also, there is a relatively small segment of the

population working in situations where the use of bicycles can replace the automobile. Some of the exceptions to this would seem to be SWOCC, Bay Area Hospital, and the local schools. There are also at times numbers of cyclists traveling through the area on Hwy 101 on their way to the state parks beyond Charleston.

- I have found that the local streets where traffic is relatively slow are safe for bicycles if the cyclist obeys the traffic rules and the drivers of autos respect the right of the bike to be there and if everybody stays alert. However, the higher speed arterial streets (Ocean Blvd., Newmark, Broadway, Virginia, Hwy 101, etc...) are more dangerous and bike paths, or even wider shoulders would be helpful.
- Sidewalks are needed in some obvious locations: Parts of Newmark between Broadway and Empire and parts of Woodland between Ocean Blvd. and Newmark.
- The sidewalk at the WalMart entrance drive as it is being revised will have a hazard for pedestrians crossing the exit lane turning east. No crosswalk or auto traffic control light is planned.
- Pedestrian crossings are currently a challenge.
- Near corner of Golden and 5<sup>th</sup> St. in Coos Bay – we need a designated pedestrian crosswalk for pedestrian crossing from the post office going south across the street to continue walking on sidewalks on Golden or go to 4<sup>th</sup> or 5<sup>th</sup>.
- Parking is so crowded at the post office at times many cars must park on the south curb of Golden and then walk to and from access to the post office.
- Ocean Blvd is also an area of concern with high speeds. Very heavy traffic area.
- Ocean Blvd to Newmark via side road by Swoy building very hard to get onto Newmark to get to WalMart.
- Main bus stop area, no crosswalks, no sidewalks. Numerous vehicle accidents, slides, skids due to excessive speeds entering corners at west end of Lakeshore.





## B. Future Needs Assessment

The transportation system needs in Coos Bay were determined for existing and future conditions. This chapter outlines the type of improvements that would be necessary as part of a long-range master plan, and identifies areas where further alternative solutions will be evaluated to select a preferred improvement. Phasing of implementation will be necessary since all of the improvements cannot be done at once. This will require prioritization of projects and periodic updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following sections are a guide to managing growth in Coos Bay as it occurs over the next 20 years.

### Motor Vehicles

The following summary includes the methodology and resulting improvement projects for the Coos Bay 2020 TSP Motor Vehicle Plan. Additional discussion, tables, and figures can be found in the Appendix.

#### Assessment Approach

Existing conditions were identified in Appendix A. The future 2020 conditions were forecast as described in the Existing and Future Traffic Volumes memorandum, dated March 19, 2003 (see Appendix). The only motor vehicle project included in the 2020 base analysis that was not included in the 2000 base network is the widening of Newmark Avenue between east of LaClair Street and Ocean Boulevard to 3 lanes. Performance was evaluated using a three-tiered assessment of capacity and operations.

- **Capacity Improvements** at both the link and intersection level as described below:
  - Demand to capacity (D/C) ratios<sup>1</sup> were evaluated on roadway segments and conditions where the demand to capacity ratio exceeded 1.0 were studied for potential improvements (based on a 1-hour D/C ratio).
  - Intersection level data were developed for about 74 intersections in Coos Bay (based upon staff input, for primarily arterial and collector intersections). While this is a broad sampling of intersections, it does not represent every intersection in the City. Alternative improvements were considered where Level of Service (LOS) was at E or worse or where the Oregon Highway Plan standard is exceeded.
- **Safety Improvements** were considered where high accident locations or known deficiencies exist. In some cases safety improvements were combined with other modal improvements to achieve a safer, more balanced transportation system (i.e. reducing travel lanes from four to three, providing a center left turn lane and allowing room for pedestrian and/or bicycle improvements).
- **Other Mode Improvements** were considered where known deficiencies exist in the system or where motor vehicle projects would enable enhancements in other modes (i.e. converting a four-lane roadway to a three-lane roadway with bike lanes).

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<sup>1</sup> Demand to capacity ratio is similar to volume to capacity (V/C) ratio. The difference is that in the future demand is being estimated and therefore the term demand is utilized. For existing conditions, volume refers to the actual traffic on the roadway. While a demand to capacity ratio can exceed 1.0, a volume to capacity ratio would never exceed 1.0.

## Capacity Analysis

Year 2020 traffic volume forecasts were analyzed to assess locations where peak hour performance will drop below minimum desirable levels. This focuses on the 70 study intersections that were previously examined under Existing Conditions (2002 traffic volumes), but also includes a review of road segment approaches to major intersections. The following tables summarize intersection levels of service in Coos Bay, North Bend and Coos County for 2020 operating conditions. Traffic volumes were developed as described previously and applied to existing intersection geometries. A short discussion is provided for intersections in each jurisdiction.

The Oregon Highway Plan<sup>2</sup> identifies maximum volume-to-capacity ratios (v/c) for peak hour operating conditions. For signalized intersections, the v/c ratio used is the intersection v/c ratio. For unsignalized intersections, the controlling movement v/c ratio is used. For each city, those intersections not meeting ODOT's standards are described.

### Coos Bay

A total of 15 signalized and 23 unsignalized intersections were analyzed within Coos Bay. All of the signalized intersections operate at LOS C or better. All study intersections in Coos Bay meet ODOT's volume-to-capacity standards outlined in the Oregon Highway Plan. Several of the unsignalized intersections operate at LOS D or worse. This means that the minor street approaches to these intersections experience moderate to long delays. The major street movements generally are not impeded and typically only a handful of minor street vehicles experience delay. Peak hour signal warrants were evaluated to determine where traffic signals might be needed at locations that do not have a traffic signal today (see discussion below). None of the study intersections in Coos Bay met ODOT's preliminary signal warrants under year 2020 traffic volume conditions. Table 1 shows the future 2020 base intersection levels of service within Coos Bay.

Since no signalized intersections operate at an unacceptable level of service and since none of the unsignalized intersections met preliminary signal warrants, no intersection capacity improvements are recommended for any of the Coos Bay study intersections.

**Table 1: Intersection Level of Service in Coos Bay (2020)**

| <i>Intersection**</i>                  | <i>2020 Base</i>        |                      |                          |
|----------------------------------------|-------------------------|----------------------|--------------------------|
|                                        | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
| <i>Signalized Intersections</i>        |                         |                      |                          |
| 10 <sup>th</sup> Street/Central Avenue | C                       | 22.0                 | 0.71                     |
| 1 <sup>st</sup> Street/Hall Avenue     | A                       | 4.9                  | 0.41                     |
| Bayshore Dr/Commercial Ave**           | A                       |                      | N/A*                     |
| Broadway/Hall Avenue**                 | A                       | 6.5                  | 0.52                     |
| Broadway/Johnson Avenue**              | B                       | 17.4                 | 0.63                     |
| Broadway/Market Avenue**               | B                       | 10.1                 | 0.55                     |
| Central Avenue/7 <sup>th</sup> Street  | C                       | 12.4                 | 0.75                     |
| Commercial Avenue/Broadway**           | B                       | 14.1                 | 0.60                     |
| Johnson Ave/Bayshore Drive**           | C                       | 20.2                 | 0.71                     |
| Newmark Ave/Ocean Blvd                 | B                       | 15.4                 | 0.61                     |
| Ocean Boulevard/Butler Road            | A                       | 4.3                  | 0.41                     |
| Ocean Boulevard/Woodland Dr            | C                       | 21.5                 | 0.59                     |

<sup>2</sup> 1999 Oregon Highway Plan, Policy Element, Table 6: Maximum Volume to Capacity Ratios Outside Metro.

| <i>Intersection**</i>                   | <i>2020 Base</i>        |                      |                          |
|-----------------------------------------|-------------------------|----------------------|--------------------------|
|                                         | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
| US 101/Koosbay Boulevard**              | B                       | 12.8                 | 0.60                     |
| US 101/Coos River**                     | C                       | 32.7                 | 0.70                     |
| <i>Unsignalized Intersections</i>       |                         |                      |                          |
| 11 <sup>th</sup> Street/Elrod Avenue    | A/A                     |                      |                          |
| 2 <sup>nd</sup> Street/Ingersoll Avenue | A/B                     |                      |                          |
| 6 <sup>th</sup> Street/D Street         | A/C                     |                      |                          |
| Bayshore Drive/Alder Avenue**           | A/C                     |                      | 0.20*                    |
| Bayshore Drive/Birch**                  | A/B                     |                      | 0.11*                    |
| Bayshore Drive/Cedar Avenue**           | A/C                     |                      | 0.03*                    |
| Bayshore Drive/Fir Street**             | A/B                     |                      | 0.01*                    |
| Bayshore Drive/Market Avenue**          | A/D                     |                      | 0.10*                    |
| Broadway/Alder Avenue**                 | A/D                     |                      | 0.32*                    |
| Broadway/Fir Street**                   | A/C                     |                      | 0.13*                    |
| Empire Boulevard/Pacific Ave**          | A/C                     |                      | 0.15*                    |
| Lockhart Avenue/2 <sup>nd</sup> Street  | A/B                     |                      |                          |
| Lockhart Avenue/7 <sup>th</sup> Street  | A/B                     |                      |                          |
| Newmark Ave/LaClair Street              | A/D                     |                      |                          |
| Newmark Ave/Morrison Street             | B/D                     |                      | 0.44*                    |
| Ocean Avenue/LaClair Street             | A/C                     |                      | 0.42*                    |
| Ocean Boulevard/Radar                   | A/B                     |                      |                          |
| Thompson Road/Koosbay Blvd              | A/C                     |                      |                          |
| US 101/1 <sup>st</sup> Street**         | C/D                     |                      | 0.51*                    |
| US 101/S. Front Street**                | C/F                     |                      | 0.47*                    |
| Woodland Drive/Thompson Rd              | A/C                     |                      |                          |
| <i>All-Way Stop Controlled</i>          |                         |                      |                          |
| 7 <sup>th</sup> Street/Ingersoll Avenue | A                       | 9.3                  | 0.41                     |
| Broadway/Lockhart Avenue**              | A                       |                      | 0.13*                    |
| 4 <sup>th</sup> Street/Elrod Avenue     | B                       | 11.5                 | 0.42                     |

\*V/C ratios calculated using movement volume/movement capacity (per HCM 2000 calculations)

\*\* Indicates ODOT intersection

### Coos County

Two signalized and seven unsignalized intersections were analyzed in the County outside of Coos Bay. Both signalized intersections operate at acceptable levels of service. Two of the unsignalized intersections currently operate at LOS E and one operates at LOS F for the side street approach. The other intersections operate at a LOS of D or better. All study intersections meet ODOT's v/c threshold outlined in the OHP. Table 2 shows the future 2020 base conditions at the study intersections in the County. None of the Coos County study intersections meet ODOT's preliminary signal warrants under year 2020 traffic volume conditions.

Since no signalized intersections operate at an unacceptable level of service and since none of the unsignalized intersections meet preliminary signal warrants, no intersection capacity improvements are recommended for any of the Coos County study intersections. The intersection at Coos River Highway/Olive Barber is listed below as an "issue" location. A traffic signal may eventually be warranted at this location due to morning traffic volumes and if a traffic signal is eventually warranted at this location, special design considerations will be required for vehicle on Coos River Highway traveling eastbound

across the Isthmus Slough bridge approaching the intersection has limited advance sight distance for viewing the traffic signal.

**Table 2: Intersection Level of Service in Coos County (PM Peak Hour) 2020**

| <i>Intersection</i>             | <i>2020 Base</i>        |                      |                          |
|---------------------------------|-------------------------|----------------------|--------------------------|
|                                 | <i>Level of Service</i> | <i>Average Delay</i> | <i>Volume / Capacity</i> |
| Coos River Highway/Edwards      | B/B                     | —                    | 0.01*                    |
| Coos River Highway/Mullen       | A/E                     | —                    | 0.09*                    |
| Coos River Highway/Olive Barber | A/D                     | —                    | 0.45*                    |
| Libby/Wilshire                  | A/B                     | —                    | —                        |
| US 101/East Bay Drive           | A                       | 3.5                  | 0.68                     |
| US 101/Edwards                  | A/E                     | —                    | 0.29*                    |
| US 101/Flanagan                 | B                       | 12.0                 | 0.70                     |
| US 101/North Bay                | A/F                     | —                    | 0.32*                    |
| US 101/Trans Pacific            | A/C                     | —                    | 0.28*                    |

\*V/C ratios calculated using movement volume/movement capacity (per HCM 2000 calculations)

### Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants<sup>3</sup> were evaluated at all unsignalized intersections in the project study under year 2020 traffic volume conditions. The results of this analysis are shown in Table 3. Meeting preliminary signal warrants does not guarantee that a signal will be installed. Before a signal can be installed on a state highway, a traffic signal investigation must be conducted or reviewed by ODOT's Region 3 Traffic Manager. Traffic signal warrants must be met and the State Highway Engineer approval obtained before a signal will be placed on a state highway. Signals on non-state facilities need to be reviewed and approved by appropriate local officials. Preliminary signal warrants were not met under year 2020 traffic volume conditions at any of the study intersections in North Bend.

**Table 3: Preliminary Signal Warrants**

| <b>Intersection</b>                     | <b>Warrant Met?</b> | <b>Intersection</b>                    | <b>Warrant Met?</b> |
|-----------------------------------------|---------------------|----------------------------------------|---------------------|
| <b>Coos Bay</b>                         |                     |                                        |                     |
| 10 <sup>th</sup> Street/Central Avenue  | No                  | Lockhart Avenue/2 <sup>nd</sup> Street | No                  |
| 11 <sup>th</sup> Street/Elrod Avenue    | No                  | Lockhart Avenue/7 <sup>th</sup> Street | No                  |
| 1 <sup>st</sup> Street/Hall Avenue      | No                  | Newmark Ave/LaClair Street             | No                  |
| 2 <sup>nd</sup> Street/Ingersoll Avenue | No                  | Newmark Ave/Morrison Street            | No                  |
| 4 <sup>th</sup> Street/Elrod Avenue     | No                  | Newmark Ave/Ocean Blvd                 | No                  |
| 6 <sup>th</sup> Street/D Street         | No                  | Ocean Avenue/LaClair Street            | No                  |
| 7 <sup>th</sup> Street/Ingersoll Avenue | No                  | Ocean Boulevard/Butler Road            | No                  |
| Bayshore Drive/Alder Avenue             | No                  | Ocean Boulevard/Radar                  | No                  |
| Bayshore Drive/Birch                    | No                  | Ocean Boulevard/Woodland Dr            | No                  |
| Bayshore Drive/Cedar Avenue             | No                  | Thompson Road/Koosbay Blvd             | No                  |
| Bayshore Dr/Commercial Ave              | No                  | US 101/1 <sup>st</sup> Street          | No                  |
| Bayshore Drive/Fir Street               | No                  | US 101/Koosbay Boulevard               | No                  |
| Bayshore Drive/Market Avenue            | No                  | US 101/S. Front Street                 | No                  |
| Broadway/Alder Avenue                   | No                  | Woodland Drive/Thompson Rd             | No                  |

<sup>3</sup> Preliminary Signal Warrants, TPAU Procedure Manual, Oregon Department of Transportation.

| Intersection                          | Warrant Met? | Intersection                    | Warrant Met? |
|---------------------------------------|--------------|---------------------------------|--------------|
| Broadway/Fir Street                   | No           | US 101/Coos River               | No           |
| Broadway/Hall Avenue                  | No           |                                 |              |
| Broadway/Johnson Avenue               | No           | <b>Coos County</b>              |              |
| Broadway/Lockhart Avenue              | No           | Coos River Highway/Edwards      | No           |
| Broadway/Market Avenue                | No           | Coos River Highway/Mullen       | No           |
| Central Avenue/7 <sup>th</sup> Street | No           | Coos River Highway/Olive Barber | No           |
| Commercial Avenue/Broadway            | No           | Libby/Wilshire                  | No           |
| Empire Boulevard/Pacific Ave          | No           | US 101/Edwards                  | No           |
| Johnson Ave/Bayshore Drive            | No           | US 101/Flanagan                 | No           |

## 2025 Sensitivity Test

The travel demand model was calibrated to year 2020, however, there was some concern that this plan reflect a 20-year horizon, which, when developed in 2003, would require a 2023 planning horizon. A select group of intersections was forecasted out (using straight line growth at 0.7% per year) to 2023 and analyzed under these traffic volume conditions. Table 4 summarizes the results of this analysis. Each of the selected intersections continues to operate acceptably (including by ODOT standards) until 2023.

**Table 4: Intersection Level of Service in Coos Bay (PM Peak Hour) 2023**

| Intersection                               | 2023 Base        |               |                   |
|--------------------------------------------|------------------|---------------|-------------------|
|                                            | Level of Service | Average Delay | Volume / Capacity |
| Highway 101/Flanagan                       | B                | 10.9          | 0.69              |
| 10 <sup>th</sup> /Central                  | C                | 22.3          | 0.73              |
| Johnson/Bayshore                           | B                | 19.8          | 0.69              |
| 7 <sup>th</sup> /Central                   | C                | 13.1          | 0.77              |
| US 101/Coos River Highway<br>(Bunker Hill) | C                | 33.2          | 0.71              |

There are a number of locations in Coos Bay that need attention for various reasons. These locations may need improvement unrelated to any specific capacity deficiency and they may not show up as the high collision locations, but based on observation and discussions with the public, consideration of improvements at the following locations should be pursued. These locations are described in Table 5 and shown on Figure 4.

**Table 5: Coos Bay Issue Locations**

| Location ID | Location             | Capacity, Operation and Safety Issue(s)                                                                                                                                                                                                              |
|-------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coos Bay    |                      |                                                                                                                                                                                                                                                      |
| 1           | Newmark/Ocean Avenue | This intersection is significantly skewed. Alternatives should be considered for improving the effect of this skew by realignment or other means. One alternative might be to realign Ocean to meet Newmark at a 90 degree angle at Ackerman Street. |

| <i>Location ID</i> | <i>Location</i>                                        | <i>Capacity, Operation and Safety Issue(s)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2                  | Newmark between Ocean Boulevard and Cape Arago Highway | <u>Capacity</u> – Peak hour directional volumes are at or near the capacity of one travel lane in each direction. There are few parallel alternative routes currently constructed. Additional roadway capacity could be provided by widening Newmark through this section or by providing an alternate parallel collector route.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 3                  | Newmark between City Limits and Ocean Boulevard        | <p>There is a widening project (to provide two travel lanes with a center left turn lane/median) currently underway between Norman and Ocean. It appears that the current Coos Bay improvement project will likely provide sufficient capacity for the 20-year horizon. It was previously thought that it would eventually be upgraded to a five lane section, however, based on the 2020 travel demand model, further widening would not be necessary.</p> <p>Consider restriping to three travel lanes (one travel lane in each direction with a center left turn lane/median) between Ocean and Woodland. This would allow room to include a bike lane in each direction.</p>                                                                                                                                                                                                                                                                                                                                                                              |
| 4                  | Coos River Highway/Olive Barber                        | <u>Capacity/Safety</u> -- There is a substantial amount of traffic turning from Olive Barber onto Coos River Highway during peak hours. Truck traffic is significant on all approaches. A traffic signal may become warranted in the future. Options for upgraded traffic control should be explored, such as providing an advance signal head for eastbound traffic on Coos River Highway before the horizontal curve if the intersection does become signalized. There is limited sight distance to the intersection from the west. ODOT is currently planning on doing an Environmental Assessment (EA) on the Isthmus Slough Bridge, which will, by default, address issues at either ends of the bridge (Bunker Hill intersection and Olive Barber/Coos River Highway). This issue should be considered together with locations 5 and 12.                                                                                                                                                                                                                |
| 5                  | US 101 / Bunker Hill / Coos River Highway              | <u>Capacity/Safety</u> -- This area should be explored and alternatives developed that provide better separation between highway junctions and local street access. Analysis of the study intersections does not indicate substandard performance today or in the future, but access spacing along Coos River Highway is very substandard. Specifically, access to the port facilities north of Coos River Highway and the adjoining residential neighborhood should be examined to identify alternatives that better conform to state standards. There are a number of constraints at this intersection, including vehicular conflict, rail crossings, pedestrian and bicycle access. There are a high number of southbound vehicles on US 101 turning left onto Coos River Highway. Loop detector layout is poor and it is in very close proximity to Edwards and Flanagan. The possibility of providing interconnect between these intersections should be explored. ODOT is planning on doing an EA for this area in conjunction with locations 4 and 12. |

| <i>Location ID</i> | <i>Location</i>                                        | <i>Capacity, Operation and Safety Issue(s)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6                  | Woodland/Thompson                                      | <p>Upgraded traffic control should be explored at this intersection. While it does not meet traffic signal warrants in 2020, there is potential for significant growth in this area associated with medical center and hospital development. As growth in the area occurs, this intersection should be monitored to determine if a traffic signal or other improved control would be warranted.</p> <p><u>Safety</u>—There area fair number of turning traffic collisions at this intersection. A traffic signal at this location would likely improve safety at this location.</p>                                                                                                                                                            |
| 7                  | 7 <sup>th</sup> /Anderson                              | <p><u>Safety</u> -- This intersection has a number of vehicular conflicts, irregular horizontal curves on the eastbound approaches, and two side street approaches at close proximity. Currently, two lanes are designated for eastbound traffic from 10<sup>th</sup> Avenue through this curve continuing into downtown Coos Bay. Side street connections from 7<sup>th</sup> Street, Anderson Avenue eastbound, and the loop back movement converge at this location. Alternatives should be considered to either limit access to/from the intersection approaches or to eliminate one or both of them all together.</p>                                                                                                                     |
| 8                  | Central/Anderson between 10 <sup>th</sup> and Broadway | Evaluate the trade-offs of eliminating one travel lane in both directions to add bike lanes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 9                  | Central between 6 <sup>th</sup> and /7 <sup>th</sup>   | <p><u>Safety</u> -- Consider restricting access between Central east of 7<sup>th</sup> to/from the west. Reorient access to businesses to/from the east (6<sup>th</sup> Street). There are a number of conflicts that would be reduced and/or eliminated with this action.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 10                 | Bayshore Drive / North Front Street Area               | <p><u>Safety</u> -- Consider access management plan for local side streets to conform with ODOT Access spacing requirements. Area potential for re-development, and frequent cross-street connection do not conform with current standards.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11                 | 1 <sup>st</sup> Street / Johnson Avenue                | <p><u>Safety</u> – Explore traffic control/stripping changes to create a more clear/safer intersection. There are two eastbound lanes on Johnson, one is a shared through/left and the other is a through lane. Some residents have complained that the left turn should be protected. There may be sufficient capacity in the remaining through lane to allow this, however, immediately past the intersection, the through lane is dropped as a right-only lane into the Fred Meyer shopping center. Another issue is that it is not always clear to westbound vehicles whether eastbound vehicles are turning or going straight. Alternatives for this intersection and the roadway segment immediately to the east should be explored.</p> |



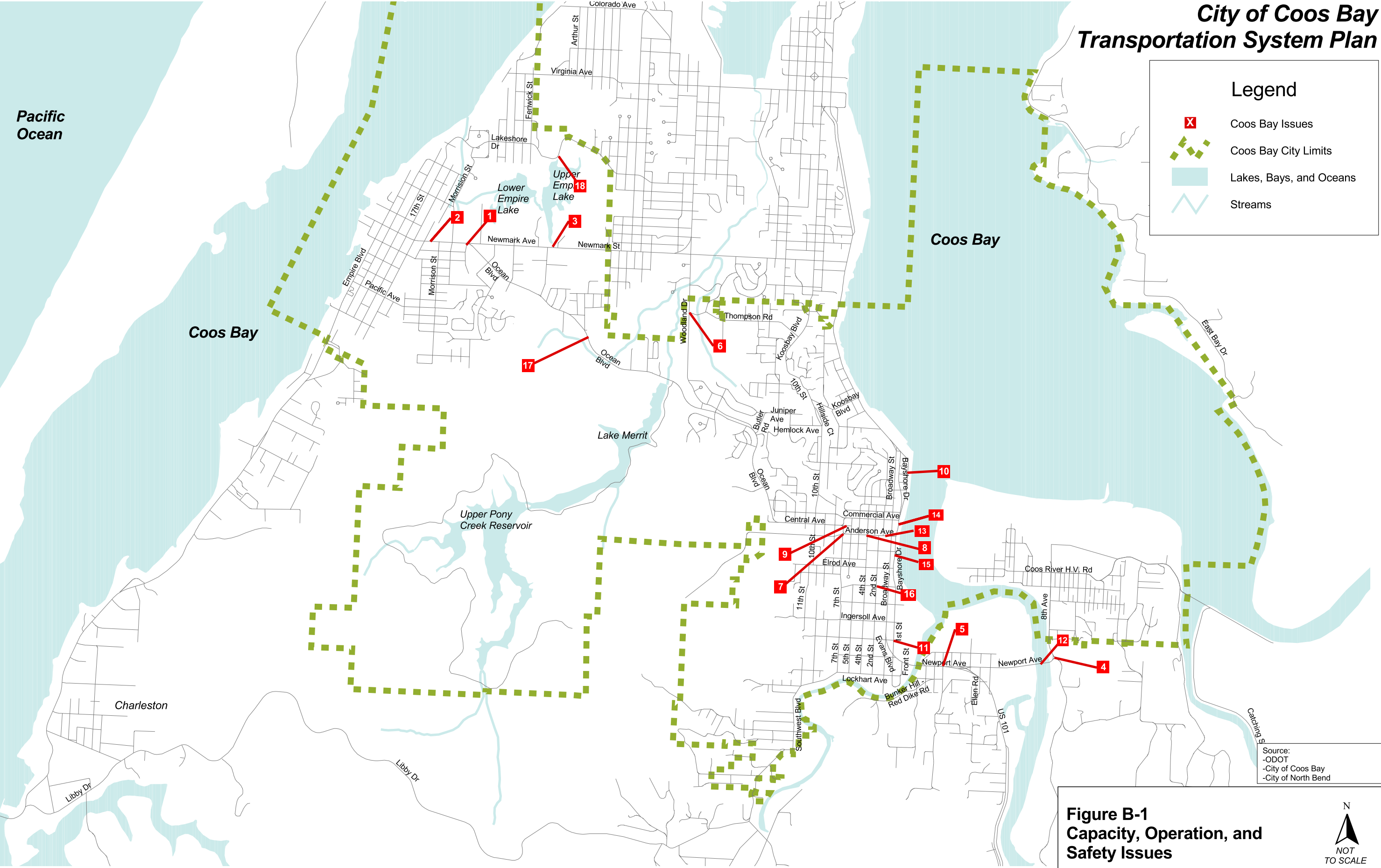
| <i>Location ID</i> | <i>Location</i>         | <i>Capacity, Operation and Safety Issue(s)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12                 | Isthmus Slough Bridge   | ODOT bridge design department is studying alternative designs for the bridge on Coos River Highway. This project is being considered in conjunction with locations 4 and 5 (Olive Barber/Coos River Highway and US 101/Bunker Hill/Coos River Highway). The bridge is currently weight restricted and is a drawbridge. ODOT is no longer building drawbridges and must build the replacement higher to allow ships under. No funding has been allocated for design and construction.                                                                                               |
| 13                 | Anderson Avenue         | <p>Traffic flow on Anderson between 7th and US 101 is affected by two diverters. The effect of these diverters is that traffic traveling through from 7th to US 101 is forced to merge left and then right to continue forward. There have been public complaints and it appears to be confusing and inconvenient.</p> <p>Some citizens have responded that cars are parked too close to crosswalks at intersections, making pedestrian visibility difficult. No parking restrictions should be considered along Anderson near intersections to improve pedestrian visibility.</p> |
| 14                 | US 101/Central          | This intersection functions basically as a pedestrian crossing since the only allowed movement other than southbound US 101 is a southbound right turn onto Central. There have been complaints about the visibility of the traffic signal and it is noted that the stop bar on the southbound approach is a significant distance from the intersections. Solutions at this intersection should be explored.                                                                                                                                                                       |
| 15                 | US 101 Southbound       | Queues develop southbound on US 101 through downtown Coos Bay, particularly in the evening peak hour. Currently, the traffic signals along US 101 are time-based coordinated, but they are not actuated (i.e. there are no loop detectors). Existing hardwire interconnect exists, however, it should be upgraded to modem or radio interconnect. The signals should be upgraded, loop detectors installed, interconnect improved and coordinated timing plans developed. It is likely that this improvement would greatly improve progression in this area.                       |
| 16                 | 2 <sup>nd</sup> /Golden | Safety—This is a very low volume intersection that has had a fairly large number of crossing collisions. The reason for these collisions should be explored.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 17                 | Ocean Avenue            | Lack of bike lanes on a major arterial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 18                 | Lakeshore Drive         | Consider traffic calming measures to reduce motor vehicle speeds on long straight road segments.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Assessment of Need

Based upon the evaluation of intersection level of service, none of the signalized study intersections would operate at or worse than a D/C ratio 0.90 or a Level of Service (LOS) of D in the 2020 evening peak hour with no improvements beyond the Base 2020 conditions. Intersection operation for the existing and base 2020 scenarios are shown in the Appendix. The greatest problem areas can be grouped into the following areas:

- **Specific Issue Locations.** As described in Table 5, there are a number of specific locations in town with unsafe or confusing alignments. These locations (i.e. Bunker Hill, 7<sup>th</sup>/Central) comprise the majority of transportation related issues in the community.
- **Capacity Deficiencies.** While these are rare, there are a few locations that may need signalization or additional capacity in the 20 year time frame.

City of Coos Bay  
Transportation System Plan



## Transit

Federal funding for the fixed-route transit services that did exist in Coos Bay was terminated and service ceased operation as of the end of December 2002. The CCAT has applied for federal grants from the Federal Transit Authority to extend these basic operations. Currently, only the dial-a-ride service is operational. The discussion below is written assuming that funding and service is restored to previous levels.

Currently, there are several transit routes serving Coos Bay (see Figure B-2). A 1/8-mile buffer was created around the existing transit system using geographic information systems (GIS) to determine which areas of Coos Bay are not effectively served. A large portion of both Coos Bay is located within 1/8-mile of a transit route, which is a reasonable walking distance for most transit patrons. There are only a few areas that are not served using that criterion, as indicated on Figure B-2.

The City of Coos Bay should consider whether future transit coverage should be provided to those transit areas not covered by the existing system. Considerations will include the potential to support transit in those areas as well as the trade offs, including comparison to more frequent headways on existing routes. The City of Coos Bay should coordinate with CCAT and Coos County to provide transit shelters at transit stops with significant daily boarding. The City of Coos Bay should coordinate the provision of sidewalks along streets with significant transit usage.

## Bicycles

The existing Bicycle Route map reflects bicycle accessibility in Coos Bay. Bikeway improvements are aimed at closing the gaps in the bicycle network along arterial and collector roadways.

State policy from the Transportation Planning Rule indicates that all arterial and major collector roads either have bikeways when they are constructed or improved or an adjacent parallel facility provided. Since state policy requires that all arterials and collector be improved with bike facilities, those that do not have bike facilities would be considered deficient. Additionally, a bicycle network is needed within a half-mile buffer that was created around key activity centers (parks, schools, retail, etc.) in town. These bicycle deficiencies are shown in Figure B-3. Since there are very few actual bike facilities in Coos Bay, the number of deficiencies is large. Key areas where bicycle facilities are lacking are as follows:

- Arterials such as US 101, Newmark, Ocean and Coos River Highway
- Lower classified street that fill in gaps in the bikeway network including Woodland, Ocean and Koosbay/10<sup>th</sup>

City of Coos Bay  
Transportation System Plan

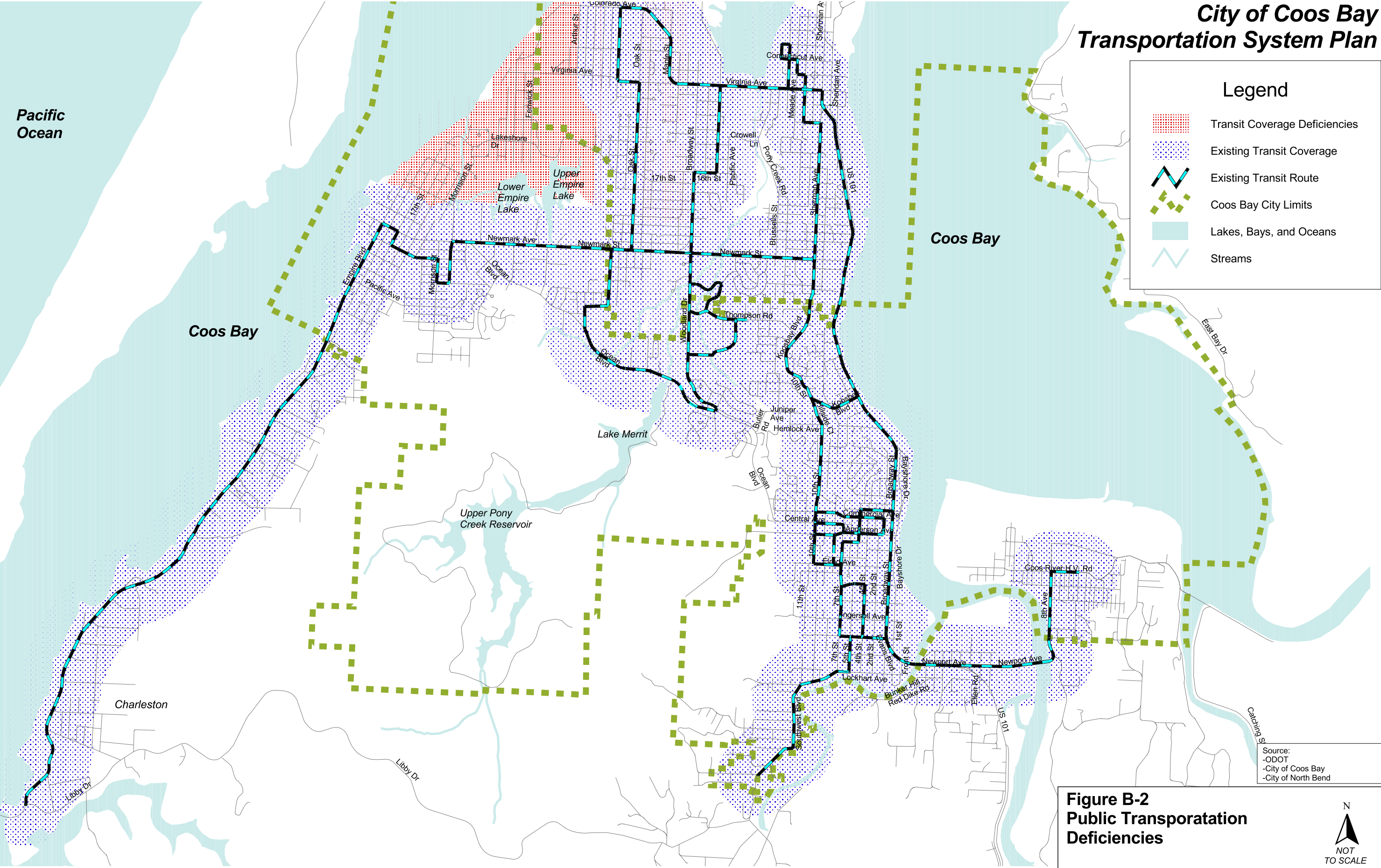
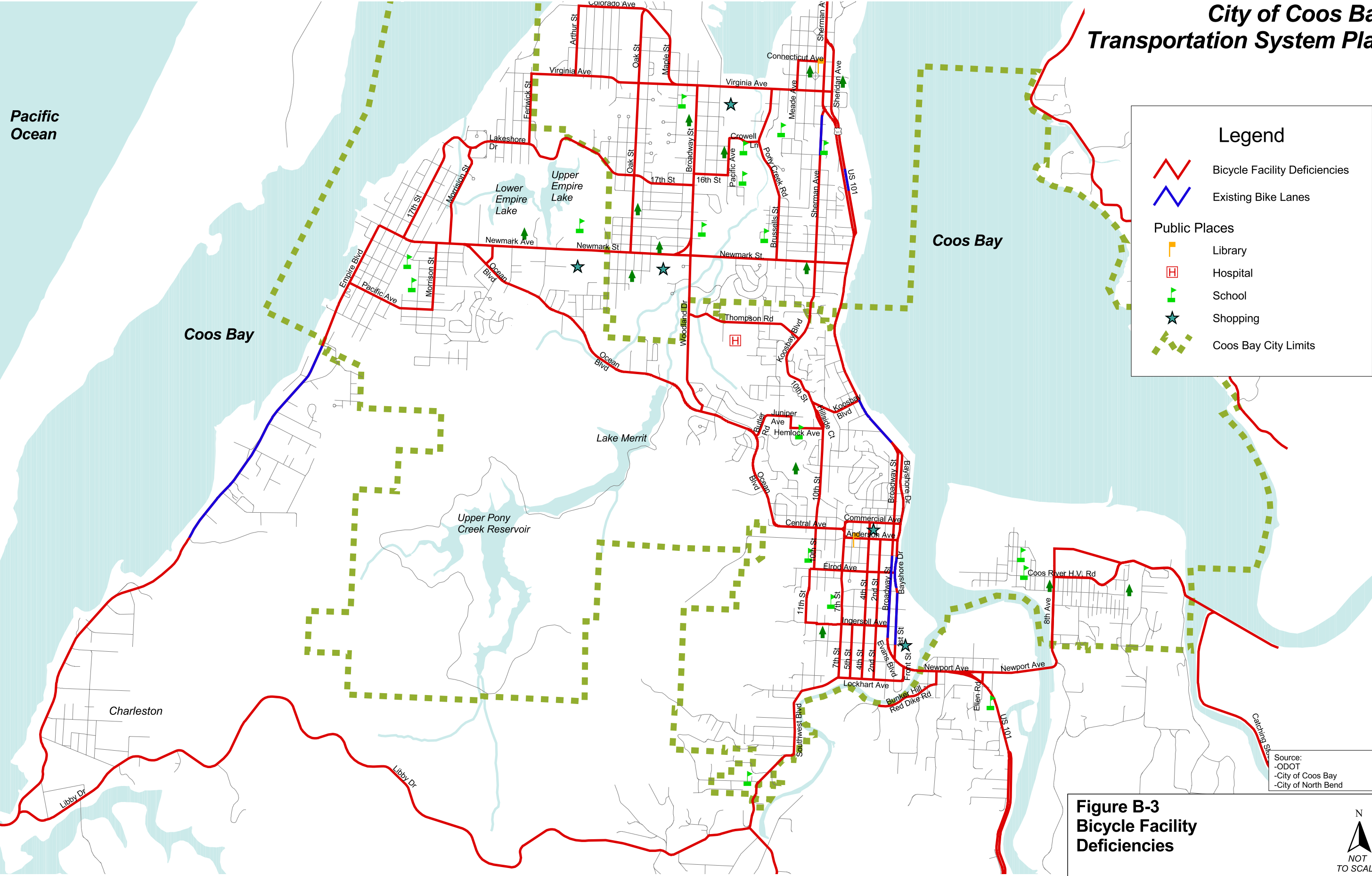


Figure B-2  
Public Transportation  
Deficiencies

Source:  
-ODOT  
-City of Coos Bay  
-City of North Bend



City of Coos Bay  
Transportation System Plan





## Pedestrians

The existing pedestrian system network map reflects pedestrian accessibility in Coos Bay. Existing sidewalks are generally five feet wide, except adjacent to some commercial areas where they may be wider (up to 8 or 10 feet wide). In most cases sidewalk improvements are aimed at closing gaps in the existing sidewalk network to provide connectivity rather than capacity. In other words, it is much more important that a continuous sidewalk be available than it be of a certain type or size.

The most important existing pedestrian need in Coos Bay is a well-connected pedestrian system within a half-mile grid and connectivity to key centers (parks, schools, retail, etc.) in Coos Bay. Needs include safe, direct and convenient access to transit and crossings of large arterial streets which act as barriers to pedestrian movement, as well as an inventory of local street sidewalk locations in order to complete a detailed sidewalk connectivity plan. In the future, pedestrian needs will be similar in the City, but there will be additional activity centers that will need to be considered and interconnected.

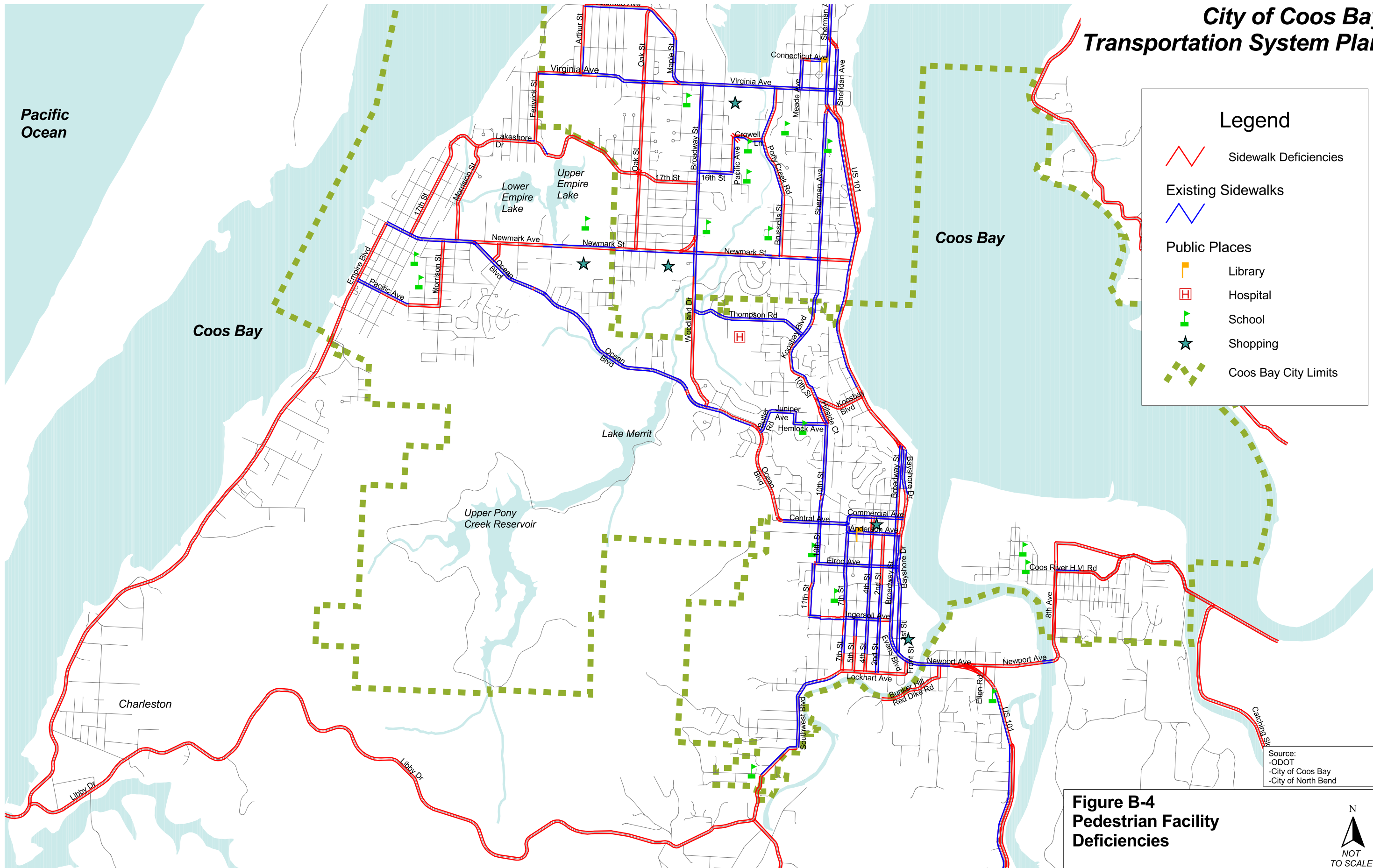
Figure 1 shows where sidewalks are lacking on arterials and collectors in Coos Bay. Ideally, sidewalks would be present on all arterials and collectors, so segments where sidewalks are not available are considered deficient. This is a starting place for determining a Pedestrian Master Plan (long term), from which a Pedestrian Action Plan (shorter term, prioritized plan) will be developed. Obvious key areas where sidewalks are lacking are as follows:

- Newmark Street between Broadway Street/Woodland Drive and Ocean Boulevard. While some portions of this segment have sidewalks on one side or the other, continuous sidewalk should be provided on both sides of this street, which has a significant amount of commercial development as well as a community college along its length.
  - Downtown Coos Bay. A majority of downtown streets have sidewalks on both sides; however, there are a few which lack them (some portions of 2<sup>nd</sup> Street and 4<sup>th</sup> Street). With some of the highest pedestrian activity in the City, sidewalks should be provided on all downtown streets
  - Woodland Drive. While there are sidewalks on some portions of the street near Newmark Avenue, a majority of the roadway lacks sidewalks. This is the only pedestrian opportunity in about one mile spacing and provides access between the hospital and commercial activities.
- o Street Crossing Locations. Pedestrian crossings are lacking particularly on arterial routes such as Newmark, Ocean and Central at locations other than traffic signals. Pedestrian crossing improvements such as raised median islands, illumination, curb extensions and enhanced markings should be considered at locations with high pedestrian crossing demand

## Other Modes

There are four other modes of transportation included in the TSP: rail, pipeline, air, and water. Future needs for these modes of transportation are identified by their providers and are summarized below as they are understood.

City of Coos Bay  
Transportation System Plan





## Rail

The information reported here is based on the Bay Area Transportation Study (1995). 1995 inspections revealed deficiencies related to deferred maintenance on the line, all of which could be remedied with an adequate maintenance program. If deferred maintenance continues, the physical plant condition will fall below a safe or efficient operating level. Currently, the North Bend Railroad Bridge is in need of significant rehabilitation work.

Inspections and interviews also revealed deficiencies in spurs and switches, service levels, equipment and freight rates. The most glaring deficiencies include an inadequate supply of cars, inopportune switching schedules, inconsistent delivery times and freight rates that are not competitive with truck rates.

## Pipeline

A proposed pipeline is being constructed in the Coos Bay area. The alignment of this pipeline and any service mains should be considered when developing any new transportation projects.

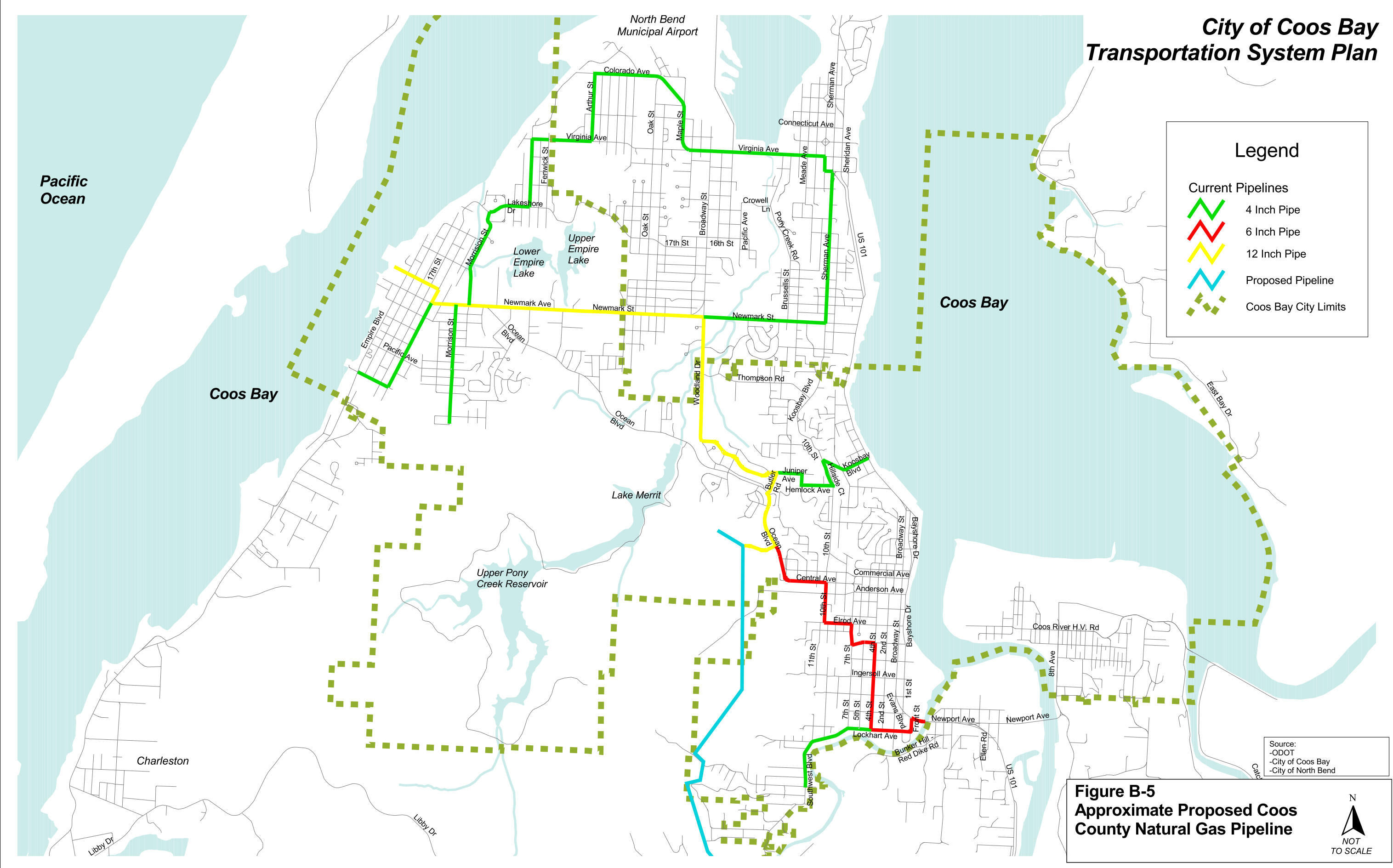
## Air

The information reported here is based on the Bay Area Transportation Study (1995). The North Bend Municipal Airport has been maintained and upgraded on a regular basis since the City obtained it many decades ago. At this time, its capacity far surpasses its demand. The City of North Bend completed updated its master plan for the airport in June, 1995. At that time, approximately \$25 million of improvements were identified, much of which could be funded by Federal Aviation Administration (FAA) grants. The proposed improvements included upgrading runway, taxiway and apron facilities; construction of a new terminal and general aviation facilities on the east side of the airport, a new roadway from the new terminal to Virginia and improvements to hangars and other facilities on the west side of the airport.

## Water

The information reported here is based on the Bay Area Transportation Study (1995). The following challenges are key to increasing utilization and providing effective future development of the marine transportation system at the Port of Coos Bay:

- Dependable rail service and additional improvements to the highway system are key to capitalizing on opportunities in the changing worldwide maritime industry.
- There is limited availability of fully serviced commercial and industrial sites and developable industrial property.
- Some ships are limited in their hours of access to the port by the channel depth (35 feet) and by the orientation of the railroad bridge, which has a narrow opening and is oriented in a way that makes it very difficult to maneuver under the McCullough Bridge.
- Greater cooperation and coordination between business owners is necessary to achieve the long term development of the harbor. Short-term and competing interests prevent development of a long term vision, making the Port less likely to realize its full potential as a deep-draft west coast port.



## C. Alternatives

This chapter summarizes the development and evaluation of transportation system alternatives for travel within the City of Coos Bay. The existing and future (2020) transportation system needs were determined for each city and presented in Appendix B. The alternatives presented in this chapter were reviewed by the TAC and CAC to guide selection of projects and programs to be incorporated into the Transportation System Plan (TSP) for each city. The selection process was based on how well it complies with established goals and objectives for the TSP and general feedback from residents, merchants, and city staff.

This chapter outlines alternatives for the type of improvements that would be necessary as part of a long-range master plan. Phasing of implementation will be necessary since not all of the improvements can be done at once. This will require prioritization of projects and periodic plan updating to reflect current needs. Most importantly, it should be understood that the improvements outlined in the following sections are a guide for long-term (20 years) enhancement and improvement to the transportation systems in Coos Bay.

The proposed solution for many of these cases was a single improvement project or program. In some cases, however, there was a wide range of possible options to resolve identified safety, circulation, capacity or other types of operational issues. The cases are labeled as alternatives for a given location.

### Motor Vehicles

Alternatives were developed for the motor vehicle system in Coos Bay for each location where needs were previously identified. These alternatives typically fall into one or more of the following categories: Intersection capacity/traffic control upgrades, Safety/Access Control, Circulation changes, or TSM and TDM measures (including alternative modes).

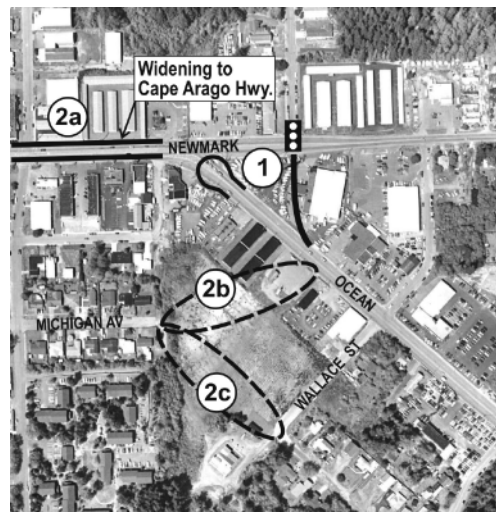
The following narrative generally present:

- Location of the project
- Types of existing or future needs (Safety, Capacity, Connectivity, Other)
- Proposed Solution or Alternative
- Potential Impacts
- Preliminary Planning Level Cost in five general categories:
  - o Very Low (under \$100,000)
  - o Low (\$100,000 to \$249,999)
  - o Moderate (\$250,000 to \$499,999)
  - o High (\$500,000 to \$1,000,000)
  - o Very High (over \$1,000,000)

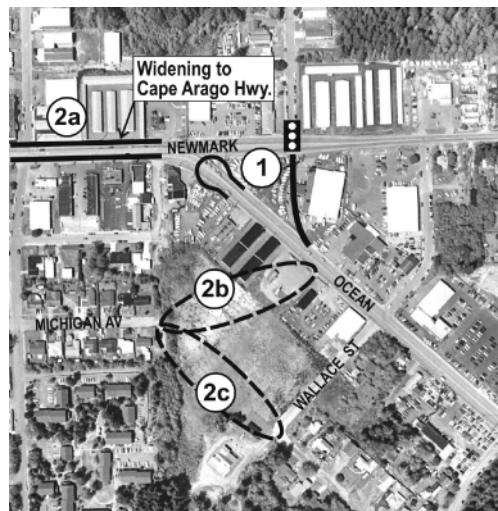
These rough costs will be refined once a final project list is selected from the set of alternatives presented in this memo. The purpose of the broad categories is to provide a general level of investment only. In several cases, a sketch graphic is provided to illustrate the improvement concept for a given location.

| Location                                            | Safety Issues                                               | Circulation                                                                                 | Connectivity                                                                                  |
|-----------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>1.<br/>Newmark Avenue at<br/>Ocean Boulevard</b> | Wide intersection creates high speeds for turning vehicles. | Skewed intersection and narrow east leg prohibits westbound traffic from making left-turns. | Limited pedestrian crossing opportunities because of excessive width and high vehicle speeds. |

| Alternative                                                                                                                                                                                                                                                                   | Benefits                                                                                                                                  | Implementation Issues                                                         | Cost Range |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------|
| <b>1.A</b> -- Realign Ocean Avenue to meet Newmark at a 90-degree angle opposite Ackerman Street. Relocate traffic signal from existing intersection.                                                                                                                         | Improved vehicle and pedestrian circulation. Slower vehicle speeds through intersection.<br><br>Redevelopment opportunity in SW quadrant. | Requires purchase of right-of-way and closure of existing roadway connection. | Very High  |
| <b>1.B.</b> -- Extend corners on south side of existing intersection, and reduce departure lanes on Ocean Boulevard to a single lane.<br><br>Widen westbound approach of Newmark to allow for a separate left-turn pocket. Upgrade traffic signal heads to 12" LED standards. | Improved vehicle and pedestrian circulation. Slower vehicle speeds through intersection.                                                  | Lane reduction requires transition on both ends.                              | Moderate   |



| Location                                                                                                                                                                                                  | Safety Issues                                                                                   | Circulation                                                                  | Connectivity                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>2.</b><br><b>Newmark Avenue between Ocean Boulevard &amp; Cape Arago Highway</b>                                                                                                                       | None                                                                                            | Forecasted 2020 volume approaching limits for 2/3 lane roadway cross-section | Neighborhoods south of Newmark in Sunset District have limited east-west connections. |
| <i>Alternative</i>                                                                                                                                                                                        | <i>Benefits</i>                                                                                 | <i>Implementation Issues</i>                                                 | <i>Cost Range</i>                                                                     |
| <b>2.A</b> -- Provide additional motor vehicle capacity on Newmark Avenue to two lanes in each direction between Ocean Boulevard and Cape Arago Highway to the west.<br><br>(See photo below)             | Less delay during peak hours.                                                                   | Major impacts to on-street parking and curb extensions.                      | Very High                                                                             |
| <b>2.B &amp; 2.C.</b> – Extend local street connection via Michigan Avenue connecting to Ocean Avenue (see photo) by two possible alignments. Alt. 2C connects to existing street stub at Wallace Street. | Better neighborhood access and circulation. Less travel demand on congested portion of Newmark. | Adding traffic to existing local streets can cause friction with residents.  | Very High                                                                             |



| Location                                                              | Safety Issues | Circulation                                                                  | Connectivity |
|-----------------------------------------------------------------------|---------------|------------------------------------------------------------------------------|--------------|
| <b>3.</b><br><b>Newmark Avenue between Norman and Ocean Boulevard</b> | None          | Forecasted 2020 volume approaching limits for 2/3 lane roadway cross-section | None         |

| <i>Alternative</i>                                                                                                                                                                                                                                                                                                                                                                                                                | <i>Benefits</i>                                                                            | <i>Implementation Issues</i>                                        | <i>Cost Range</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------|
| <b>3.A.</b> – Coos Bay has a widening project (to provide two travel lanes with a center left turn lane/median) between Norman and Ocean. It appears that is improvement project will likely provide sufficient capacity for the 20-year horizon. It was previously thought that it would eventually be upgraded to a five-lane section, however, based on the 2020 travel demand model, further widening would not be necessary. | Less delay during peak hours.<br><br>Adds sidewalks and bike lanes where none exist today. | Consolidating existing direct access to maintain facility capacity. | Very High         |

| Location                                                                             | Safety Issues                                                                       | Circulation                                                   | Connectivity |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------|
| <b>4.</b><br><b>Coos River Highway at Olive Barber (Related to Items 5 &amp; 12)</b> | Non-standard intersection configuration. Limited sight distance approach from west. | Moderate turning volumes. High truck volumes on Olive Barber. | None         |

| <i>Alternative</i>                                                                                                                                                                                                                                                                                                                                          | <i>Benefits</i>                        | <i>Implementation Issues</i>                                        | <i>Cost Range</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------|-------------------|
| <b>4.A</b> -- A traffic signal may become warranted in the future. Options for upgraded traffic control should be explored, such as providing an advance signal head for eastbound traffic on Coos River Highway before the horizontal curve if the intersection does become signalized. There is limited sight distance to the intersection from the west. | Superior safety for turning movements. | Coordination with on-going Isthmus Slough Bridge replacement study. | Moderate          |

*Install traffic signal at the point that it becomes warranted. At the point that a traffic signal is installed, consolidate intersection by eliminating southbound to westbound “slip” lane from Coos River Highway to Olive Barber.*

| Location                                                                                   | Safety Issues                                                                                              | Circulation                                                 | Connectivity |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------|
| <b>5.</b><br><b>US 101 at Bunker Hill/Coos River Highway (Related to Items 4 &amp; 12)</b> | Non-standard intersection configuration. Poor access controls on side streets approaching traffic signals. | Limited vehicle queue storage, especially for large trucks. | None         |

| <i>Alternative</i>                                                                                                                                                                  | <i>Benefits</i> | <i>Implementation Issues</i> | <i>Cost Range</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------|-------------------|
| <i>5.A -- ODOT is conducting a study to determine feasible alternatives for this area. The recommendation of that study will be incorporated into the TSP when it is available.</i> | <i>N/A</i>      | <i>N/A</i>                   | <i>N/A</i>        |

| Location                                            | Safety Issues                                                                                                                | Circulation                                              | Connectivity                                        |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------|
| <b>6.</b><br><b>Woodland Drive at Thompson Road</b> | High turning movement volumes. Relatively high vehicle speeds on Woodland. Lack of controlled pedestrian crossing locations. | Major access point to medical offices and hospital area. | Only east-west collector serving this neighborhood. |

| <i>Alternative</i>                                                                                                                                                      | <i>Benefits</i>                                                                                          | <i>Implementation Issues</i> | <i>Cost Range</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------|-------------------|
| <i>6.A – Consider traffic signal installation as new development occurs in this proximity. Include sidewalk, curb ramps, and emergency vehicle pre-emption signals.</i> | <i>Less delays for side street traffic turning onto Woodland Drive. Controlled pedestrian crossings.</i> | <i>None.</i>                 | <i>Moderate</i>   |

| Location                                               | Safety Issues                                                               | Circulation                                                     | Connectivity                                               |
|--------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------|
| <b>7.<br/>7<sup>th</sup> Street at Anderson Avenue</b> | High number of potential vehicle conflicts, undefined pedestrian crossings. | Major intersection for vehicles entering downtown grid network. | Many alternative routes available for side street traffic. |

#### *Alternative*

**7.A** -- Construct barrier restricting access from southwest quadrant of intersection to Commercial/Anderson couplet. Retain two-lanes on "S" curve from eastbound Central Avenue to Anderson Avenue.



#### *Benefits*

Reduced vehicle movement conflicts.  
Defines appropriate travel way on "S" curve from southbound 7<sup>th</sup> Avenue to Anderson.

#### *Implementation Issues*

Re-routing side street traffic on 7<sup>th</sup> Street and Anderson.

#### *Cost Range*

Low

**7.B.** -- Force traffic traveling eastbound on Central Avenue into one lane (left). Construct median/barrier precluding access from Central/Anderson to 7th Street south of Anderson or to Anderson Street west of 7th Street.



Reduced vehicle movement conflicts.  
Retains full access from existing side streets.

Shifts turning traffic onto adjacent blocks for eastbound Central Avenue traffic.

Moderate



| Location                                                                                                                                                     | Safety Issues                                                                       | Circulation                                                                               | Connectivity      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------|
| <b>8.<br/>Central / Anderson between 10<sup>th</sup><br/>Street and Broadway</b>                                                                             | No defined bike lanes. Pedestrian crossings partially blocked by on-street parking. | Recent in-road traffic diverters force lane changes.                                      | N/A               |
| <i>Alternative</i>                                                                                                                                           | <i>Benefits</i>                                                                     | <i>Implementation Issues</i>                                                              | <i>Cost Range</i> |
| <b>8.A</b> – Paint red curbs for no on-street parking within 20 feet of corner.                                                                              | Better crosswalk visibility.                                                        | Minor parking loss.                                                                       | Very Low.         |
| <b>8.B.</b> – Add curb extensions on corners with major pedestrian crossings.                                                                                | Shorter pedestrian crossing distance.                                               | Minor parking loss.                                                                       | Low.              |
| <b>8.C.</b> – Consider striping bike lane on right side along parking stalls. May require narrowing of travel lanes or partial removal of on-street parking. | Better bike facility definition.                                                    |                                                                                           | Low.              |
| <b>8.D.</b> – Consider removing the in-road traffic diverters at 4 <sup>th</sup> Street and 2 <sup>nd</sup> Street.                                          | Eliminates unneeded traffic weaving.                                                | Access impacts to businesses at 2 <sup>nd</sup> Street – unless two-way flow re-instated. | Moderate          |



| Location                                                                                                                                                                                              | Safety Issues                                                                                   | Circulation                                | Connectivity                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------|
| <b>9.<br/>Central / Anderson between 6<sup>th</sup><br/>and 7<sup>th</sup> Avenue</b>                                                                                                                 | Vehicles entering at “Y” junction of Central / 7 <sup>th</sup> add potential vehicle conflicts. | Need to reduce conflicts at this junction. | Alternative routes available. |
| <i>Alternative</i>                                                                                                                                                                                    | <i>Benefits</i>                                                                                 | <i>Implementation Issues</i>               | <i>Cost Range</i>             |
| <b>9.A.</b> – Close Central Avenue between west end of Commercial / Anderson couplet and 7 <sup>th</sup> Street. Re-direct local business traffic to the east via 6 <sup>th</sup> Street and Central. | Reduced vehicle conflicts.                                                                      | Minor out-of-direction travel.             | Low.                          |

**Table C-1 : Other Suggested Improvements in Coos Bay**

| Locations / Recommendation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Benefits                                                   | Implementation Issues                                                          | Cost Range                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------|
| <b>10. Bayshore Drive / North Front Street Area</b><br><br>Access management plan to eliminate mid-block access onto Bayshore Drive as redevelopment occurs.                                                                                                                                                                                                                                                                                                                                                          | Reduced vehicle conflicts, and improved carrying capacity. | Long-term coordination with City to ensure access spacing standard compliance. | Very Low (occurs with development). |
| <b>11. Bayshore / Johnson Avenue</b><br><br>Evaluate improvement alternatives for eastbound left turning traffic from Johnson Avenue onto Bayshore. Improvement alternatives may include modification of traffic signal to allow for protected phasing for eastbound left turns (the westbound left is prohibited since Bayshore is one-way northbound). In conjunction, striping on Johnson will need to be evaluated since the right-hand lane drops as a right-turn only lane just east of Bayshore at Fred Meyer. | More clear travel way for side street movements.           | Potential modification of traffic signal controls in coordination with ODOT.   | Very Low.                           |
| <b>12. Isthmus Slough Bridge (Related to Items 4 &amp; 5)</b><br><br>ODOT Bridge Design department is studying alternative designs for the bridge on Coos River Highway. No funding has been allocated for design and construction.                                                                                                                                                                                                                                                                                   | More reliable slough crossings.                            | N/A                                                                            | N/A                                 |
| <b>13. Anderson Avenue</b><br><br>See Alternatives 8.A.-8.D..                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Improved Traffic Flow on Anderson Ave.                     | N/A                                                                            | N/A                                 |

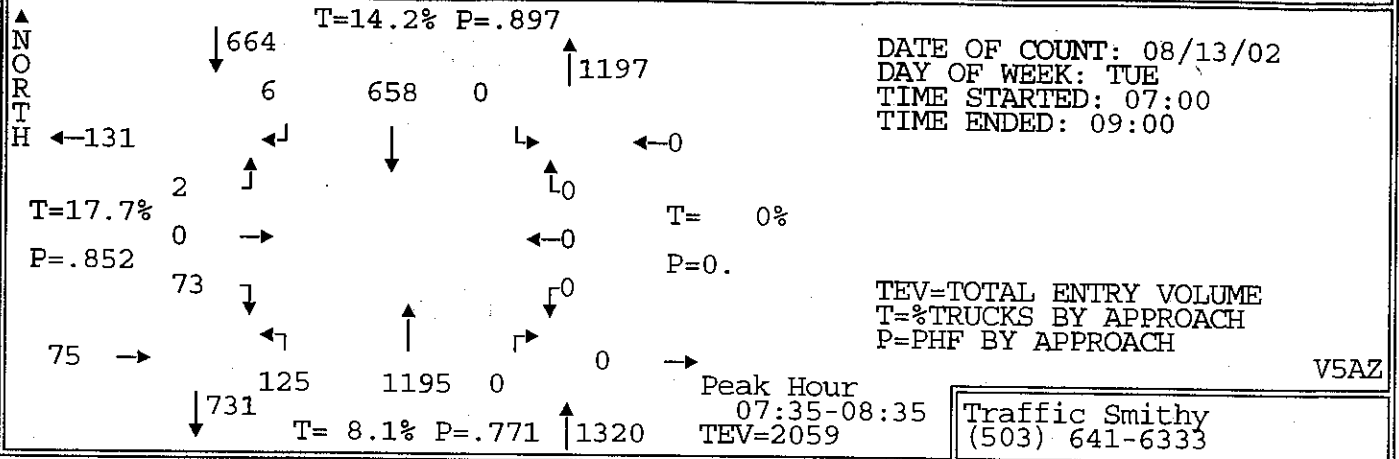
| <i>Locations / Recommendation</i>                                                                                                                                                                                                                                                                                                                                                                                             | <i>Benefits</i>                                                                        | <i>Implementation Issues</i>                                              | <i>Cost Range</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------|
| <b>14. US 101 at Central Avenue</b><br>Modify traffic signal to be pedestrian-actuated. This provides safe pedestrian access across US 101 without unnecessarily impeding through motor vehicles. Update traffic signal heads as suggested in #15. Re-evaluate location of stop bar.                                                                                                                                          | Reduces delays for motor vehicles.                                                     | ADA compliant curb ramps.                                                 | Low.              |
| <b>15. US 101 Southbound from Central Avenue to Elrod Avenue</b><br>Outdated traffic signal heads and traffic controllers in this corridor should be upgraded. Interconnect should be improved, loop detectors installed and timing plans should be developed to better coordinate the signals and progression of vehicles through downtown Coos Bay on US 101 between Commercial Avenue and Elrod Avenue (about 1,000 feet). | Significantly reduces motor vehicle delays.<br>Improved visibility of traffic signals. | Wireless/modem communication between controllers should be considered.    | High.             |
| <b>16. 2<sup>nd</sup>/Golden</b><br>High collision rates at this intersection that warrants further exploration and identification of traffic control or other alternatives                                                                                                                                                                                                                                                   | Identify cause of high number of collisions                                            | Cause not yet determined                                                  | Low/Moderate      |
| <b>17. Ocean Boulevard (Entire Length)</b><br>Restripe to 3 lanes (two travel lanes and a continuous center left turn lane/median) and bike lanes                                                                                                                                                                                                                                                                             | Provides bike lanes on a major arterial                                                | N/A                                                                       | Low/Moderate      |
| <b>18. Lakeshore Drive between Seagate Avenue and Crocker Street</b><br>Evaluate potential traffic calming measures to determine appropriate treatment to slow traffic.                                                                                                                                                                                                                                                       | Net reduction in motor vehicle travel speeds.                                          | Coordinate installations with fire district and emergency response units. | Low.              |

## Traffic Counts

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# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## 1ST @ HIGHWAY 101



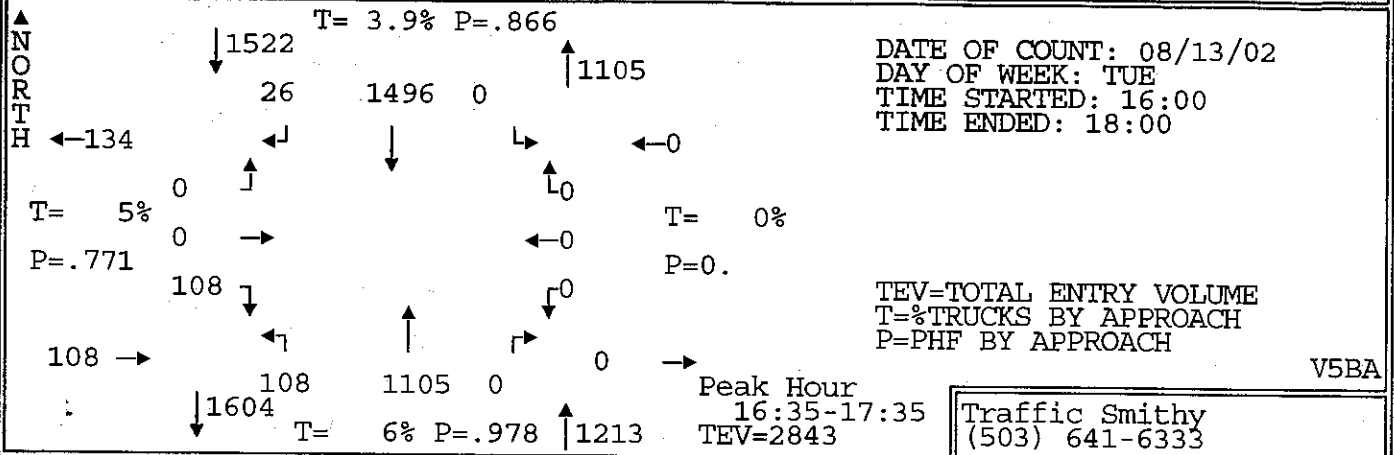
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↑ | ←           | ↑   | → | ↓          | ← | ↑ |     |
| 07:00-07:05              | 6          | 0 | 0 | 0           | 31 | 0 | 3           | 49  | 0 | 0          | 0 | 0 | 89  |
| 07:05-07:10              | 3          | 0 | 0 | 0           | 44 | 0 | 7           | 62  | 0 | 0          | 0 | 0 | 116 |
| 07:10-07:15              | 4          | 0 | 0 | 1           | 42 | 0 | 8           | 58  | 0 | 0          | 0 | 0 | 113 |
| 07:15-07:20              | 4          | 0 | 0 | 0           | 34 | 0 | 5           | 69  | 0 | 0          | 0 | 0 | 112 |
| 07:20-07:25              | 1          | 0 | 0 | 0           | 40 | 0 | 15          | 85  | 0 | 0          | 0 | 0 | 141 |
| 07:25-07:30              | 2          | 0 | 0 | 0           | 46 | 0 | 6           | 86  | 0 | 0          | 0 | 0 | 140 |
| 07:30-07:35              | 4          | 0 | 0 | 0           | 53 | 0 | 8           | 80  | 0 | 0          | 0 | 0 | 145 |
| 07:35-07:40              | 6          | 0 | 0 | 1           | 50 | 0 | 10          | 118 | 0 | 0          | 0 | 0 | 185 |
| 07:40-07:45              | 7          | 0 | 0 | 0           | 55 | 0 | 15          | 130 | 0 | 0          | 0 | 0 | 207 |
| 07:45-07:50              | 6          | 0 | 0 | 0           | 55 | 0 | 21          | 133 | 0 | 0          | 0 | 0 | 215 |
| 07:50-07:55              | 6          | 0 | 0 | 1           | 57 | 0 | 7           | 122 | 0 | 0          | 0 | 0 | 193 |
| 07:55-08:00              | 4          | 0 | 0 | 1           | 58 | 0 | 12          | 95  | 0 | 0          | 0 | 0 | 170 |
| 08:00-08:05              | 7          | 0 | 0 | 0           | 68 | 0 | 8           | 72  | 0 | 0          | 0 | 0 | 155 |
| 08:05-08:10              | 7          | 0 | 0 | 1           | 46 | 0 | 5           | 82  | 0 | 0          | 0 | 0 | 141 |
| 08:10-08:15              | 2          | 0 | 0 | 0           | 63 | 0 | 10          | 77  | 0 | 0          | 0 | 0 | 152 |
| 08:15-08:20              | 7          | 0 | 1 | 1           | 56 | 0 | 4           | 84  | 0 | 0          | 0 | 0 | 153 |
| 08:20-08:25              | 3          | 0 | 0 | 0           | 50 | 0 | 10          | 88  | 0 | 0          | 0 | 0 | 151 |
| 08:25-08:30              | 8          | 0 | 1 | 0           | 37 | 0 | 8           | 97  | 0 | 0          | 0 | 0 | 151 |
| 08:30-08:35              | 10         | 0 | 0 | 1           | 63 | 0 | 15          | 97  | 0 | 0          | 0 | 0 | 186 |
| 08:35-08:40              | 5          | 0 | 0 | 2           | 46 | 0 | 5           | 85  | 0 | 0          | 0 | 0 | 143 |
| 08:40-08:45              | 5          | 0 | 0 | 0           | 49 | 0 | 11          | 116 | 0 | 0          | 0 | 0 | 181 |
| 08:45-08:50              | 6          | 0 | 0 | 1           | 53 | 0 | 6           | 100 | 0 | 0          | 0 | 0 | 166 |
| 08:50-08:55              | 5          | 0 | 0 | 0           | 51 | 0 | 8           | 89  | 0 | 0          | 0 | 0 | 153 |
| 08:55-09:00              | 10         | 0 | 0 | 1           | 75 | 0 | 4           | 78  | 0 | 0          | 0 | 0 | 168 |

|               |     |   |     |     |      |   |     |      |   |   |   |   |      |
|---------------|-----|---|-----|-----|------|---|-----|------|---|---|---|---|------|
| Total Survey  | 128 | 0 | 2   | 11  | 1222 | 0 | 211 | 2152 | 0 | 0 | 0 | 0 | 3726 |
| PHF           | .87 | 0 | .25 | .75 | .9   | 0 | .68 | .78  | 0 | 0 | 0 | 0 | .836 |
| % Trucks      | 18  | 0 | 0   | 9.1 | 14.2 | 0 | 6.2 | 8.3  | 0 | 0 | 0 | 0 | 10.5 |
| Stopped Buses | 0   | 0 | 0   | 0   | 0    | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |
| Peds          | 0   | 0 | 0   | 0   | 0    | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |

|               |    |   |   |   |     |   |     |      |   |   |   |   |      |
|---------------|----|---|---|---|-----|---|-----|------|---|---|---|---|------|
| Hourly Totals |    |   |   |   |     |   |     |      |   |   |   |   |      |
| 07:00-08:00   | 53 | 0 | 0 | 4 | 565 | 0 | 117 | 1087 | 0 | 0 | 0 | 0 | 1826 |
| 07:15-08:15   | 56 | 0 | 0 | 4 | 625 | 0 | 122 | 1149 | 0 | 0 | 0 | 0 | 1956 |
| 07:30-08:30   | 67 | 0 | 2 | 5 | 648 | 0 | 118 | 1178 | 0 | 0 | 0 | 0 | 2018 |
| 07:45-08:45   | 70 | 0 | 2 | 7 | 648 | 0 | 116 | 1148 | 0 | 0 | 0 | 0 | 1991 |
| 08:00-09:00   | 75 | 0 | 2 | 7 | 657 | 0 | 94  | 1065 | 0 | 0 | 0 | 0 | 1900 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## 1ST @ HIGHWAY 101



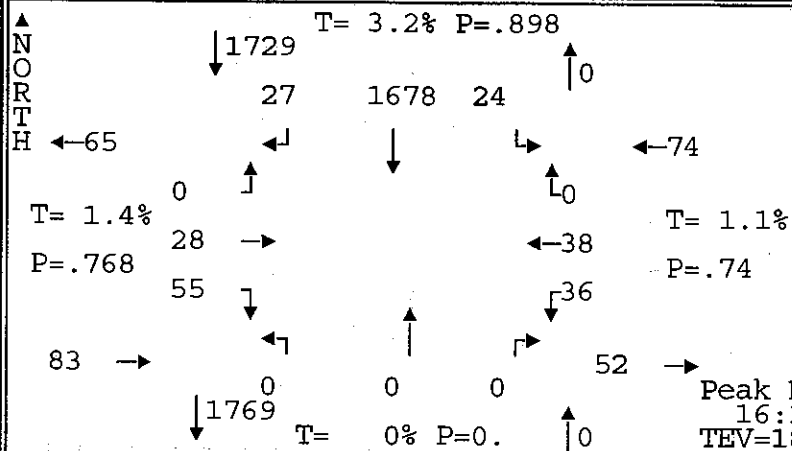
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |     |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|-----|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓   | ↑ | ←           | ↑   | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 16         | 0 | 0 | 0           | 123 | 0 | 8           | 96  | 0 | 0          | 0 | 0 | 243 |
| 16:05-16:10              | 8          | 0 | 0 | 6           | 106 | 0 | 7           | 94  | 0 | 0          | 0 | 0 | 221 |
| 16:10-16:15              | 5          | 0 | 0 | 1           | 113 | 0 | 10          | 81  | 0 | 0          | 0 | 0 | 210 |
| 16:15-16:20              | 11         | 0 | 0 | 0           | 115 | 0 | 12          | 79  | 0 | 0          | 0 | 0 | 217 |
| 16:20-16:25              | 3          | 0 | 0 | 2           | 110 | 0 | 12          | 98  | 0 | 0          | 0 | 0 | 225 |
| 16:25-16:30              | 7          | 0 | 0 | 3           | 122 | 0 | 8           | 112 | 0 | 0          | 0 | 0 | 252 |
| 16:30-16:35              | 15         | 0 | 1 | 1           | 119 | 0 | 10          | 81  | 0 | 0          | 0 | 0 | 227 |
| 16:35-16:40              | 12         | 0 | 0 | 4           | 112 | 0 | 17          | 102 | 0 | 0          | 0 | 0 | 247 |
| 16:40-16:45              | 8          | 0 | 0 | 2           | 111 | 0 | 10          | 95  | 0 | 0          | 0 | 0 | 226 |
| 16:45-16:50              | 3          | 0 | 0 | 3           | 102 | 0 | 9           | 77  | 0 | 0          | 0 | 0 | 194 |
| 16:50-16:55              | 5          | 0 | 0 | 3           | 103 | 0 | 10          | 100 | 0 | 0          | 0 | 0 | 221 |
| 16:55-17:00              | 5          | 0 | 0 | 2           | 121 | 0 | 6           | 72  | 0 | 0          | 0 | 0 | 206 |
| 17:00-17:05              | 12         | 0 | 0 | 1           | 123 | 0 | 11          | 110 | 0 | 0          | 0 | 0 | 257 |
| 17:05-17:10              | 10         | 0 | 0 | 4           | 144 | 0 | 2           | 87  | 0 | 0          | 0 | 0 | 247 |
| 17:10-17:15              | 11         | 0 | 0 | 2           | 150 | 0 | 8           | 90  | 0 | 0          | 0 | 0 | 261 |
| 17:15-17:20              | 7          | 0 | 0 | 2           | 137 | 0 | 13          | 96  | 0 | 0          | 0 | 0 | 255 |
| 17:20-17:25              | 9          | 0 | 0 | 3           | 128 | 0 | 8           | 92  | 0 | 0          | 0 | 0 | 240 |
| 17:25-17:30              | 15         | 0 | 0 | 0           | 113 | 0 | 5           | 90  | 0 | 0          | 0 | 0 | 223 |
| 17:30-17:35              | 11         | 0 | 0 | 0           | 152 | 0 | 9           | 94  | 0 | 0          | 0 | 0 | 266 |
| 17:35-17:40              | 13         | 0 | 0 | 1           | 107 | 0 | 10          | 56  | 0 | 0          | 0 | 0 | 187 |
| 17:40-17:45              | 9          | 0 | 0 | 1           | 128 | 0 | 12          | 91  | 0 | 0          | 0 | 0 | 241 |
| 17:45-17:50              | 11         | 0 | 0 | 1           | 132 | 0 | 9           | 74  | 0 | 0          | 0 | 0 | 227 |
| 17:50-17:55              | 4          | 0 | 0 | 0           | 115 | 0 | 8           | 74  | 0 | 0          | 0 | 0 | 201 |
| 17:55-18:00              | 8          | 0 | 0 | 2           | 105 | 1 | 5           | 68  | 0 | 0          | 0 | 0 | 189 |

|               |     |   |   |     |      |   |     |      |   |   |   |   |      |
|---------------|-----|---|---|-----|------|---|-----|------|---|---|---|---|------|
| Total Survey  | 218 | 0 | 1 | 44  | 2891 | 1 | 219 | 2109 | 0 | 0 | 0 | 0 | 5483 |
| PHF           | .77 | 0 | 0 | .72 | .87  | 0 | .75 | .96  | 0 | 0 | 0 | 0 | .929 |
| % Trucks      | 5   | 0 | 0 | 6.8 | 3.8  | 0 | 5.5 | 6    | 0 | 0 | 0 | 0 | 4.8  |
| Stopped Buses | 0   | 0 | 0 | 0   | 0    | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |
| Peds          | 0   | 0 | 0 | 0   | 2    | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |

|               |     |   |   |    |      |   |     |      |   |   |   |   |      |
|---------------|-----|---|---|----|------|---|-----|------|---|---|---|---|------|
| Hourly Totals |     |   |   |    |      |   |     |      |   |   |   |   |      |
| 16:00-17:00   | 98  | 0 | 1 | 27 | 1357 | 0 | 119 | 1087 | 0 | 0 | 0 | 0 | 2689 |
| 16:15-17:15   | 102 | 0 | 1 | 27 | 1432 | 0 | 115 | 1103 | 0 | 0 | 0 | 0 | 2780 |
| 16:30-17:30   | 112 | 0 | 1 | 27 | 1463 | 0 | 109 | 1092 | 0 | 0 | 0 | 0 | 2804 |
| 16:45-17:45   | 110 | 0 | 0 | 22 | 1508 | 0 | 103 | 1055 | 0 | 0 | 0 | 0 | 2798 |
| 17:00-18:00   | 120 | 0 | 0 | 17 | 1534 | 1 | 100 | 1022 | 0 | 0 | 0 | 0 | 2794 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## HALL @ HIGHWAY 101 SB



DATE OF COUNT: 08/14/02  
 DAY OF WEEK: WED  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V4ZT

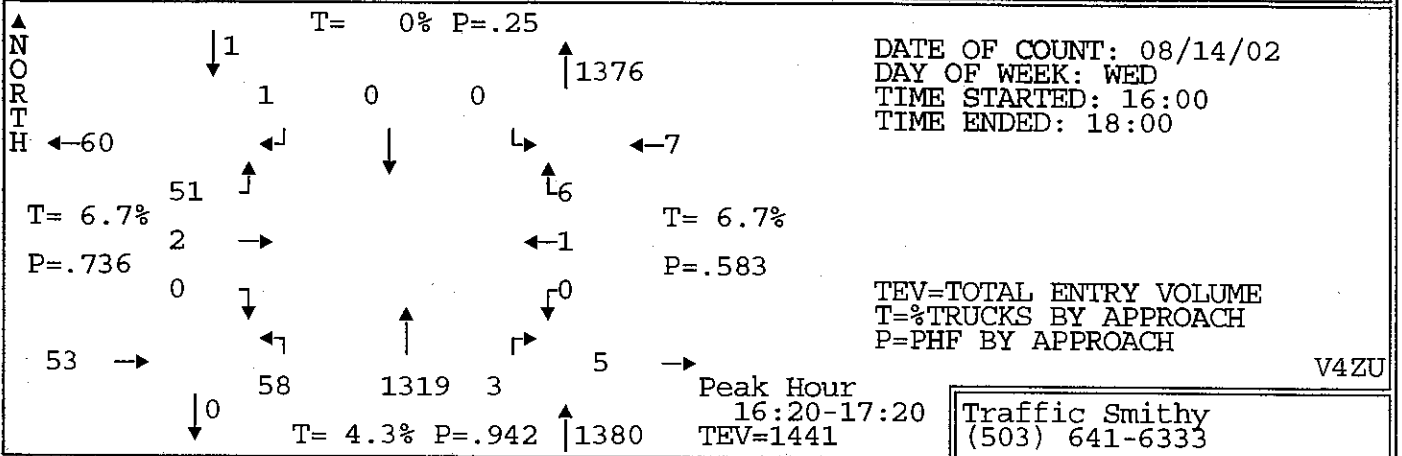
Peak Hour  
 16:35-17:35  
 TEV=1886

Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |     |   | SOUTH BOUND |      |      | NORTH BOUND |   |   | WEST BOUND |     |   | ALL  |
|--------------------------|------------|-----|---|-------------|------|------|-------------|---|---|------------|-----|---|------|
|                          | ↓          | →   | ↑ | ←           | ↓    | ↑    | ←           | ↑ | → | ↓          | ←   | ↑ |      |
| 16:00-16:05              | 3          | 1   | 0 | 2           | 136  | 4    | 0           | 0 | 0 | 3          | 6   | 0 | 155  |
| 16:05-16:10              | 5          | 1   | 0 | 4           | 107  | 1    | 0           | 0 | 0 | 5          | 2   | 0 | 125  |
| 16:10-16:15              | 2          | 0   | 0 | 0           | 124  | 5    | 0           | 0 | 0 | 6          | 2   | 0 | 139  |
| 16:15-16:20              | 3          | 1   | 0 | 2           | 149  | 3    | 0           | 0 | 0 | 4          | 6   | 0 | 168  |
| 16:20-16:25              | 2          | 5   | 0 | 2           | 126  | 1    | 0           | 0 | 0 | 3          | 0   | 0 | 139  |
| 16:25-16:30              | 1          | 2   | 0 | 6           | 127  | 1    | 0           | 0 | 0 | 5          | 5   | 0 | 147  |
| 16:30-16:35              | 6          | 4   | 0 | 3           | 124  | 2    | 0           | 0 | 0 | 5          | 5   | 0 | 149  |
| 16:35-16:40              | 3          | 5   | 0 | 2           | 149  | 3    | 0           | 0 | 0 | 3          | 1   | 0 | 166  |
| 16:40-16:45              | 4          | 1   | 0 | 4           | 154  | 1    | 0           | 0 | 0 | 3          | 1   | 0 | 167  |
| 16:45-16:50              | 4          | 2   | 0 | 1           | 112  | 2    | 0           | 0 | 0 | 3          | 5   | 0 | 129  |
| 16:50-16:55              | 7          | 0   | 0 | 2           | 141  | 4    | 0           | 0 | 0 | 0          | 6   | 0 | 160  |
| 16:55-17:00              | 7          | 2   | 0 | 3           | 124  | 2    | 0           | 0 | 0 | 7          | 4   | 0 | 149  |
| 17:00-17:05              | 6          | 5   | 0 | 2           | 108  | 3    | 0           | 0 | 0 | 0          | 4   | 0 | 128  |
| 17:05-17:10              | 2          | 3   | 0 | 2           | 170  | 0    | 0           | 0 | 0 | 5          | 3   | 0 | 185  |
| 17:10-17:15              | 7          | 2   | 0 | 1           | 138  | 5    | 0           | 0 | 0 | 3          | 5   | 0 | 161  |
| 17:15-17:20              | 7          | 2   | 0 | 2           | 160  | 3    | 0           | 0 | 0 | 4          | 2   | 0 | 180  |
| 17:20-17:25              | 1          | 3   | 0 | 4           | 145  | 1    | 0           | 0 | 0 | 2          | 2   | 0 | 158  |
| 17:25-17:30              | 6          | 2   | 0 | 1           | 141  | 0    | 0           | 0 | 0 | 2          | 1   | 0 | 153  |
| 17:30-17:35              | 1          | 1   | 0 | 3           | 136  | 0    | 0           | 0 | 0 | 6          | 3   | 0 | 150  |
| 17:35-17:40              | 5          | 3   | 0 | 3           | 128  | 2    | 0           | 0 | 0 | 9          | 6   | 0 | 156  |
| 17:40-17:45              | 4          | 2   | 0 | 1           | 109  | 3    | 0           | 0 | 0 | 6          | 1   | 0 | 126  |
| 17:45-17:50              | 3          | 2   | 0 | 1           | 145  | 0    | 0           | 0 | 0 | 5          | 2   | 0 | 158  |
| 17:50-17:55              | 2          | 1   | 0 | 1           | 96   | 0    | 0           | 0 | 0 | 5          | 3   | 0 | 108  |
| 17:55-18:00              | 2          | 3   | 0 | 1           | 149  | 1    | 0           | 0 | 0 | 2          | 4   | 0 | 162  |
|                          |            |     |   |             |      |      |             |   |   |            |     |   |      |
| Total Survey             | 93         | 53  | 0 | 53          | 3198 | 47   | 0           | 0 | 0 | 94         | 80  | 0 | 3618 |
| PHF                      | .69        | .7  | 0 | .84         | .9   | .67  | 0           | 0 | 0 | .75        | .63 | 0 | .896 |
| % Trucks                 | 1.1        | 1.9 | 0 | 5.7         | 3    | 10.6 | 0           | 0 | 0 | 1.1        | 1.3 | 0 | 3    |
| Stopped Buses            | 0          | 0   | 0 | 0           | 0    | 0    | 0           | 0 | 0 | 0          | 0   | 0 | 0    |
| Peds                     | 0          | 0   | 0 | 0           | 5    | 0    | 0           | 1 | 0 | 0          | 3   | 0 | 0    |
|                          |            |     |   |             |      |      |             |   |   |            |     |   |      |
| Hourly Totals            |            |     |   |             |      |      |             |   |   |            |     |   |      |
| 16:00-17:00              | 47         | 24  | 0 | 31          | 1573 | 29   | 0           | 0 | 0 | 45         | 44  | 0 | 1793 |
| 16:15-17:15              | 52         | 32  | 0 | 30          | 1622 | 27   | 0           | 0 | 0 | 39         | 46  | 0 | 1848 |
| 16:30-17:30              | 60         | 31  | 0 | 27          | 1666 | 26   | 0           | 0 | 0 | 35         | 40  | 0 | 1885 |
| 16:45-17:45              | 57         | 27  | 0 | 25          | 1612 | 25   | 0           | 0 | 0 | 47         | 42  | 0 | 1835 |
| 17:00-18:00              | 46         | 29  | 0 | 22          | 1625 | 18   | 0           | 0 | 0 | 49         | 36  | 0 | 1825 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## HALL @ HIGHWAY 101 NB



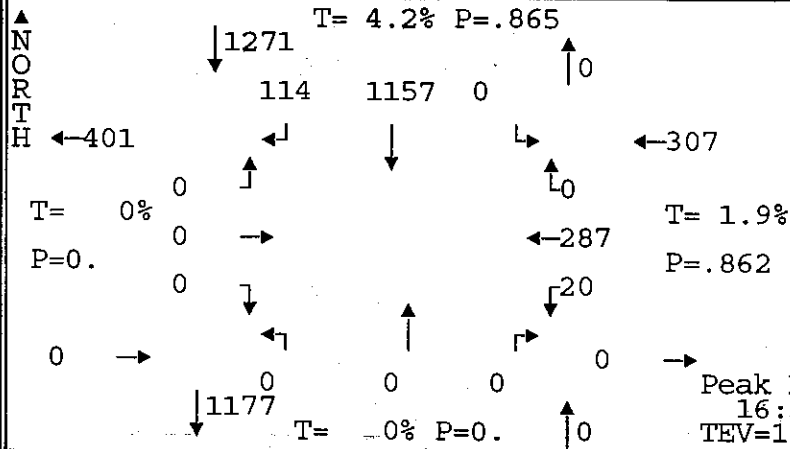
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | ↘ | ←           | ↑   | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 5 | 0           | 0 | 0 | 6           | 91  | 0 | 0          | 0 | 0 | 102 |
| 16:05-16:10              | 0          | 2 | 0 | 0           | 0 | 0 | 2           | 103 | 0 | 0          | 0 | 0 | 107 |
| 16:10-16:15              | 0          | 0 | 2 | 0           | 0 | 0 | 3           | 103 | 0 | 0          | 0 | 0 | 108 |
| 16:15-16:20              | 0          | 0 | 4 | 0           | 0 | 0 | 8           | 106 | 0 | 0          | 0 | 0 | 118 |
| 16:20-16:25              | 0          | 0 | 3 | 0           | 0 | 0 | 1           | 113 | 1 | 0          | 0 | 0 | 118 |
| 16:25-16:30              | 0          | 0 | 2 | 0           | 0 | 0 | 11          | 119 | 0 | 0          | 0 | 1 | 133 |
| 16:30-16:35              | 0          | 1 | 5 | 0           | 0 | 0 | 5           | 116 | 0 | 0          | 0 | 1 | 128 |
| 16:35-16:40              | 0          | 0 | 9 | 0           | 0 | 0 | 3           | 102 | 0 | 0          | 0 | 0 | 114 |
| 16:40-16:45              | 0          | 0 | 3 | 1           | 0 | 0 | 5           | 118 | 1 | 0          | 0 | 0 | 128 |
| 16:45-16:50              | 0          | 0 | 3 | 0           | 0 | 0 | 2           | 97  | 0 | 0          | 1 | 0 | 103 |
| 16:50-16:55              | 0          | 0 | 5 | 0           | 0 | 0 | 7           | 124 | 1 | 0          | 0 | 1 | 138 |
| 16:55-17:00              | 0          | 0 | 3 | 0           | 0 | 0 | 6           | 112 | 0 | 0          | 0 | 1 | 122 |
| 17:00-17:05              | 0          | 0 | 4 | 0           | 0 | 0 | 3           | 97  | 0 | 0          | 0 | 1 | 105 |
| 17:05-17:10              | 0          | 0 | 4 | 0           | 0 | 0 | 2           | 94  | 0 | 0          | 0 | 1 | 101 |
| 17:10-17:15              | 0          | 1 | 7 | 0           | 0 | 0 | 8           | 114 | 0 | 0          | 0 | 0 | 130 |
| 17:15-17:20              | 0          | 0 | 3 | 0           | 0 | 0 | 5           | 113 | 0 | 0          | 0 | 0 | 121 |
| 17:20-17:25              | 0          | 1 | 3 | 0           | 0 | 0 | 2           | 101 | 0 | 0          | 0 | 0 | 107 |
| 17:25-17:30              | 0          | 0 | 3 | 0           | 0 | 0 | 1           | 122 | 0 | 0          | 0 | 0 | 126 |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 0 | 0 | 7           | 96  | 1 | 0          | 0 | 0 | 104 |
| 17:35-17:40              | 0          | 0 | 6 | 0           | 0 | 0 | 9           | 102 | 0 | 0          | 2 | 2 | 121 |
| 17:40-17:45              | 0          | 1 | 5 | 0           | 0 | 0 | 4           | 113 | 0 | 0          | 0 | 1 | 124 |
| 17:45-17:50              | 0          | 0 | 2 | 0           | 0 | 0 | 5           | 102 | 0 | 0          | 0 | 0 | 109 |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 0 | 0 | 4           | 92  | 0 | 0          | 0 | 0 | 96  |
| 17:55-18:00              | 0          | 0 | 3 | 0           | 0 | 0 | 6           | 81  | 0 | 0          | 0 | 3 | 93  |

|               |   |    |     |     |   |   |     |      |     |   |     |     |      |
|---------------|---|----|-----|-----|---|---|-----|------|-----|---|-----|-----|------|
| Total Survey  | 0 | 6  | 84  | 1   | 0 | 0 | 115 | 2531 | 4   | 0 | 3   | 12  | 2756 |
| PHF           | 0 | .5 | .75 | .25 | 0 | 0 | .76 | .95  | .38 | 0 | .25 | .5  | .950 |
| % Trucks      | 0 | 50 | 3.6 | 0   | 0 | 0 | 3.5 | 4.4  | 0   | 0 | 0   | 8.3 | 4.4  |
| Stopped Buses | 0 | 0  | 0   | 0   | 0 | 0 | 0   | 0    | 0   | 0 | 0   | 0   | 0    |
| Peds          | 0 | 0  | 0   | 0   | 5 | 0 | 0   | 0    | 0   | 0 | 0   | 0   | 0    |

|               |   |   |    |   |   |   |    |      |   |   |   |   |      |
|---------------|---|---|----|---|---|---|----|------|---|---|---|---|------|
| Hourly Totals |   |   |    |   |   |   |    |      |   |   |   |   |      |
| 16:00-17:00   | 0 | 3 | 44 | 1 | 0 | 0 | 59 | 1304 | 3 | 0 | 1 | 4 | 1419 |
| 16:15-17:15   | 0 | 2 | 52 | 1 | 0 | 0 | 61 | 1312 | 3 | 0 | 1 | 6 | 1438 |
| 16:30-17:30   | 0 | 3 | 52 | 1 | 0 | 0 | 49 | 1310 | 2 | 0 | 1 | 5 | 1423 |
| 16:45-17:45   | 0 | 3 | 46 | 0 | 0 | 0 | 56 | 1285 | 2 | 0 | 3 | 7 | 1402 |
| 17:00-18:00   | 0 | 3 | 40 | 0 | 0 | 0 | 56 | 1227 | 1 | 0 | 2 | 8 | 1337 |



**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COMMERCIAL @ BROADWAY (HIGHWAY 101)**



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

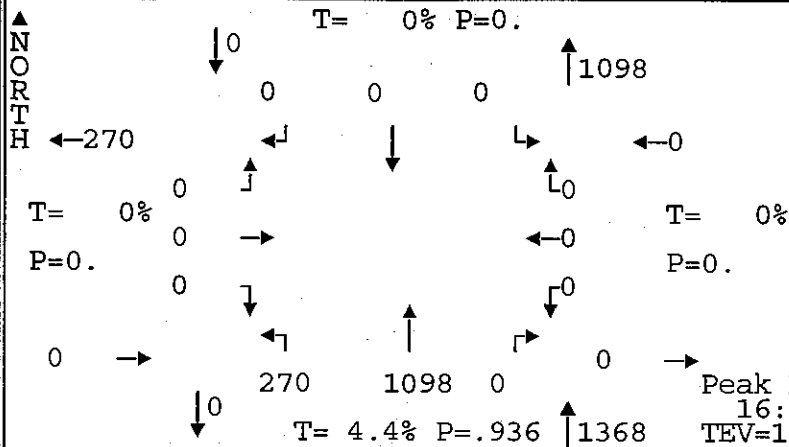
V4AW

Peak Hour  
16:30-17:30  
TEV=1578

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      | NORTH BOUND |   |   | WEST BOUND |     |   | ALL  |
|--------------------------|------------|---|---|-------------|------|-------------|---|---|------------|-----|---|------|
|                          | ↓          | → | ↑ | ←           | ↓    | ←           | ↑ | → | ↓          | ←   | ↑ |      |
| 16:00-16:05              | 0          | 0 | 0 | 13          | 80   | 0           | 0 | 0 | 7          | 22  | 0 | 122  |
| 16:05-16:10              | 0          | 0 | 0 | 10          | 96   | 0           | 0 | 0 | 1          | 19  | 0 | 126  |
| 16:10-16:15              | 0          | 0 | 0 | 16          | 96   | 0           | 0 | 0 | 2          | 27  | 0 | 141  |
| 16:15-16:20              | 0          | 0 | 0 | 7           | 105  | 0           | 0 | 0 | 1          | 21  | 0 | 134  |
| 16:20-16:25              | 0          | 0 | 0 | 8           | 98   | 0           | 0 | 0 | 3          | 13  | 0 | 122  |
| 16:25-16:30              | 0          | 0 | 0 | 10          | 91   | 0           | 0 | 0 | 1          | 27  | 0 | 129  |
| 16:30-16:35              | 0          | 0 | 0 | 13          | 106  | 0           | 0 | 0 | 4          | 19  | 0 | 142  |
| 16:35-16:40              | 0          | 0 | 0 | 11          | 105  | 0           | 0 | 0 | 1          | 24  | 0 | 141  |
| 16:40-16:45              | 0          | 0 | 0 | 9           | 88   | 0           | 0 | 0 | 0          | 18  | 0 | 115  |
| 16:45-16:50              | 0          | 0 | 0 | 11          | 83   | 0           | 0 | 0 | 3          | 22  | 0 | 119  |
| 16:50-16:55              | 0          | 0 | 0 | 12          | 68   | 0           | 0 | 0 | 0          | 31  | 0 | 111  |
| 16:55-17:00              | 0          | 0 | 0 | 11          | 83   | 0           | 0 | 0 | 0          | 21  | 0 | 115  |
| 17:00-17:05              | 0          | 0 | 0 | 8           | 104  | 0           | 0 | 0 | 2          | 25  | 0 | 139  |
| 17:05-17:10              | 0          | 0 | 0 | 6           | 78   | 0           | 0 | 0 | 1          | 26  | 0 | 111  |
| 17:10-17:15              | 0          | 0 | 0 | 11          | 123  | 0           | 0 | 0 | 1          | 28  | 0 | 163  |
| 17:15-17:20              | 0          | 0 | 0 | 9           | 103  | 0           | 0 | 0 | 4          | 29  | 0 | 145  |
| 17:20-17:25              | 0          | 0 | 0 | 8           | 113  | 0           | 0 | 0 | 3          | 20  | 0 | 144  |
| 17:25-17:30              | 0          | 0 | 0 | 5           | 103  | 0           | 0 | 0 | 1          | 24  | 0 | 133  |
| 17:30-17:35              | 0          | 0 | 0 | 4           | 70   | 0           | 0 | 0 | 2          | 18  | 0 | 94   |
| 17:35-17:40              | 0          | 0 | 0 | 13          | 97   | 0           | 0 | 0 | 3          | 16  | 0 | 129  |
| 17:40-17:45              | 0          | 0 | 0 | 14          | 93   | 0           | 0 | 0 | 2          | 26  | 0 | 135  |
| 17:45-17:50              | 0          | 0 | 0 | 6           | 76   | 0           | 0 | 0 | 2          | 16  | 0 | 100  |
| 17:50-17:55              | 0          | 0 | 0 | 8           | 65   | 0           | 0 | 0 | 2          | 22  | 0 | 97   |
| 17:55-18:00              | 0          | 0 | 0 | 5           | 97   | 0           | 0 | 0 | 0          | 24  | 0 | 126  |
| <b>Total Survey</b>      |            |   |   |             |      |             |   |   |            |     |   |      |
| PHF                      | 0          | 0 | 0 | 228         | 2221 | 0           | 0 | 0 | 46         | 538 | 0 | 3033 |
| % Trucks                 | 0          | 0 | 0 | .84         | .85  | 0           | 0 | 0 | .63        | .86 | 0 | .872 |
| Stopped Buses            | 0          | 0 | 0 | .9          | 4.5  | 0           | 0 | 0 | 0          | 2   | 0 | 3.7  |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0           | 0 | 0 | 0          | 0   | 0 |      |
| <b>Hourly Totals</b>     |            |   |   |             |      |             |   |   |            |     |   |      |
| 16:00-17:00              | 0          | 0 | 0 | 131         | 1099 | 0           | 0 | 0 | 23         | 264 | 0 | 1517 |
| 16:15-17:15              | 0          | 0 | 0 | 117         | 1132 | 0           | 0 | 0 | 17         | 275 | 0 | 1541 |
| 16:30-17:30              | 0          | 0 | 0 | 114         | 1157 | 0           | 0 | 0 | 20         | 287 | 0 | 1578 |
| 16:45-17:45              | 0          | 0 | 0 | 112         | 1118 | 0           | 0 | 0 | 22         | 286 | 0 | 1538 |
| 17:00-18:00              | 0          | 0 | 0 | 97          | 1122 | 0           | 0 | 0 | 23         | 274 | 0 | 1516 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COMMERCIAL @ BAYSHORE (HIGHWAY 101)**



DATE OF COUNT: 08/13/02  
 DAY OF WEEK: TUE  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V4AW

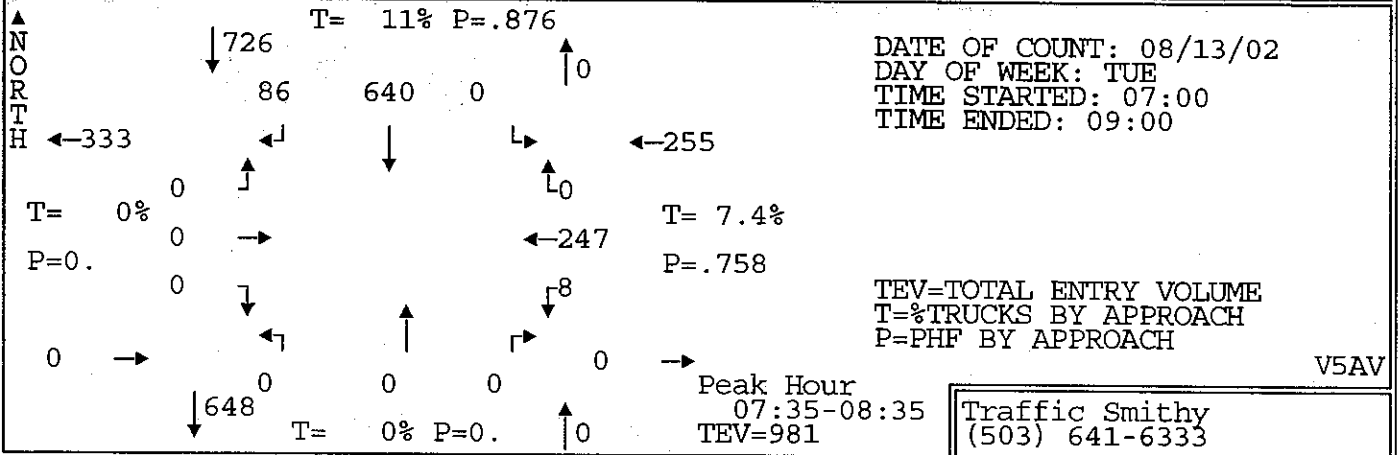
Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑   | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 0 | 0 | 25          | 88  | 0 | 0          | 0 | 0 | 113 |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 0 | 0 | 21          | 83  | 0 | 0          | 0 | 0 | 104 |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 0 | 0 | 24          | 93  | 0 | 0          | 0 | 0 | 117 |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 0 | 0 | 19          | 80  | 0 | 0          | 0 | 0 | 99  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 0 | 0 | 17          | 79  | 0 | 0          | 0 | 0 | 96  |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 0 | 0 | 22          | 94  | 0 | 0          | 0 | 0 | 116 |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 0 | 0 | 18          | 86  | 0 | 0          | 0 | 0 | 104 |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 0 | 0 | 20          | 106 | 0 | 0          | 0 | 0 | 126 |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 0 | 0 | 17          | 110 | 0 | 0          | 0 | 0 | 127 |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 0 | 0 | 22          | 82  | 0 | 0          | 0 | 0 | 104 |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 0 | 0 | 30          | 81  | 0 | 0          | 0 | 0 | 111 |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 0 | 0 | 14          | 84  | 0 | 0          | 0 | 0 | 98  |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 0 | 0 | 30          | 83  | 0 | 0          | 0 | 0 | 113 |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 0 | 0 | 20          | 82  | 0 | 0          | 0 | 0 | 102 |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 0 | 0 | 28          | 100 | 0 | 0          | 0 | 0 | 128 |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 0 | 0 | 25          | 110 | 0 | 0          | 0 | 0 | 135 |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 0 | 0 | 20          | 82  | 0 | 0          | 0 | 0 | 102 |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 0 | 0 | 25          | 89  | 0 | 0          | 0 | 0 | 114 |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 0 | 0 | 19          | 89  | 0 | 0          | 0 | 0 | 108 |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 0 | 0 | 20          | 69  | 0 | 0          | 0 | 0 | 89  |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 0 | 0 | 26          | 87  | 0 | 0          | 0 | 0 | 113 |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 0 | 0 | 17          | 75  | 0 | 0          | 0 | 0 | 92  |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 0 | 0 | 31          | 70  | 0 | 0          | 0 | 0 | 101 |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 0 | 0 | 25          | 61  | 0 | 0          | 0 | 0 | 86  |

|               |   |   |   |   |   |   |     |      |   |   |   |   |      |
|---------------|---|---|---|---|---|---|-----|------|---|---|---|---|------|
| Total Survey  | 0 | 0 | 0 | 0 | 0 | 0 | 535 | 2063 | 0 | 0 | 0 | 0 | 2598 |
| PHF           | 0 | 0 | 0 | 0 | 0 | 0 | .87 | .92  | 0 | 0 | 0 | 0 | .936 |
| % Trucks      | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 5    | 0 | 0 | 0 | 0 | 4.4  |
| Stopped Buses | 0 | 0 | 0 | 0 | 0 | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |
| Peds          | 0 | 0 | 0 | 0 | 3 | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |

|               |   |   |   |   |   |   |     |      |   |   |   |   |      |
|---------------|---|---|---|---|---|---|-----|------|---|---|---|---|------|
| Hourly Totals |   |   |   |   |   |   |     |      |   |   |   |   |      |
| 16:00-17:00   | 0 | 0 | 0 | 0 | 0 | 0 | 249 | 1066 | 0 | 0 | 0 | 0 | 1315 |
| 16:15-17:15   | 0 | 0 | 0 | 0 | 0 | 0 | 257 | 1067 | 0 | 0 | 0 | 0 | 1324 |
| 16:30-17:30   | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1095 | 0 | 0 | 0 | 0 | 1364 |
| 16:45-17:45   | 0 | 0 | 0 | 0 | 0 | 0 | 279 | 1038 | 0 | 0 | 0 | 0 | 1317 |
| 17:00-18:00   | 0 | 0 | 0 | 0 | 0 | 0 | 286 | 997  | 0 | 0 | 0 | 0 | 1283 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COMMERCIAL @ HIGHWAY 101 (BROADWAY)**

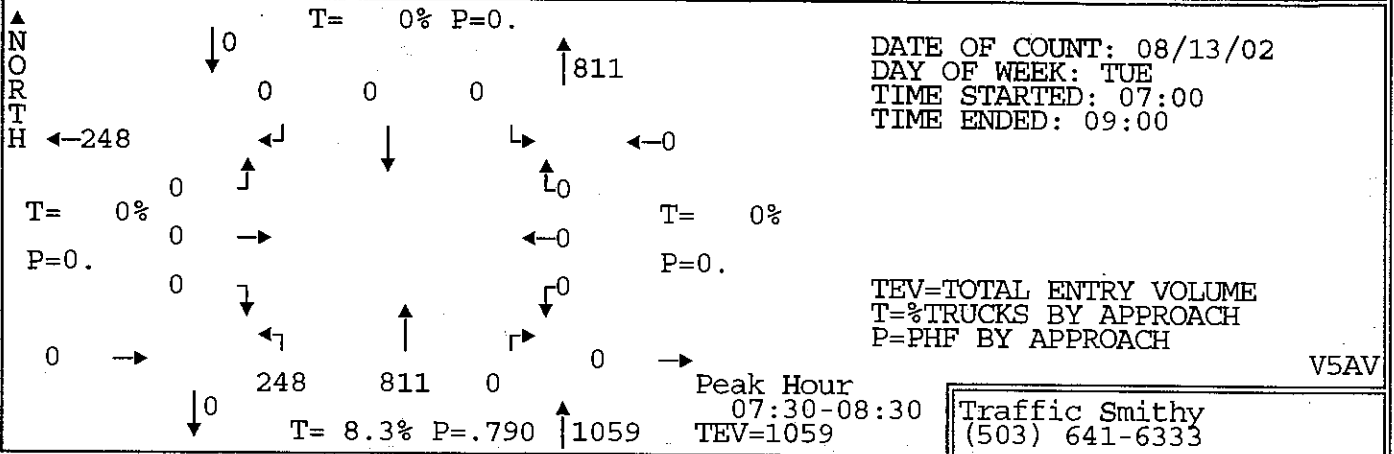


| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | → | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 41 | 0 | 0           | 0 | 0 | 0          | 12 | 0 | 53  |
| 07:05-07:10              | 0          | 0 | 0 | 3           | 32 | 0 | 0           | 0 | 0 | 1          | 17 | 0 | 53  |
| 07:10-07:15              | 0          | 0 | 0 | 1           | 34 | 0 | 0           | 0 | 0 | 0          | 10 | 0 | 45  |
| 07:15-07:20              | 0          | 0 | 0 | 1           | 27 | 0 | 0           | 0 | 0 | 0          | 11 | 0 | 39  |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 29 | 0 | 0           | 0 | 0 | 0          | 7  | 0 | 36  |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 30 | 0 | 0           | 0 | 0 | 1          | 11 | 0 | 42  |
| 07:30-07:35              | 0          | 0 | 0 | 7           | 45 | 0 | 0           | 0 | 0 | 2          | 15 | 0 | 69  |
| 07:35-07:40              | 0          | 0 | 0 | 3           | 46 | 0 | 0           | 0 | 0 | 0          | 22 | 0 | 71  |
| 07:40-07:45              | 0          | 0 | 0 | 3           | 58 | 0 | 0           | 0 | 0 | 0          | 23 | 0 | 84  |
| 07:45-07:50              | 0          | 0 | 0 | 5           | 47 | 0 | 0           | 0 | 0 | 0          | 25 | 0 | 77  |
| 07:50-07:55              | 0          | 0 | 0 | 9           | 58 | 0 | 0           | 0 | 0 | 2          | 30 | 0 | 99  |
| 07:55-08:00              | 0          | 0 | 0 | 14          | 53 | 0 | 0           | 0 | 0 | 1          | 25 | 0 | 93  |
| 08:00-08:05              | 0          | 0 | 0 | 7           | 60 | 0 | 0           | 0 | 0 | 0          | 26 | 0 | 93  |
| 08:05-08:10              | 0          | 0 | 0 | 11          | 62 | 0 | 0           | 0 | 0 | 1          | 19 | 0 | 93  |
| 08:10-08:15              | 0          | 0 | 0 | 8           | 41 | 0 | 0           | 0 | 0 | 0          | 12 | 0 | 61  |
| 08:15-08:20              | 0          | 0 | 0 | 7           | 62 | 0 | 0           | 0 | 0 | 0          | 18 | 0 | 87  |
| 08:20-08:25              | 0          | 0 | 0 | 7           | 54 | 0 | 0           | 0 | 0 | 1          | 19 | 0 | 81  |
| 08:25-08:30              | 0          | 0 | 0 | 5           | 45 | 0 | 0           | 0 | 0 | 2          | 19 | 0 | 71  |
| 08:30-08:35              | 0          | 0 | 0 | 7           | 54 | 0 | 0           | 0 | 0 | 1          | 9  | 0 | 71  |
| 08:35-08:40              | 0          | 0 | 0 | 4           | 44 | 0 | 0           | 0 | 0 | 0          | 14 | 0 | 62  |
| 08:40-08:45              | 0          | 0 | 0 | 5           | 33 | 0 | 0           | 0 | 0 | 1          | 10 | 0 | 49  |
| 08:45-08:50              | 0          | 0 | 0 | 9           | 62 | 0 | 0           | 0 | 0 | 0          | 15 | 0 | 86  |
| 08:50-08:55              | 0          | 0 | 0 | 1           | 66 | 0 | 0           | 0 | 0 | 2          | 12 | 0 | 81  |
| 08:55-09:00              | 1          | 0 | 0 | 5           | 63 | 0 | 0           | 0 | 0 | 1          | 7  | 0 | 77  |

|               |   |   |   |     |      |   |   |   |   |      |     |   |      |
|---------------|---|---|---|-----|------|---|---|---|---|------|-----|---|------|
| Total Survey  | 1 | 0 | 0 | 122 | 1146 | 0 | 0 | 0 | 0 | 16   | 388 | 0 | 1673 |
| PHF           | 0 | 0 | 0 | .67 | .91  | 0 | 0 | 0 | 0 | .5   | .76 | 0 | .860 |
| % Trucks      | 0 | 0 | 0 | 5.7 | 11.6 | 0 | 0 | 0 | 0 | 12.5 | 7.2 | 0 | 10.2 |
| Stopped Buses | 0 | 0 | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    | 0   | 0 | 0    |
| Peds          | 0 | 2 | 0 | 0   | 12   | 0 | 0 | 0 | 0 | 0    | 3   | 0 | 0    |

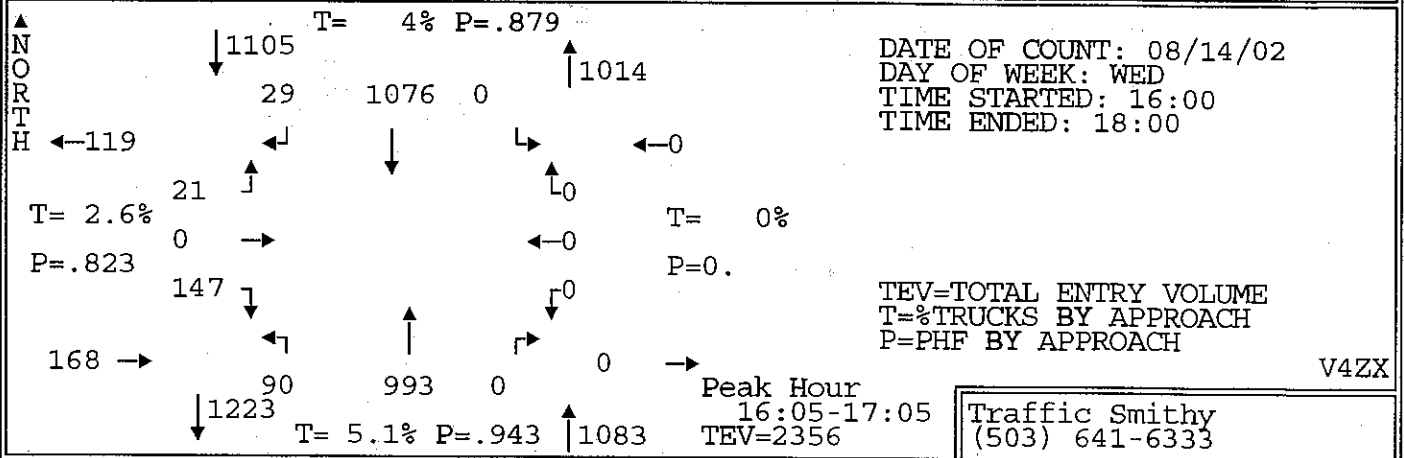
|               |   |   |   |    |     |   |   |   |   |   |     |   |     |
|---------------|---|---|---|----|-----|---|---|---|---|---|-----|---|-----|
| Hourly Totals |   |   |   |    |     |   |   |   |   |   |     |   |     |
| 07:00-08:00   | 0 | 0 | 0 | 46 | 500 | 0 | 0 | 0 | 0 | 7 | 208 | 0 | 761 |
| 07:15-08:15   | 0 | 0 | 0 | 68 | 556 | 0 | 0 | 0 | 0 | 7 | 226 | 0 | 857 |
| 07:30-08:30   | 0 | 0 | 0 | 86 | 631 | 0 | 0 | 0 | 0 | 9 | 253 | 0 | 979 |
| 07:45-08:45   | 0 | 0 | 0 | 89 | 613 | 0 | 0 | 0 | 0 | 9 | 226 | 0 | 937 |
| 08:00-09:00   | 1 | 0 | 0 | 76 | 646 | 0 | 0 | 0 | 0 | 9 | 180 | 0 | 912 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COMMERCIAL @ HIGHWAY 101 (BAYSHORE)**



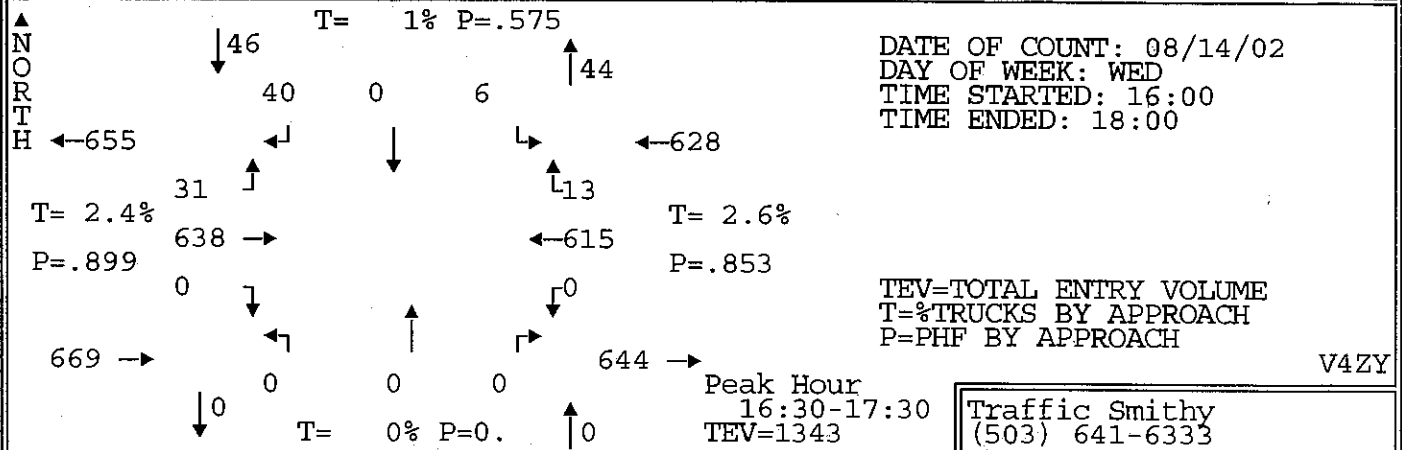
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |      |   | WEST BOUND |   |   | ALL  |
|--------------------------|------------|---|---|-------------|---|---|-------------|------|---|------------|---|---|------|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑    | → | ↓          | ← | ↑ |      |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 0 | 0 | 13          | 47   | 0 | 0          | 0 | 0 | 60   |
| 07:05-07:10              | 0          | 0 | 0 | 0           | 0 | 0 | 17          | 41   | 0 | 0          | 0 | 0 | 58   |
| 07:10-07:15              | 0          | 0 | 0 | 0           | 0 | 0 | 12          | 46   | 0 | 0          | 0 | 0 | 58   |
| 07:15-07:20              | 0          | 0 | 0 | 0           | 0 | 0 | 13          | 42   | 0 | 0          | 0 | 0 | 55   |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 0 | 0 | 14          | 60   | 0 | 0          | 0 | 0 | 74   |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 0 | 0 | 19          | 41   | 0 | 0          | 0 | 0 | 60   |
| 07:30-07:35              | 0          | 0 | 0 | 0           | 0 | 0 | 13          | 53   | 0 | 0          | 0 | 0 | 66   |
| 07:35-07:40              | 0          | 0 | 0 | 0           | 0 | 0 | 22          | 61   | 0 | 0          | 0 | 0 | 83   |
| 07:40-07:45              | 0          | 0 | 0 | 0           | 0 | 0 | 24          | 66   | 0 | 0          | 0 | 0 | 90   |
| 07:45-07:50              | 0          | 0 | 0 | 0           | 0 | 0 | 25          | 79   | 0 | 0          | 0 | 0 | 104  |
| 07:50-07:55              | 0          | 0 | 0 | 0           | 0 | 0 | 27          | 88   | 0 | 0          | 0 | 0 | 115  |
| 07:55-08:00              | 0          | 0 | 0 | 0           | 0 | 0 | 24          | 92   | 0 | 0          | 0 | 0 | 116  |
| 08:00-08:05              | 0          | 0 | 0 | 0           | 0 | 0 | 24          | 77   | 0 | 0          | 0 | 0 | 101  |
| 08:05-08:10              | 0          | 0 | 0 | 0           | 0 | 0 | 21          | 64   | 0 | 0          | 0 | 0 | 85   |
| 08:10-08:15              | 0          | 0 | 0 | 0           | 0 | 0 | 12          | 63   | 0 | 0          | 0 | 0 | 75   |
| 08:15-08:20              | 0          | 0 | 0 | 0           | 0 | 0 | 19          | 48   | 0 | 0          | 0 | 0 | 67   |
| 08:20-08:25              | 0          | 0 | 0 | 0           | 0 | 0 | 19          | 52   | 0 | 0          | 0 | 0 | 71   |
| 08:25-08:30              | 0          | 0 | 0 | 0           | 0 | 0 | 18          | 68   | 0 | 0          | 0 | 0 | 86   |
| 08:30-08:35              | 0          | 0 | 0 | 0           | 0 | 0 | 12          | 52   | 0 | 0          | 0 | 0 | 64   |
| 08:35-08:40              | 0          | 0 | 0 | 0           | 0 | 0 | 13          | 62   | 0 | 0          | 0 | 0 | 75   |
| 08:40-08:45              | 0          | 0 | 0 | 0           | 0 | 0 | 10          | 62   | 0 | 0          | 0 | 0 | 72   |
| 08:45-08:50              | 0          | 0 | 0 | 0           | 0 | 0 | 16          | 52   | 0 | 0          | 0 | 0 | 68   |
| 08:50-08:55              | 0          | 0 | 0 | 0           | 0 | 0 | 11          | 62   | 0 | 0          | 0 | 0 | 73   |
| 08:55-09:00              | 0          | 0 | 0 | 0           | 0 | 0 | 8           | 51   | 0 | 0          | 0 | 0 | 59   |
| <b>Total Survey</b>      |            |   |   |             |   |   |             |      |   |            |   |   |      |
| PHF                      | 0          | 0 | 0 | 0           | 0 | 0 | 406         | 1429 | 0 | 0          | 0 | 0 | 1835 |
| % Trucks                 | 0          | 0 | 0 | 0           | 0 | 0 | .82         | .78  | 0 | 0          | 0 | 0 | .790 |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0 | 0 | 7.9         | 8.4  | 0 | 0          | 0 | 0 | 8.3  |
| Peds                     | 0          | 0 | 0 | 0           | 0 | 0 | 0           | 0    | 0 | 0          | 0 | 0 |      |
| <b>Hourly Totals</b>     |            |   |   |             |   |   |             |      |   |            |   |   |      |
| 07:00-08:00              | 0          | 0 | 0 | 0           | 0 | 0 | 223         | 716  | 0 | 0          | 0 | 0 | 939  |
| 07:15-08:15              | 0          | 0 | 0 | 0           | 0 | 0 | 238         | 786  | 0 | 0          | 0 | 0 | 1024 |
| 07:30-08:30              | 0          | 0 | 0 | 0           | 0 | 0 | 248         | 811  | 0 | 0          | 0 | 0 | 1059 |
| 07:45-08:45              | 0          | 0 | 0 | 0           | 0 | 0 | 224         | 807  | 0 | 0          | 0 | 0 | 1031 |
| 08:00-09:00              | 0          | 0 | 0 | 0           | 0 | 0 | 183         | 713  | 0 | 0          | 0 | 0 | 896  |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**KOOS BAY BLVD @ HIGHWAY 101**



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |      | SOUTH BOUND |      |   | NORTH BOUND |      |   | WEST BOUND |   |   | ALL  |
|--------------------------|------------|---|------|-------------|------|---|-------------|------|---|------------|---|---|------|
|                          | ↓          | → | ↑    | ←           | ↓    | ↘ | ←           | ↑    | ↗ | ↓          | ← | ↑ |      |
| 16:00-16:05              | 13         | 0 | 1    | 0           | 72   | 0 | 6           | 68   | 0 | 0          | 0 | 0 | 160  |
| 16:05-16:10              | 10         | 0 | 3    | 2           | 93   | 0 | 9           | 86   | 0 | 0          | 0 | 0 | 203  |
| 16:10-16:15              | 7          | 0 | 0    | 4           | 107  | 0 | 7           | 73   | 0 | 0          | 0 | 0 | 198  |
| 16:15-16:20              | 17         | 0 | 1    | 1           | 107  | 0 | 7           | 75   | 0 | 0          | 0 | 0 | 208  |
| 16:20-16:25              | 7          | 0 | 2    | 1           | 84   | 0 | 9           | 90   | 0 | 0          | 0 | 0 | 193  |
| 16:25-16:30              | 10         | 0 | 2    | 2           | 104  | 0 | 6           | 92   | 0 | 0          | 0 | 0 | 216  |
| 16:30-16:35              | 21         | 0 | 3    | 5           | 64   | 0 | 10          | 65   | 0 | 0          | 0 | 0 | 168  |
| 16:35-16:40              | 8          | 0 | 2    | 6           | 92   | 0 | 5           | 85   | 0 | 0          | 0 | 0 | 198  |
| 16:40-16:45              | 15         | 0 | 2    | 2           | 76   | 0 | 8           | 96   | 0 | 0          | 0 | 0 | 199  |
| 16:45-16:50              | 16         | 0 | 2    | 0           | 98   | 0 | 6           | 77   | 0 | 0          | 0 | 0 | 199  |
| 16:50-16:55              | 10         | 0 | 1    | 1           | 85   | 0 | 10          | 90   | 0 | 0          | 0 | 0 | 197  |
| 16:55-17:00              | 14         | 0 | 1    | 5           | 74   | 0 | 8           | 86   | 0 | 0          | 0 | 0 | 188  |
| 17:00-17:05              | 12         | 0 | 2    | 0           | 92   | 0 | 5           | 78   | 0 | 0          | 0 | 0 | 189  |
| 17:05-17:10              | 14         | 0 | 1    | 3           | 79   | 0 | 9           | 90   | 0 | 0          | 0 | 0 | 196  |
| 17:10-17:15              | 7          | 0 | 1    | 0           | 103  | 0 | 5           | 88   | 0 | 0          | 0 | 0 | 204  |
| 17:15-17:20              | 8          | 0 | 1    | 0           | 87   | 0 | 4           | 85   | 0 | 0          | 0 | 0 | 185  |
| 17:20-17:25              | 10         | 0 | 3    | 2           | 96   | 0 | 13          | 71   | 0 | 0          | 0 | 0 | 195  |
| 17:25-17:30              | 5          | 0 | 3    | 4           | 81   | 0 | 7           | 81   | 0 | 0          | 0 | 0 | 181  |
| 17:30-17:35              | 11         | 0 | 0    | 2           | 69   | 0 | 3           | 93   | 0 | 0          | 0 | 0 | 178  |
| 17:35-17:40              | 20         | 0 | 2    | 2           | 95   | 0 | 6           | 86   | 0 | 0          | 0 | 0 | 211  |
| 17:40-17:45              | 12         | 0 | 5    | 2           | 71   | 0 | 2           | 91   | 0 | 0          | 0 | 0 | 183  |
| 17:45-17:50              | 6          | 0 | 0    | 0           | 87   | 0 | 7           | 79   | 0 | 0          | 0 | 0 | 179  |
| 17:50-17:55              | 11         | 0 | 1    | 0           | 82   | 0 | 6           | 70   | 0 | 0          | 0 | 0 | 170  |
| 17:55-18:00              | 5          | 0 | 0    | 3           | 68   | 0 | 5           | 52   | 0 | 0          | 0 | 0 | 133  |
| <hr/>                    |            |   |      |             |      |   |             |      |   |            |   |   |      |
| Total Survey             | 269        | 0 | 39   | 47          | 2066 | 0 | 163         | 1947 | 0 | 0          | 0 | 0 | 4531 |
| PHF                      | .84        | 0 | .75  | .56         | .88  | 0 | .9          | .94  | 0 | 0          | 0 | 0 | .954 |
| % Trucks                 | 1.1        | 0 | 12.8 | 4.3         | 4    | 0 | 3.1         | 5.3  | 0 | 0          | 0 | 0 | 4.4  |
| Stopped Buses            | 0          | 0 | 0    | 0           | 0    | 0 | 0           | 0    | 0 | 0          | 0 | 0 |      |
| Peds                     | 0          | 0 | 0    | 0           | 2    | 0 | 0           | 1    | 0 | 0          | 0 | 0 |      |
| <hr/>                    |            |   |      |             |      |   |             |      |   |            |   |   |      |
| Hourly Totals            |            |   |      |             |      |   |             |      |   |            |   |   |      |
| 16:00-17:00              | 148        | 0 | 20   | 29          | 1056 | 0 | 91          | 983  | 0 | 0          | 0 | 0 | 2327 |
| 16:15-17:15              | 151        | 0 | 20   | 26          | 1058 | 0 | 88          | 1012 | 0 | 0          | 0 | 0 | 2355 |
| 16:30-17:30              | 140        | 0 | 22   | 28          | 1027 | 0 | 90          | 992  | 0 | 0          | 0 | 0 | 2299 |
| 16:45-17:45              | 139        | 0 | 22   | 21          | 1030 | 0 | 78          | 1016 | 0 | 0          | 0 | 0 | 2306 |
| 17:00-18:00              | 121        | 0 | 19   | 18          | 1010 | 0 | 72          | 964  | 0 | 0          | 0 | 0 | 2204 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT BUTLER @ OCEAN BLVD.



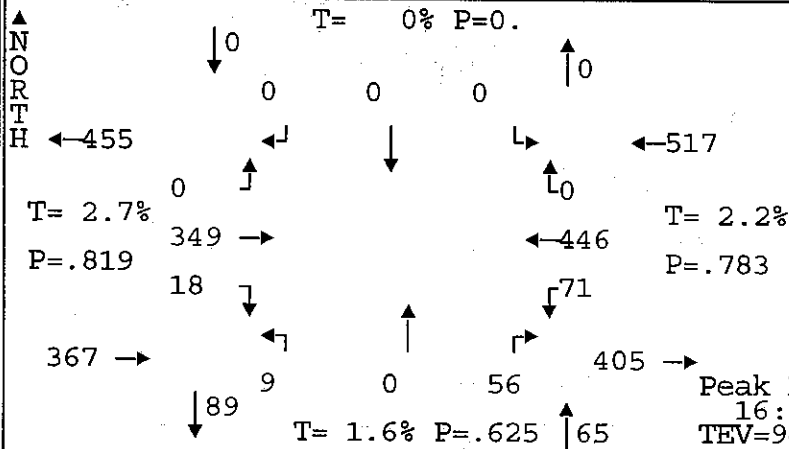
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↪ | ←           | ↑ | ↪ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 52 | 2 | 3           | 0 | 1 | 0           | 0 | 0 | 0          | 49 | 1 | 108 |
| 16:05-16:10              | 0          | 45 | 3 | 5           | 0 | 0 | 0           | 0 | 0 | 0          | 52 | 0 | 105 |
| 16:10-16:15              | 0          | 59 | 1 | 5           | 0 | 1 | 0           | 0 | 0 | 0          | 44 | 1 | 111 |
| 16:15-16:20              | 0          | 62 | 5 | 3           | 0 | 1 | 0           | 0 | 0 | 0          | 44 | 1 | 116 |
| 16:20-16:25              | 0          | 42 | 5 | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 35 | 1 | 89  |
| 16:25-16:30              | 0          | 45 | 3 | 3           | 0 | 5 | 0           | 0 | 0 | 0          | 43 | 2 | 101 |
| 16:30-16:35              | 0          | 55 | 2 | 2           | 0 | 1 | 0           | 0 | 0 | 0          | 45 | 1 | 106 |
| 16:35-16:40              | 0          | 63 | 1 | 3           | 0 | 0 | 0           | 0 | 0 | 0          | 43 | 0 | 110 |
| 16:40-16:45              | 0          | 50 | 3 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 47 | 0 | 102 |
| 16:45-16:50              | 0          | 64 | 5 | 3           | 0 | 0 | 0           | 0 | 0 | 0          | 42 | 0 | 114 |
| 16:50-16:55              | 0          | 40 | 0 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 43 | 2 | 87  |
| 16:55-17:00              | 0          | 44 | 2 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 54 | 2 | 104 |
| 17:00-17:05              | 0          | 41 | 3 | 2           | 0 | 3 | 0           | 0 | 0 | 0          | 60 | 1 | 110 |
| 17:05-17:10              | 0          | 64 | 4 | 3           | 0 | 0 | 0           | 0 | 0 | 0          | 57 | 3 | 131 |
| 17:10-17:15              | 0          | 60 | 4 | 3           | 0 | 1 | 0           | 0 | 0 | 0          | 62 | 1 | 131 |
| 17:15-17:20              | 0          | 50 | 4 | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 51 | 1 | 112 |
| 17:20-17:25              | 0          | 58 | 2 | 10          | 0 | 0 | 0           | 0 | 0 | 0          | 54 | 1 | 125 |
| 17:25-17:30              | 0          | 49 | 1 | 3           | 0 | 0 | 0           | 0 | 0 | 0          | 57 | 1 | 111 |
| 17:30-17:35              | 0          | 52 | 2 | 2           | 0 | 4 | 0           | 0 | 0 | 0          | 34 | 3 | 97  |
| 17:35-17:40              | 0          | 58 | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 37 | 0 | 96  |
| 17:40-17:45              | 0          | 55 | 2 | 3           | 0 | 0 | 0           | 0 | 0 | 0          | 47 | 2 | 109 |
| 17:45-17:50              | 0          | 47 | 2 | 6           | 0 | 2 | 0           | 0 | 0 | 0          | 38 | 3 | 98  |
| 17:50-17:55              | 0          | 55 | 5 | 3           | 0 | 2 | 0           | 0 | 0 | 0          | 50 | 0 | 115 |
| 17:55-18:00              | 0          | 42 | 1 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 39 | 0 | 83  |

|               |   |      |     |     |   |     |   |   |   |   |      |     |      |
|---------------|---|------|-----|-----|---|-----|---|---|---|---|------|-----|------|
| Total Survey  | 0 | 1252 | 62  | 80  | 0 | 23  | 0 | 0 | 0 | 0 | 1127 | 27  | 2571 |
| PHF           | 0 | .9   | .65 | .53 | 0 | .38 | 0 | 0 | 0 | 0 | .86  | .54 | .897 |
| % Trucks      | 0 | 2.4  | 1.6 | 1.3 | 0 | 0   | 0 | 0 | 0 | 0 | 2.7  | 0   | 2.4  |
| Stopped Buses | 0 | 0    | 0   | 0   | 0 | 0   | 0 | 0 | 0 | 0 | 0    | 0   | 0    |
| Peds          | 0 | 0    | 0   | 0   | 0 | 0   | 0 | 2 | 0 | 0 | 1    | 0   | 0    |

|               |   |     |    |    |   |    |   |   |   |   |     |    |      |
|---------------|---|-----|----|----|---|----|---|---|---|---|-----|----|------|
| Hourly Totals |   |     |    |    |   |    |   |   |   |   |     |    |      |
| 16:00-17:00   | 0 | 621 | 32 | 38 | 0 | 10 | 0 | 0 | 0 | 0 | 541 | 11 | 1253 |
| 16:15-17:15   | 0 | 630 | 37 | 33 | 0 | 12 | 0 | 0 | 0 | 0 | 575 | 14 | 1301 |
| 16:30-17:30   | 0 | 638 | 31 | 40 | 0 | 6  | 0 | 0 | 0 | 0 | 615 | 13 | 1343 |
| 16:45-17:45   | 0 | 635 | 29 | 40 | 0 | 8  | 0 | 0 | 0 | 0 | 598 | 17 | 1327 |
| 17:00-18:00   | 0 | 631 | 30 | 42 | 0 | 13 | 0 | 0 | 0 | 0 | 586 | 16 | 1318 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## OCEAN BLVD @ RADAR



DATE OF COUNT: 08/14/02  
DAY OF WEEK: WED  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

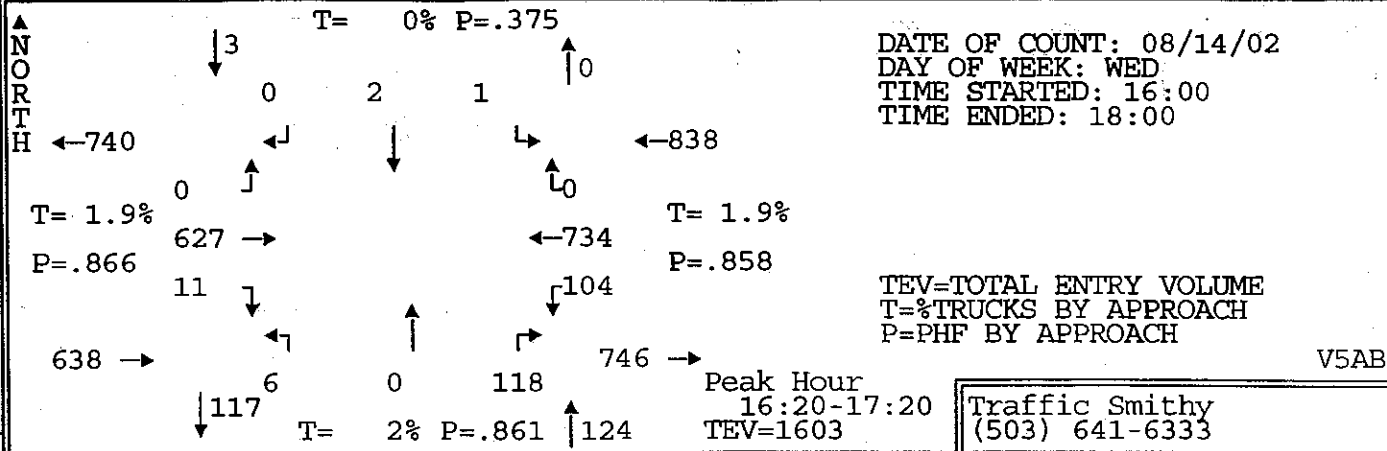
V5AA

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |     |   | SOUTH BOUND |   |   | NORTH BOUND |   |     | WEST BOUND |     |   | ALL  |
|--------------------------|------------|-----|---|-------------|---|---|-------------|---|-----|------------|-----|---|------|
|                          | ↓          | →   | ↑ | ←           | ↓ | ↘ | ←           | ↑ | ↗   | ↓          | ←   | ↑ |      |
| 16:00-16:05              | 0          | 35  | 0 | 0           | 0 | 0 | 0           | 0 | 5   | 9          | 34  | 0 | 83   |
| 16:05-16:10              | 2          | 23  | 0 | 0           | 0 | 0 | 1           | 0 | 5   | 3          | 34  | 0 | 68   |
| 16:10-16:15              | 2          | 21  | 0 | 0           | 0 | 0 | 1           | 0 | 6   | 6          | 36  | 0 | 72   |
| 16:15-16:20              | 0          | 24  | 0 | 0           | 0 | 0 | 1           | 0 | 6   | 3          | 33  | 0 | 67   |
| 16:20-16:25              | 0          | 41  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 4          | 41  | 0 | 88   |
| 16:25-16:30              | 0          | 28  | 0 | 0           | 0 | 0 | 0           | 0 | 6   | 4          | 39  | 0 | 77   |
| 16:30-16:35              | 0          | 37  | 0 | 0           | 0 | 0 | 1           | 0 | 6   | 4          | 29  | 0 | 77   |
| 16:35-16:40              | 1          | 26  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 5          | 28  | 0 | 62   |
| 16:40-16:45              | 1          | 20  | 0 | 0           | 0 | 0 | 2           | 0 | 4   | 5          | 43  | 0 | 75   |
| 16:45-16:50              | 2          | 19  | 0 | 0           | 0 | 0 | 2           | 0 | 4   | 8          | 29  | 0 | 64   |
| 16:50-16:55              | 0          | 31  | 0 | 0           | 0 | 0 | 1           | 0 | 7   | 7          | 29  | 0 | 75   |
| 16:55-17:00              | 5          | 40  | 0 | 0           | 0 | 0 | 1           | 0 | 9   | 5          | 36  | 0 | 96   |
| 17:00-17:05              | 4          | 32  | 0 | 0           | 0 | 0 | 1           | 0 | 7   | 5          | 43  | 0 | 92   |
| 17:05-17:10              | 3          | 26  | 0 | 0           | 0 | 0 | 0           | 0 | 1   | 9          | 61  | 0 | 100  |
| 17:10-17:15              | 1          | 22  | 0 | 0           | 0 | 0 | 0           | 0 | 5   | 8          | 39  | 0 | 75   |
| 17:15-17:20              | 1          | 27  | 0 | 0           | 0 | 0 | 1           | 0 | 3   | 7          | 29  | 0 | 68   |
| 17:20-17:25              | 2          | 23  | 0 | 0           | 0 | 0 | 1           | 0 | 3   | 5          | 42  | 0 | 76   |
| 17:25-17:30              | 3          | 29  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 5          | 25  | 0 | 65   |
| 17:30-17:35              | 2          | 35  | 0 | 0           | 0 | 0 | 0           | 0 | 4   | 5          | 30  | 0 | 76   |
| 17:35-17:40              | 2          | 29  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 5          | 28  | 0 | 67   |
| 17:40-17:45              | 0          | 33  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 9          | 30  | 0 | 75   |
| 17:45-17:50              | 1          | 25  | 0 | 0           | 0 | 0 | 2           | 0 | 8   | 5          | 32  | 0 | 73   |
| 17:50-17:55              | 2          | 15  | 0 | 0           | 0 | 0 | 0           | 0 | 5   | 0          | 23  | 0 | 45   |
| 17:55-18:00              | 0          | 19  | 0 | 0           | 0 | 0 | 0           | 0 | 1   | 7          | 23  | 0 | 50   |
| <b>Total Survey</b>      |            |     |   |             |   |   |             |   |     |            |     |   |      |
|                          | 34         | 660 | 0 | 0           | 0 | 0 | 17          | 0 | 106 | 133        | 816 | 0 | 1766 |
| <b>PHF</b>               |            |     |   |             |   |   |             |   |     |            |     |   |      |
|                          | .38        | .82 | 0 | 0           | 0 | 0 | .45         | 0 | .61 | .74        | .78 | 0 | .823 |
| <b>% Trucks</b>          |            |     |   |             |   |   |             |   |     |            |     |   |      |
|                          | 2.9        | 2.7 | 0 | 0           | 0 | 0 | 0           | 0 | 1.9 | .8         | 2.5 | 0 | 2.4  |
| <b>Stopped Buses</b>     |            |     |   |             |   |   |             |   |     |            |     |   |      |
|                          | 0          | 0   | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 0   | 0 | 0    |
| <b>Peds</b>              |            |     |   |             |   |   |             |   |     |            |     |   |      |
|                          | 0          | 0   | 0 | 0           | 2 | 0 | 0           | 0 | 0   | 0          | 0   | 0 | 0    |
| <b>Hourly Totals</b>     |            |     |   |             |   |   |             |   |     |            |     |   |      |
| 16:00-17:00              | 13         | 345 | 0 | 0           | 0 | 0 | 10          | 0 | 62  | 63         | 411 | 0 | 904  |
| 16:15-17:15              | 17         | 346 | 0 | 0           | 0 | 0 | 9           | 0 | 59  | 67         | 450 | 0 | 948  |
| 16:30-17:30              | 23         | 332 | 0 | 0           | 0 | 0 | 11          | 0 | 53  | 73         | 433 | 0 | 925  |
| 16:45-17:45              | 25         | 346 | 0 | 0           | 0 | 0 | 9           | 0 | 50  | 78         | 421 | 0 | 929  |
| 17:00-18:00              | 21         | 315 | 0 | 0           | 0 | 0 | 7           | 0 | 44  | 70         | 405 | 0 | 862  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## MORRISON @ CAPE ARAGO HIGHWAY



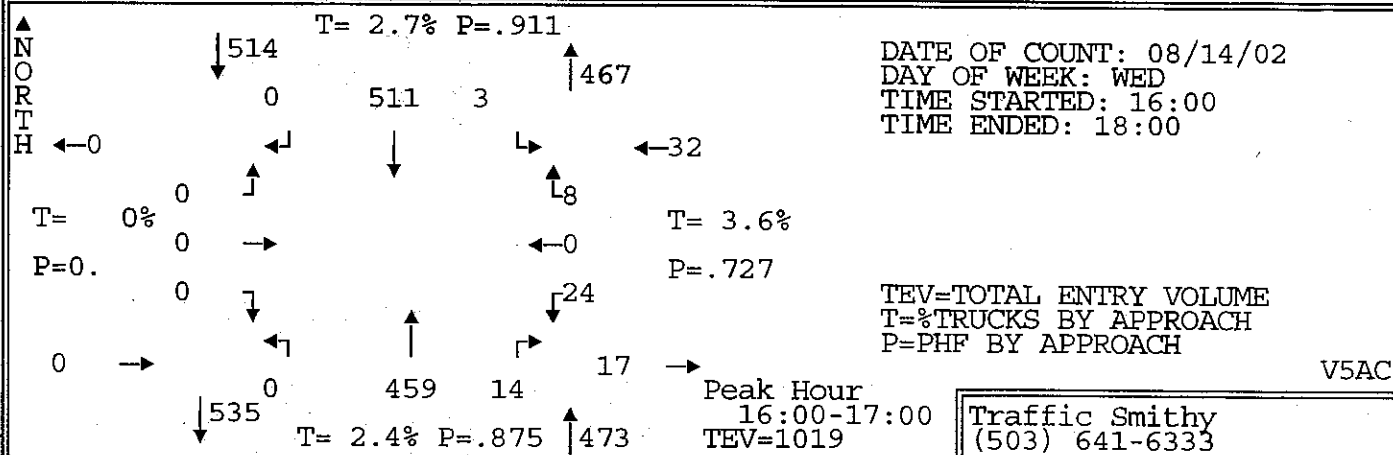
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|----|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↑ | ←           | ↑ | →  | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 2          | 50 | 0 | 0           | 0 | 0 | 1           | 0 | 11 | 6          | 63 | 0 | 133 |
| 16:05-16:10              | 3          | 55 | 0 | 0           | 0 | 0 | 2           | 0 | 12 | 12         | 63 | 0 | 147 |
| 16:10-16:15              | 0          | 63 | 0 | 0           | 0 | 0 | 1           | 0 | 11 | 6          | 60 | 0 | 141 |
| 16:15-16:20              | 1          | 53 | 0 | 0           | 0 | 0 | 1           | 0 | 7  | 10         | 53 | 0 | 125 |
| 16:20-16:25              | 3          | 39 | 0 | 0           | 0 | 0 | 1           | 0 | 13 | 7          | 60 | 0 | 123 |
| 16:25-16:30              | 1          | 52 | 0 | 0           | 1 | 1 | 0           | 0 | 9  | 10         | 60 | 0 | 134 |
| 16:30-16:35              | 0          | 52 | 0 | 0           | 0 | 0 | 0           | 0 | 13 | 7          | 60 | 0 | 132 |
| 16:35-16:40              | 0          | 43 | 0 | 0           | 0 | 0 | 0           | 0 | 12 | 10         | 58 | 0 | 123 |
| 16:40-16:45              | 0          | 62 | 0 | 0           | 0 | 0 | 0           | 0 | 9  | 10         | 53 | 0 | 134 |
| 16:45-16:50              | 1          | 61 | 0 | 0           | 0 | 0 | 0           | 0 | 4  | 5          | 62 | 0 | 133 |
| 16:50-16:55              | 1          | 52 | 0 | 0           | 0 | 0 | 0           | 0 | 12 | 5          | 53 | 0 | 123 |
| 16:55-17:00              | 0          | 42 | 0 | 0           | 0 | 0 | 1           | 0 | 10 | 7          | 66 | 0 | 126 |
| 17:00-17:05              | 0          | 45 | 0 | 0           | 1 | 0 | 0           | 0 | 7  | 5          | 56 | 0 | 114 |
| 17:05-17:10              | 4          | 67 | 0 | 0           | 0 | 0 | 1           | 0 | 7  | 17         | 63 | 0 | 159 |
| 17:10-17:15              | 0          | 62 | 0 | 0           | 0 | 0 | 3           | 0 | 16 | 10         | 72 | 0 | 163 |
| 17:15-17:20              | 1          | 50 | 0 | 0           | 0 | 0 | 0           | 0 | 6  | 11         | 71 | 0 | 139 |
| 17:20-17:25              | 0          | 43 | 0 | 0           | 0 | 0 | 2           | 0 | 7  | 9          | 57 | 0 | 118 |
| 17:25-17:30              | 1          | 47 | 0 | 0           | 0 | 1 | 1           | 0 | 13 | 9          | 61 | 0 | 133 |
| 17:30-17:35              | 0          | 51 | 0 | 0           | 1 | 0 | 0           | 0 | 9  | 14         | 61 | 0 | 136 |
| 17:35-17:40              | 0          | 53 | 0 | 0           | 0 | 0 | 0           | 0 | 9  | 5          | 51 | 0 | 118 |
| 17:40-17:45              | 1          | 55 | 0 | 0           | 0 | 0 | 2           | 0 | 7  | 5          | 53 | 0 | 123 |
| 17:45-17:50              | 0          | 41 | 0 | 0           | 0 | 0 | 1           | 0 | 8  | 10         | 68 | 0 | 128 |
| 17:50-17:55              | 1          | 52 | 0 | 0           | 0 | 0 | 2           | 0 | 10 | 7          | 57 | 0 | 129 |
| 17:55-18:00              | 0          | 43 | 0 | 0           | 0 | 0 | 0           | 0 | 9  | 5          | 63 | 0 | 120 |

|               |     |      |   |   |    |     |     |   |     |     |      |   |      |
|---------------|-----|------|---|---|----|-----|-----|---|-----|-----|------|---|------|
| Total Survey  | 20  | 1233 | 0 | 0 | 3  | 2   | 19  | 0 | 231 | 202 | 1444 | 0 | 3154 |
| PHF           | .55 | .88  | 0 | 0 | .5 | .25 | .38 | 0 | .84 | .68 | .89  | 0 | .869 |
| % Trucks      | 5   | 1.9  | 0 | 0 | 0  | 0   | 5.3 | 0 | 1.7 | 1.5 | 2    | 0 | 1.9  |
| Stopped Buses | 0   | 0    | 0 | 0 | 0  | 0   | 0   | 0 | 0   | 0   | 0    | 0 | 0    |
| Peds          | 0   | 11   | 0 | 0 | 2  | 0   | 0   | 0 | 0   | 0   | 3    | 0 | 0    |

|               |    |     |   |   |   |   |    |   |     |     |     |   |      |
|---------------|----|-----|---|---|---|---|----|---|-----|-----|-----|---|------|
| Hourly Totals |    |     |   |   |   |   |    |   |     |     |     |   |      |
| 16:00-17:00   | 12 | 624 | 0 | 0 | 1 | 1 | 7  | 0 | 123 | 95  | 711 | 0 | 1574 |
| 16:15-17:15   | 11 | 630 | 0 | 0 | 2 | 1 | 7  | 0 | 119 | 103 | 716 | 0 | 1589 |
| 16:30-17:30   | 8  | 626 | 0 | 0 | 1 | 1 | 8  | 0 | 116 | 105 | 732 | 0 | 1597 |
| 16:45-17:45   | 9  | 628 | 0 | 0 | 2 | 1 | 10 | 0 | 107 | 102 | 726 | 0 | 1585 |
| 17:00-18:00   | 8  | 609 | 0 | 0 | 2 | 1 | 12 | 0 | 108 | 107 | 733 | 0 | 1580 |

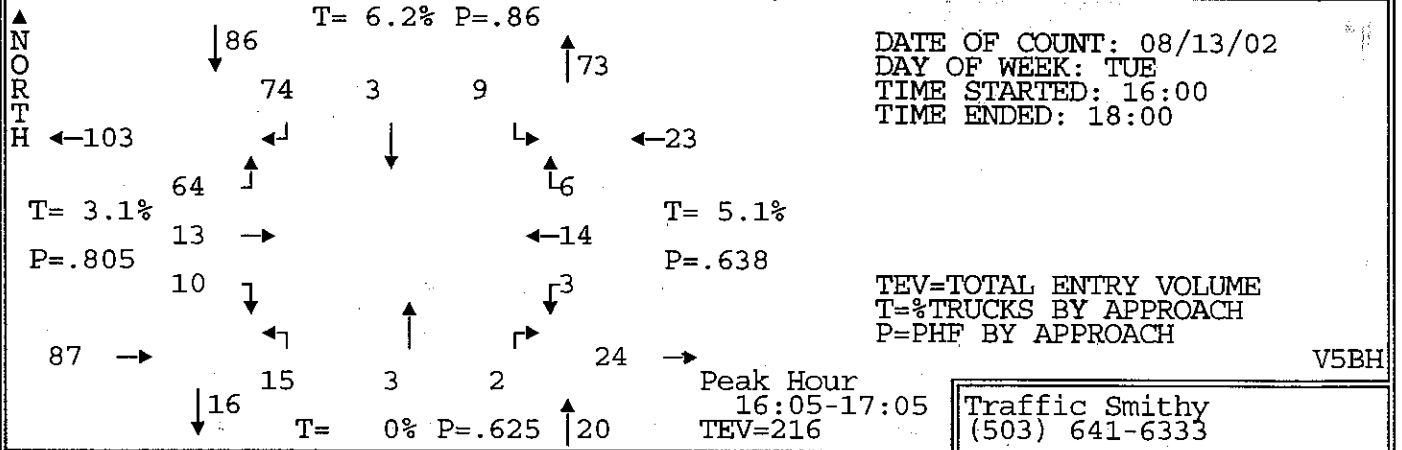


# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT PACIFIC @ CAPE ARGO HIGHWAY



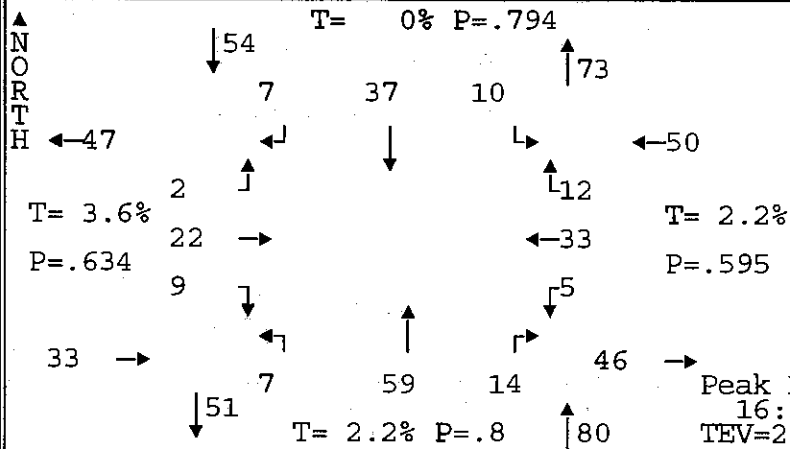
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |     | NORTH BOUND |     |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|------|-----|-------------|-----|-----|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓    | →   | ←           | ↑   | →   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 47   | 1   | 0           | 55  | 2   | 1          | 0 | 1   | 107  |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 52   | 0   | 0           | 39  | 3   | 3          | 0 | 1   | 98   |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 41   | 0   | 0           | 35  | 1   | 1          | 0 | 0   | 78   |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 47   | 0   | 0           | 45  | 4   | 4          | 0 | 1   | 101  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 38   | 0   | 0           | 28  | 1   | 4          | 0 | 1   | 72   |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 33   | 0   | 0           | 37  | 1   | 0          | 0 | 0   | 71   |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 46   | 0   | 0           | 38  | 0   | 0          | 0 | 0   | 84   |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 34   | 0   | 0           | 33  | 1   | 4          | 0 | 1   | 73   |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 40   | 0   | 0           | 54  | 0   | 3          | 0 | 1   | 98   |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 40   | 0   | 0           | 33  | 0   | 2          | 0 | 0   | 75   |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 49   | 2   | 0           | 24  | 0   | 1          | 0 | 1   | 77   |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 44   | 0   | 0           | 38  | 1   | 1          | 0 | 1   | 85   |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 37   | 0   | 0           | 52  | 1   | 2          | 0 | 0   | 92   |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 51   | 0   | 0           | 39  | 0   | 2          | 0 | 2   | 94   |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 42   | 0   | 0           | 34  | 2   | 1          | 0 | 0   | 79   |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 48   | 1   | 0           | 28  | 1   | 1          | 0 | 0   | 79   |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 44   | 0   | 0           | 43  | 3   | 3          | 0 | 2   | 95   |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 47   | 0   | 0           | 28  | 1   | 0          | 0 | 0   | 76   |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 35   | 0   | 0           | 33  | 1   | 0          | 0 | 0   | 69   |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 44   | 0   | 0           | 28  | 1   | 3          | 0 | 0   | 76   |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 56   | 1   | 0           | 44  | 2   | 1          | 0 | 1   | 105  |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 43   | 0   | 0           | 34  | 1   | 0          | 0 | 0   | 78   |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 45   | 1   | 0           | 24  | 1   | 0          | 0 | 2   | 73   |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 36   | 0   | 0           | 24  | 0   | 3          | 0 | 0   | 63   |
|                          |            |   |   |             |      |     |             |     |     |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 0           | 1039 | 6   | 0           | 870 | 28  | 40         | 0 | 15  | 1998 |
| PHF                      | 0          | 0 | 0 | 0           | .91  | .38 | 0           | .89 | .44 | .67        | 0 | 1   | .900 |
| % Trucks                 | 0          | 0 | 0 | 0           | 2.7  | 0   | 0           | 2.5 | 0   | 2.5        | 0 | 6.7 | 2.6  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 0   | 0   | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 6   | 0   | 0          | 0 | 0   | 0    |
|                          |            |   |   |             |      |     |             |     |     |            |   |     |      |
| Hourly Totals            |            |   |   |             |      |     |             |     |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 0 | 0           | 511  | 3   | 0           | 459 | 14  | 24         | 0 | 8   | 1019 |
| 16:15-17:15              | 0          | 0 | 0 | 0           | 501  | 2   | 0           | 455 | 11  | 24         | 0 | 8   | 1001 |
| 16:30-17:30              | 0          | 0 | 0 | 0           | 522  | 3   | 0           | 444 | 10  | 20         | 0 | 8   | 1007 |
| 16:45-17:45              | 0          | 0 | 0 | 0           | 537  | 4   | 0           | 424 | 13  | 17         | 0 | 7   | 1002 |
| 17:00-18:00              | 0          | 0 | 0 | 0           | 528  | 3   | 0           | 411 | 14  | 16         | 0 | 7   | 979  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 2ND @ LOCKART



| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|----|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑  | ←           | ↓ | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 1  | 2  | 7           | 1 | 0 | 2           | 0 | 0 | 0          | 1  | 0 | 14  |
| 16:05-16:10              | 2          | 0  | 5  | 4           | 0 | 1 | 1           | 0 | 0 | 0          | 0  | 1 | 14  |
| 16:10-16:15              | 1          | 2  | 6  | 10          | 1 | 1 | 1           | 0 | 0 | 1          | 3  | 0 | 26  |
| 16:15-16:20              | 0          | 1  | 6  | 5           | 0 | 1 | 2           | 0 | 1 | 0          | 1  | 0 | 17  |
| 16:20-16:25              | 0          | 1  | 9  | 3           | 0 | 0 | 1           | 0 | 0 | 1          | 2  | 0 | 17  |
| 16:25-16:30              | 3          | 0  | 5  | 8           | 1 | 0 | 1           | 1 | 0 | 1          | 3  | 0 | 23  |
| 16:30-16:35              | 0          | 2  | 7  | 8           | 0 | 0 | 4           | 0 | 1 | 0          | 2  | 0 | 24  |
| 16:35-16:40              | 2          | 2  | 5  | 5           | 0 | 1 | 0           | 0 | 0 | 0          | 1  | 2 | 18  |
| 16:40-16:45              | 0          | 0  | 2  | 5           | 1 | 1 | 1           | 0 | 0 | 0          | 0  | 0 | 10  |
| 16:45-16:50              | 1          | 0  | 1  | 4           | 0 | 1 | 2           | 1 | 0 | 0          | 1  | 1 | 12  |
| 16:50-16:55              | 1          | 1  | 3  | 7           | 0 | 1 | 1           | 1 | 0 | 0          | 0  | 1 | 16  |
| 16:55-17:00              | 0          | 1  | 8  | 10          | 0 | 0 | 1           | 0 | 0 | 0          | 0  | 0 | 20  |
| 17:00-17:05              | 0          | 3  | 7  | 5           | 0 | 2 | 0           | 0 | 0 | 0          | 1  | 1 | 19  |
| 17:05-17:10              | 0          | 0  | 5  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 2  | 0 | 13  |
| 17:10-17:15              | 0          | 1  | 7  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 1  | 1 | 16  |
| 17:15-17:20              | 0          | 3  | 5  | 5           | 0 | 1 | 0           | 1 | 0 | 1          | 0  | 1 | 17  |
| 17:20-17:25              | 0          | 2  | 12 | 5           | 0 | 0 | 0           | 0 | 0 | 1          | 1  | 1 | 21  |
| 17:25-17:30              | 0          | 1  | 5  | 6           | 0 | 0 | 3           | 1 | 0 | 0          | 3  | 1 | 20  |
| 17:30-17:35              | 0          | 0  | 6  | 4           | 0 | 0 | 1           | 0 | 0 | 0          | 2  | 0 | 13  |
| 17:35-17:40              | 0          | 1  | 6  | 3           | 0 | 1 | 0           | 0 | 0 | 0          | 0  | 0 | 11  |
| 17:40-17:45              | 0          | 1  | 5  | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 0 | 8   |
| 17:45-17:50              | 0          | 0  | 4  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 0 | 10  |
| 17:50-17:55              | 0          | 1  | 3  | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 0 | 6   |
| 17:55-18:00              | 0          | 0  | 3  | 4           | 0 | 0 | 0           | 0 | 0 | 0          | 0  | 1 | 8   |
| <b>Total Survey</b>      |            |    |    |             |   |   |             |   |   |            |    |   |     |
| PHF                      |            |    |    |             |   |   |             |   |   |            |    |   |     |
| % Trucks                 |            |    |    |             |   |   |             |   |   |            |    |   |     |
| Stopped Buses            |            |    |    |             |   |   |             |   |   |            |    |   |     |
| Peds                     |            |    |    |             |   |   |             |   |   |            |    |   |     |
| <b>Hourly Totals</b>     |            |    |    |             |   |   |             |   |   |            |    |   |     |
| 16:00-17:00              | 10         | 11 | 59 | 76          | 4 | 7 | 17          | 3 | 2 | 3          | 14 | 5 | 211 |
| 16:15-17:15              | 7          | 12 | 65 | 72          | 2 | 7 | 13          | 3 | 2 | 2          | 14 | 6 | 205 |
| 16:30-17:30              | 4          | 16 | 67 | 72          | 1 | 7 | 12          | 4 | 1 | 1          | 12 | 9 | 206 |
| 16:45-17:45              | 2          | 14 | 70 | 63          | 0 | 6 | 8           | 4 | 0 | 1          | 11 | 7 | 186 |
| 17:00-18:00              | 0          | 13 | 68 | 54          | 0 | 4 | 4           | 2 | 0 | 1          | 10 | 6 | 162 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 2ND @ INGERSOL



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BJ

Peak Hour  
16:15-17:15  
TEV=217

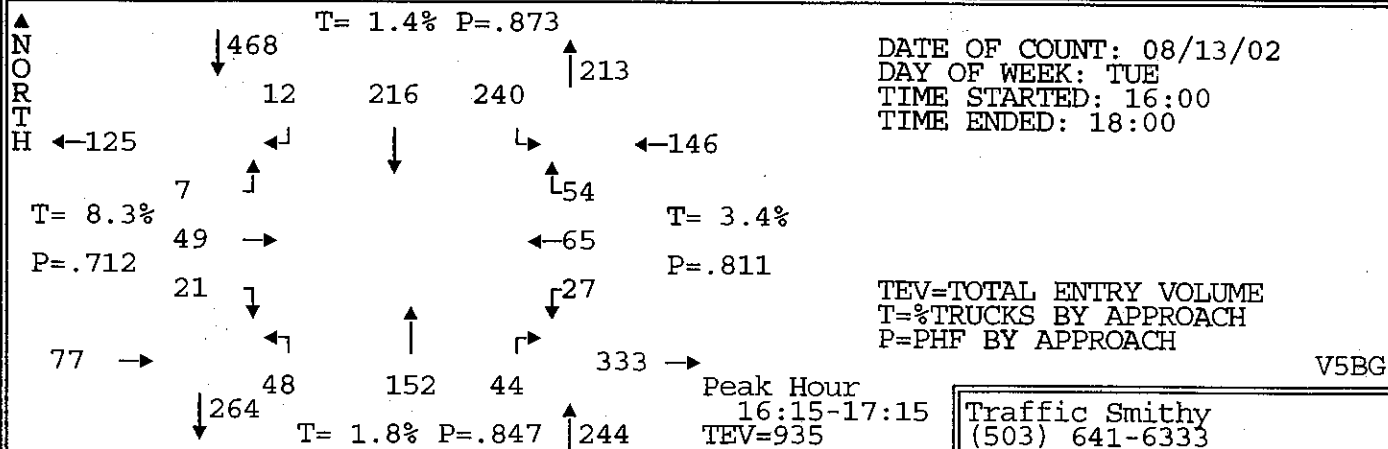
Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|---|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑ | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 6 | 3 | 0           | 3 | 1 | 1           | 5 | 4 | 1          | 0 | 0 | 24  |
| 16:05-16:10              | 1          | 1 | 1 | 0           | 1 | 0 | 1           | 7 | 2 | 0          | 0 | 0 | 14  |
| 16:10-16:15              | 1          | 0 | 0 | 1           | 4 | 0 | 0           | 6 | 1 | 2          | 1 | 0 | 16  |
| 16:15-16:20              | 0          | 0 | 0 | 1           | 5 | 2 | 1           | 4 | 3 | 0          | 1 | 1 | 18  |
| 16:20-16:25              | 2          | 3 | 0 | 2           | 3 | 0 | 0           | 6 | 0 | 0          | 2 | 2 | 20  |
| 16:25-16:30              | 0          | 2 | 0 | 0           | 3 | 1 | 1           | 2 | 3 | 0          | 2 | 1 | 15  |
| 16:30-16:35              | 1          | 1 | 0 | 0           | 6 | 0 | 0           | 5 | 1 | 0          | 3 | 1 | 18  |
| 16:35-16:40              | 0          | 2 | 1 | 0           | 5 | 0 | 0           | 1 | 2 | 0          | 5 | 0 | 16  |
| 16:40-16:45              | 0          | 1 | 0 | 0           | 0 | 0 | 1           | 6 | 2 | 1          | 0 | 0 | 11  |
| 16:45-16:50              | 0          | 2 | 1 | 1           | 3 | 1 | 0           | 9 | 0 | 0          | 2 | 0 | 19  |
| 16:50-16:55              | 1          | 3 | 0 | 0           | 4 | 2 | 1           | 5 | 1 | 0          | 1 | 1 | 19  |
| 16:55-17:00              | 2          | 3 | 0 | 0           | 1 | 1 | 1           | 3 | 0 | 1          | 4 | 1 | 17  |
| 17:00-17:05              | 3          | 1 | 0 | 2           | 2 | 1 | 1           | 6 | 0 | 0          | 4 | 1 | 21  |
| 17:05-17:10              | 0          | 1 | 0 | 0           | 2 | 0 | 0           | 8 | 1 | 3          | 4 | 3 | 22  |
| 17:10-17:15              | 0          | 3 | 0 | 1           | 3 | 2 | 1           | 4 | 1 | 0          | 5 | 1 | 21  |
| 17:15-17:20              | 0          | 2 | 0 | 0           | 2 | 1 | 0           | 2 | 0 | 0          | 1 | 2 | 10  |
| 17:20-17:25              | 2          | 1 | 0 | 1           | 0 | 1 | 0           | 3 | 1 | 3          | 1 | 0 | 13  |
| 17:25-17:30              | 0          | 3 | 1 | 2           | 0 | 2 | 1           | 1 | 3 | 0          | 3 | 0 | 16  |
| 17:30-17:35              | 1          | 5 | 0 | 1           | 3 | 0 | 0           | 1 | 1 | 1          | 3 | 2 | 18  |
| 17:35-17:40              | 2          | 2 | 0 | 1           | 2 | 0 | 0           | 1 | 0 | 2          | 4 | 0 | 14  |
| 17:40-17:45              | 0          | 3 | 2 | 0           | 0 | 2 | 0           | 3 | 0 | 0          | 2 | 1 | 13  |
| 17:45-17:50              | 1          | 5 | 1 | 0           | 0 | 0 | 0           | 3 | 2 | 0          | 0 | 1 | 13  |
| 17:50-17:55              | 1          | 4 | 0 | 1           | 0 | 0 | 1           | 1 | 2 | 2          | 5 | 0 | 17  |
| 17:55-18:00              | 0          | 2 | 0 | 0           | 0 | 0 | 0           | 2 | 3 | 0          | 3 | 0 | 10  |

|               |      |     |     |     |     |     |     |     |     |     |     |     |      |
|---------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Total Survey  | 18   | 56  | 10  | 14  | 52  | 17  | 11  | 94  | 33  | 16  | 56  | 18  | 395  |
| PHF           | .38  | .69 | .25 | .58 | .66 | .63 | .58 | .74 | .58 | .31 | .63 | .6  | .847 |
| % Trucks      | 16.7 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 9.1 | 0   | 1.8 | 5.6 | 2    |
| Stopped Buses | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0    | 0   | 0   | 0   | 2   | 0   | 0   | 4   | 0   | 0   | 0   | 0   | 0    |

|               |    |    |   |   |    |    |   |    |    |    |    |    |     |
|---------------|----|----|---|---|----|----|---|----|----|----|----|----|-----|
| Hourly Totals |    |    |   |   |    |    |   |    |    |    |    |    |     |
| 16:00-17:00   | 8  | 24 | 6 | 5 | 38 | 8  | 7 | 59 | 19 | 5  | 21 | 7  | 207 |
| 16:15-17:15   | 9  | 22 | 2 | 7 | 37 | 10 | 7 | 59 | 14 | 5  | 33 | 12 | 217 |
| 16:30-17:30   | 9  | 23 | 3 | 7 | 28 | 11 | 6 | 53 | 12 | 8  | 33 | 10 | 203 |
| 16:45-17:45   | 11 | 29 | 4 | 9 | 22 | 13 | 5 | 46 | 8  | 10 | 34 | 12 | 203 |
| 17:00-18:00   | 10 | 32 | 4 | 9 | 14 | 9  | 4 | 35 | 14 | 11 | 35 | 11 | 188 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 4TH @ ELROD

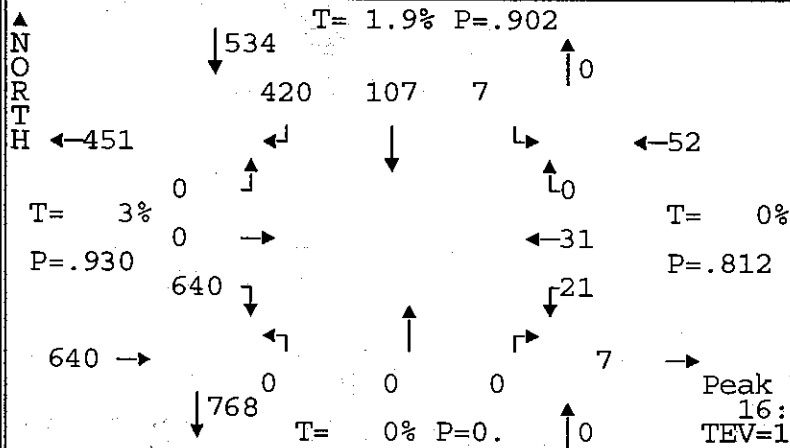


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |    |    | NORTH BOUND |    |   | WEST BOUND |    |    | ALL |
|--------------------------|------------|----|---|-------------|----|----|-------------|----|---|------------|----|----|-----|
|                          | ↓          | →  | ↑ | ←           | ↓  | ↘  | ←           | ↑  | ↗ | ↓          | ←  | ↑  |     |
| 16:00-16:05              | 2          | 5  | 0 | 3           | 23 | 20 | 7           | 15 | 5 | 4          | 10 | 4  | 98  |
| 16:05-16:10              | 4          | 5  | 1 | 0           | 13 | 18 | 3           | 9  | 2 | 2          | 4  | 8  | 69  |
| 16:10-16:15              | 2          | 11 | 0 | 1           | 10 | 19 | 6           | 14 | 1 | 1          | 3  | 4  | 72  |
| 16:15-16:20              | 3          | 3  | 1 | 1           | 15 | 28 | 1           | 16 | 2 | 1          | 8  | 11 | 90  |
| 16:20-16:25              | 0          | 4  | 1 | 1           | 15 | 15 | 5           | 13 | 5 | 5          | 6  | 5  | 75  |
| 16:25-16:30              | 0          | 4  | 0 | 0           | 20 | 20 | 4           | 12 | 4 | 1          | 5  | 1  | 71  |
| 16:30-16:35              | 1          | 4  | 1 | 0           | 10 | 13 | 6           | 14 | 9 | 1          | 6  | 6  | 71  |
| 16:35-16:40              | 1          | 5  | 1 | 1           | 17 | 23 | 4           | 8  | 4 | 0          | 4  | 3  | 71  |
| 16:40-16:45              | 2          | 1  | 1 | 0           | 19 | 27 | 1           | 10 | 3 | 1          | 5  | 1  | 71  |
| 16:45-16:50              | 3          | 2  | 0 | 3           | 18 | 23 | 1           | 17 | 2 | 2          | 8  | 3  | 82  |
| 16:50-16:55              | 1          | 4  | 1 | 0           | 23 | 21 | 4           | 17 | 1 | 1          | 3  | 3  | 79  |
| 16:55-17:00              | 2          | 3  | 1 | 0           | 20 | 13 | 7           | 15 | 1 | 2          | 6  | 3  | 73  |
| 17:00-17:05              | 2          | 10 | 0 | 3           | 31 | 13 | 3           | 10 | 3 | 6          | 4  | 7  | 92  |
| 17:05-17:10              | 3          | 3  | 0 | 1           | 17 | 19 | 6           | 9  | 5 | 3          | 7  | 6  | 79  |
| 17:10-17:15              | 3          | 6  | 0 | 2           | 11 | 25 | 6           | 11 | 5 | 4          | 3  | 5  | 81  |
| 17:15-17:20              | 5          | 2  | 0 | 1           | 15 | 20 | 4           | 14 | 2 | 2          | 1  | 4  | 70  |
| 17:20-17:25              | 4          | 7  | 1 | 0           | 26 | 16 | 1           | 16 | 2 | 0          | 6  | 2  | 81  |
| 17:25-17:30              | 1          | 5  | 1 | 1           | 14 | 13 | 6           | 15 | 3 | 3          | 5  | 0  | 67  |
| 17:30-17:35              | 3          | 2  | 1 | 0           | 11 | 19 | 3           | 12 | 1 | 1          | 8  | 2  | 63  |
| 17:35-17:40              | 1          | 3  | 0 | 0           | 15 | 16 | 1           | 8  | 3 | 4          | 9  | 2  | 62  |
| 17:40-17:45              | 0          | 3  | 0 | 2           | 9  | 23 | 5           | 13 | 0 | 2          | 4  | 2  | 63  |
| 17:45-17:50              | 1          | 3  | 3 | 0           | 15 | 16 | 3           | 11 | 2 | 1          | 3  | 2  | 60  |
| 17:50-17:55              | 1          | 7  | 1 | 1           | 8  | 10 | 6           | 9  | 0 | 1          | 3  | 3  | 50  |
| 17:55-18:00              | 2          | 4  | 0 | 2           | 8  | 8  | 2           | 5  | 0 | 1          | 2  | 2  | 36  |

|               |     |      |     |    |     |     |     |     |     |     |     |     |      |
|---------------|-----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Total Survey  | 47  | 106  | 15  | 23 | 383 | 438 | 95  | 293 | 65  | 49  | 123 | 89  | 1726 |
| PHF           | .66 | .64  | .58 | .5 | .73 | .82 | .75 | .78 | .61 | .52 | .86 | .75 | .927 |
| % Trucks      | 0   | 13.2 | 0   | 0  | 1.6 | 1.4 | 1.1 | 1.7 | 3.1 | 0   | 6.5 | 1.1 | 2.5  |
| Stopped Buses | 0   | 0    | 0   | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |      |
| Peds          | 0   | 1    | 0   | 0  | 18  | 0   | 0   | 13  | 0   | 0   | 5   | 0   |      |

|               |    |    |   |    |     |     |    |     |    |    |    |    |     |
|---------------|----|----|---|----|-----|-----|----|-----|----|----|----|----|-----|
| Hourly Totals |    |    |   |    |     |     |    |     |    |    |    |    |     |
| 16:00-17:00   | 21 | 51 | 8 | 10 | 203 | 240 | 49 | 160 | 39 | 21 | 68 | 52 | 922 |
| 16:15-17:15   | 21 | 49 | 7 | 12 | 216 | 240 | 48 | 152 | 44 | 27 | 65 | 54 | 935 |
| 16:30-17:30   | 28 | 52 | 7 | 12 | 221 | 226 | 49 | 156 | 40 | 25 | 58 | 43 | 917 |
| 16:45-17:45   | 28 | 50 | 5 | 13 | 210 | 221 | 47 | 157 | 28 | 30 | 64 | 39 | 892 |
| 17:00-18:00   | 26 | 55 | 7 | 13 | 180 | 198 | 46 | 133 | 26 | 28 | 55 | 37 | 804 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CENTER @ 7TH



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BF

Peak Hour  
16:10-17:10  
TEV=1226

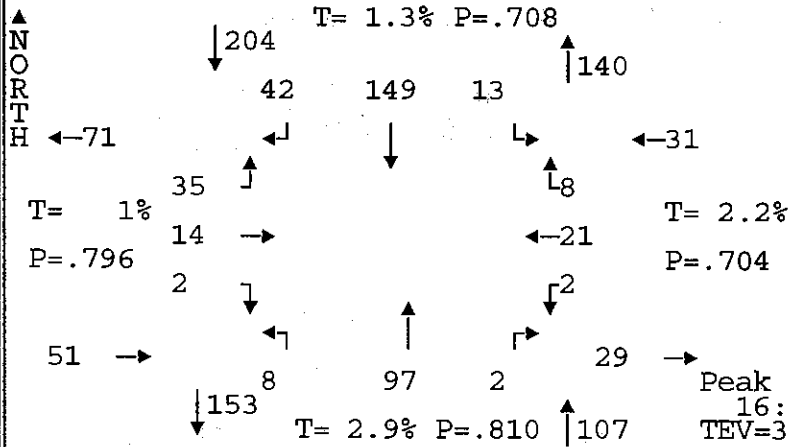
Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |   |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|---|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ←           | ↑ | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 55         | 0 | 0 | 31          | 11 | 1 | 0           | 0 | 0 | 1          | 3 | 0 | 102 |
| 16:05-16:10              | 51         | 0 | 0 | 34          | 6  | 1 | 0           | 0 | 0 | 0          | 1 | 0 | 93  |
| 16:10-16:15              | 58         | 0 | 0 | 41          | 11 | 0 | 0           | 0 | 0 | 3          | 2 | 0 | 115 |
| 16:15-16:20              | 63         | 0 | 0 | 33          | 8  | 1 | 0           | 0 | 0 | 2          | 0 | 0 | 107 |
| 16:20-16:25              | 51         | 0 | 0 | 30          | 7  | 1 | 0           | 0 | 0 | 1          | 4 | 0 | 94  |
| 16:25-16:30              | 52         | 0 | 0 | 35          | 9  | 0 | 0           | 0 | 0 | 1          | 5 | 0 | 102 |
| 16:30-16:35              | 49         | 0 | 0 | 28          | 11 | 3 | 0           | 0 | 0 | 1          | 4 | 0 | 96  |
| 16:35-16:40              | 66         | 0 | 0 | 44          | 5  | 0 | 0           | 0 | 0 | 1          | 2 | 0 | 118 |
| 16:40-16:45              | 44         | 0 | 0 | 33          | 8  | 1 | 0           | 0 | 0 | 2          | 1 | 0 | 89  |
| 16:45-16:50              | 59         | 0 | 0 | 23          | 5  | 1 | 0           | 0 | 0 | 4          | 1 | 0 | 93  |
| 16:50-16:55              | 49         | 0 | 0 | 41          | 7  | 0 | 0           | 0 | 0 | 2          | 3 | 0 | 102 |
| 16:55-17:00              | 54         | 0 | 0 | 34          | 10 | 0 | 0           | 0 | 0 | 2          | 2 | 0 | 102 |
| 17:00-17:05              | 48         | 0 | 0 | 41          | 12 | 0 | 0           | 0 | 0 | 1          | 2 | 0 | 104 |
| 17:05-17:10              | 47         | 0 | 0 | 37          | 14 | 0 | 0           | 0 | 0 | 1          | 5 | 0 | 104 |
| 17:10-17:15              | 44         | 0 | 0 | 43          | 6  | 1 | 0           | 0 | 0 | 0          | 5 | 0 | 99  |
| 17:15-17:20              | 64         | 0 | 0 | 40          | 4  | 0 | 0           | 0 | 0 | 2          | 5 | 0 | 115 |
| 17:20-17:25              | 50         | 0 | 0 | 37          | 8  | 0 | 0           | 0 | 0 | 2          | 4 | 0 | 101 |
| 17:25-17:30              | 43         | 0 | 0 | 35          | 4  | 3 | 0           | 0 | 0 | 2          | 1 | 0 | 88  |
| 17:30-17:35              | 51         | 0 | 0 | 28          | 5  | 1 | 0           | 0 | 0 | 0          | 1 | 0 | 86  |
| 17:35-17:40              | 47         | 0 | 0 | 38          | 5  | 0 | 0           | 0 | 0 | 2          | 6 | 0 | 98  |
| 17:40-17:45              | 33         | 0 | 0 | 32          | 2  | 0 | 0           | 0 | 0 | 1          | 2 | 0 | 70  |
| 17:45-17:50              | 43         | 0 | 0 | 34          | 6  | 0 | 0           | 0 | 0 | 2          | 2 | 0 | 87  |
| 17:50-17:55              | 29         | 0 | 0 | 34          | 7  | 0 | 0           | 0 | 0 | 0          | 2 | 0 | 72  |
| 17:55-18:00              | 49         | 0 | 0 | 23          | 6  | 0 | 0           | 0 | 0 | 2          | 3 | 0 | 83  |

|               |      |   |   |     |     |     |   |   |   |     |    |   |      |
|---------------|------|---|---|-----|-----|-----|---|---|---|-----|----|---|------|
| Total Survey  | 1199 | 0 | 0 | 829 | 177 | 14  | 0 | 0 | 0 | 35  | 66 | 0 | 2320 |
| PHF           | .93  | 0 | 0 | .91 | .74 | .44 | 0 | 0 | 0 | .66 | .6 | 0 | .969 |
| % Trucks      | 3    | 0 | 0 | 2.2 | .6  | 0   | 0 | 0 | 0 | 0   | 0  | 0 | 2.4  |
| Stopped Buses | 0    | 0 | 0 | 0   | 0   | 0   | 0 | 0 | 0 | 0   | 0  | 0 |      |
| Peds          | 0    | 0 | 0 | 0   | 0   | 0   | 0 | 0 | 0 | 0   | 0  | 0 |      |

|               |     |   |   |     |     |   |   |   |   |    |    |   |      |
|---------------|-----|---|---|-----|-----|---|---|---|---|----|----|---|------|
| Hourly Totals |     |   |   |     |     |   |   |   |   |    |    |   |      |
| 16:00-17:00   | 651 | 0 | 0 | 407 | 98  | 9 | 0 | 0 | 0 | 20 | 28 | 0 | 1213 |
| 16:15-17:15   | 626 | 0 | 0 | 422 | 102 | 8 | 0 | 0 | 0 | 18 | 34 | 0 | 1210 |
| 16:30-17:30   | 617 | 0 | 0 | 436 | 94  | 9 | 0 | 0 | 0 | 20 | 35 | 0 | 1211 |
| 16:45-17:45   | 589 | 0 | 0 | 429 | 82  | 6 | 0 | 0 | 0 | 19 | 37 | 0 | 1162 |
| 17:00-18:00   | 548 | 0 | 0 | 422 | 79  | 5 | 0 | 0 | 0 | 15 | 38 | 0 | 1107 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 7TH @ INGERSOL



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

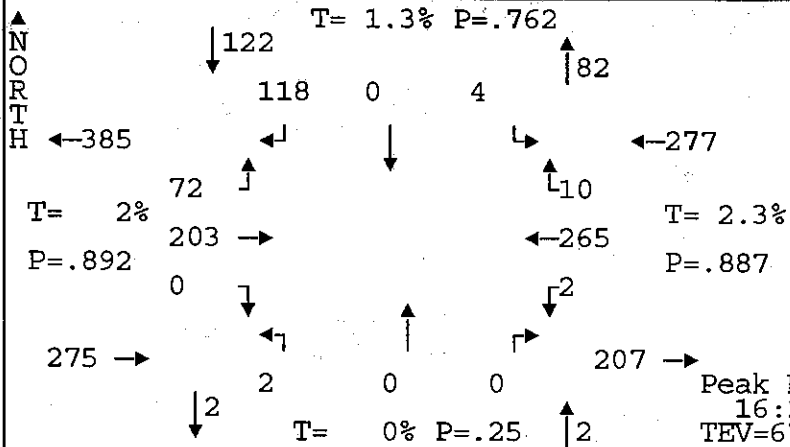
Peak Hour  
16:55-17:55  
TEV=393

Traffic Smithy  
(503) 641-6333

V5BK

| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |     |    | ALL  |
|--------------------------|------------|-----|-----|-------------|-----|-----|-------------|-----|-----|------------|-----|----|------|
|                          | ↓          | →   | ↑   | ←           | ↓   | ↵   | ←           | ↑   | ↵   | ↓          | ←   | ↑  |      |
| 16:00-16:05              | 1          | 2   | 5   | 3           | 9   | 2   | 0           | 8   | 0   | 0          | 0   | 1  | 31   |
| 16:05-16:10              | 1          | 0   | 5   | 3           | 14  | 1   | 0           | 8   | 0   | 0          | 0   | 0  | 32   |
| 16:10-16:15              | 0          | 0   | 2   | 3           | 15  | 0   | 1           | 8   | 0   | 0          | 1   | 0  | 30   |
| 16:15-16:20              | 0          | 2   | 2   | 2           | 12  | 0   | 0           | 12  | 1   | 0          | 0   | 0  | 31   |
| 16:20-16:25              | 0          | 2   | 1   | 2           | 11  | 0   | 1           | 6   | 0   | 0          | 0   | 0  | 23   |
| 16:25-16:30              | 0          | 1   | 2   | 1           | 15  | 2   | 0           | 6   | 0   | 0          | 1   | 1  | 29   |
| 16:30-16:35              | 0          | 0   | 2   | 2           | 17  | 1   | 1           | 4   | 0   | 0          | 2   | 2  | 31   |
| 16:35-16:40              | 1          | 0   | 2   | 1           | 12  | 2   | 1           | 9   | 0   | 0          | 1   | 1  | 30   |
| 16:40-16:45              | 0          | 2   | 3   | 2           | 8   | 0   | 2           | 8   | 0   | 1          | 0   | 0  | 26   |
| 16:45-16:50              | 0          | 1   | 0   | 3           | 9   | 1   | 1           | 9   | 0   | 0          | 1   | 1  | 26   |
| 16:50-16:55              | 0          | 2   | 1   | 4           | 9   | 1   | 0           | 10  | 0   | 0          | 0   | 0  | 27   |
| 16:55-17:00              | 0          | 1   | 3   | 4           | 11  | 0   | 0           | 9   | 0   | 0          | 4   | 0  | 32   |
| 17:00-17:05              | 0          | 1   | 3   | 4           | 17  | 2   | 1           | 10  | 0   | 0          | 2   | 0  | 40   |
| 17:05-17:10              | 0          | 0   | 3   | 1           | 11  | 0   | 1           | 12  | 0   | 0          | 1   | 1  | 30   |
| 17:10-17:15              | 0          | 1   | 1   | 7           | 16  | 0   | 0           | 5   | 0   | 1          | 1   | 1  | 32   |
| 17:15-17:20              | 0          | 1   | 4   | 2           | 24  | 2   | 2           | 8   | 0   | 0          | 2   | 0  | 45   |
| 17:20-17:25              | 0          | 1   | 2   | 4           | 16  | 1   | 0           | 14  | 0   | 0          | 1   | 0  | 39   |
| 17:25-17:30              | 0          | 1   | 3   | 2           | 7   | 1   | 0           | 4   | 0   | 0          | 2   | 1  | 21   |
| 17:30-17:35              | 0          | 2   | 5   | 1           | 7   | 3   | 0           | 10  | 0   | 0          | 1   | 1  | 30   |
| 17:35-17:40              | 1          | 1   | 3   | 5           | 10  | 3   | 1           | 7   | 0   | 0          | 4   | 2  | 37   |
| 17:40-17:45              | 0          | 0   | 4   | 5           | 13  | 0   | 0           | 5   | 1   | 1          | 0   | 2  | 31   |
| 17:45-17:50              | 1          | 2   | 3   | 2           | 10  | 0   | 1           | 6   | 1   | 0          | 1   | 1  | 28   |
| 17:50-17:55              | 0          | 3   | 1   | 5           | 7   | 1   | 2           | 7   | 0   | 0          | 2   | 0  | 28   |
| 17:55-18:00              | 2          | 0   | 3   | 5           | 10  | 1   | 2           | 3   | 1   | 0          | 2   | 0  | 29   |
|                          |            |     |     |             |     |     |             |     |     |            |     |    |      |
| Total Survey             | 7          | 26  | 63  | 73          | 290 | 24  | 17          | 188 | 4   | 3          | 29  | 14 | 738  |
| PHF                      | .25        | .7  | .73 | .81         | .67 | .46 | .67         | .78 | .25 | .5         | .75 | .4 | .846 |
| % Trucks                 | 0          | 3.8 | 0   | 4.1         | .7  | 0   | 23.5        | 1.1 | 0   | 0          | 3.4 | 0  | 1.8  |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0  |      |
| Peds                     | 0          | 4   | 0   | 0           | 0   | 0   | 0           | 9   | 0   | 0          | 0   | 0  |      |
| Hourly Totals            |            |     |     |             |     |     |             |     |     |            |     |    |      |
| 16:00-17:00              | 3          | 13  | 28  | 30          | 142 | 10  | 7           | 97  | 1   | 1          | 10  | 6  | 348  |
| 16:15-17:15              | 1          | 13  | 23  | 33          | 148 | 9   | 8           | 100 | 1   | 2          | 13  | 6  | 357  |
| 16:30-17:30              | 1          | 11  | 27  | 36          | 157 | 11  | 9           | 102 | 0   | 2          | 17  | 6  | 379  |
| 16:45-17:45              | 1          | 12  | 32  | 42          | 150 | 14  | 6           | 103 | 1   | 2          | 19  | 8  | 390  |
| 17:00-18:00              | 4          | 13  | 35  | 43          | 148 | 14  | 10          | 91  | 3   | 2          | 19  | 8  | 390  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 7TH @ LOCKHART



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BI

Peak Hour  
16:20-17:20  
TEV=676

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |   |      | NORTH BOUND |   |   | WEST BOUND |     |      | ALL  |
|--------------------------|------------|-----|-----|-------------|---|------|-------------|---|---|------------|-----|------|------|
|                          | ↓          | →   | ↑   | ←           | ↓ | ↘    | ↙           | ↑ | ↘ | ↓          | ←   | ↑    |      |
| 16:00-16:05              | 0          | 20  | 5   | 6           | 0 | 0    | 1           | 0 | 0 | 0          | 27  | 0    | 59   |
| 16:05-16:10              | 0          | 23  | 8   | 7           | 0 | 1    | 0           | 0 | 0 | 0          | 14  | 0    | 53   |
| 16:10-16:15              | 0          | 13  | 6   | 9           | 0 | 2    | 0           | 0 | 0 | 0          | 18  | 0    | 48   |
| 16:15-16:20              | 0          | 15  | 8   | 14          | 0 | 1    | 0           | 0 | 0 | 0          | 13  | 1    | 52   |
| 16:20-16:25              | 0          | 25  | 6   | 7           | 0 | 0    | 0           | 0 | 0 | 0          | 29  | 0    | 67   |
| 16:25-16:30              | 0          | 13  | 3   | 9           | 0 | 0    | 0           | 0 | 0 | 0          | 29  | 2    | 56   |
| 16:30-16:35              | 0          | 27  | 3   | 11          | 0 | 0    | 0           | 0 | 0 | 1          | 9   | 1    | 52   |
| 16:35-16:40              | 0          | 16  | 4   | 14          | 0 | 0    | 0           | 0 | 0 | 1          | 14  | 1    | 50   |
| 16:40-16:45              | 0          | 14  | 10  | 8           | 0 | 1    | 0           | 0 | 0 | 0          | 30  | 2    | 65   |
| 16:45-16:50              | 0          | 18  | 10  | 6           | 0 | 1    | 1           | 0 | 0 | 0          | 25  | 0    | 61   |
| 16:50-16:55              | 0          | 10  | 6   | 9           | 0 | 0    | 0           | 0 | 0 | 0          | 17  | 0    | 42   |
| 16:55-17:00              | 0          | 14  | 6   | 7           | 0 | 0    | 1           | 0 | 0 | 0          | 22  | 0    | 50   |
| 17:00-17:05              | 0          | 10  | 6   | 8           | 0 | 1    | 0           | 0 | 0 | 0          | 16  | 0    | 41   |
| 17:05-17:10              | 0          | 16  | 5   | 18          | 0 | 0    | 0           | 0 | 0 | 0          | 28  | 0    | 67   |
| 17:10-17:15              | 0          | 25  | 6   | 9           | 0 | 0    | 0           | 0 | 0 | 0          | 20  | 0    | 60   |
| 17:15-17:20              | 0          | 15  | 7   | 12          | 0 | 1    | 0           | 0 | 0 | 0          | 26  | 4    | 65   |
| 17:20-17:25              | 0          | 9   | 5   | 22          | 0 | 0    | 0           | 0 | 0 | 2          | 15  | 1    | 54   |
| 17:25-17:30              | 0          | 15  | 6   | 10          | 0 | 0    | 0           | 0 | 0 | 0          | 26  | 0    | 57   |
| 17:30-17:35              | 0          | 26  | 7   | 7           | 0 | 0    | 0           | 0 | 0 | 0          | 15  | 0    | 55   |
| 17:35-17:40              | 0          | 14  | 9   | 5           | 0 | 0    | 0           | 1 | 0 | 0          | 23  | 0    | 52   |
| 17:40-17:45              | 0          | 12  | 5   | 9           | 0 | 0    | 0           | 0 | 0 | 0          | 17  | 0    | 43   |
| 17:45-17:50              | 0          | 20  | 2   | 10          | 0 | 0    | 0           | 0 | 0 | 0          | 21  | 0    | 53   |
| 17:50-17:55              | 0          | 19  | 5   | 8           | 0 | 0    | 1           | 0 | 0 | 0          | 25  | 0    | 58   |
| 17:55-18:00              | 0          | 14  | 5   | 5           | 0 | 0    | 0           | 0 | 0 | 0          | 24  | 1    | 49   |
| <hr/>                    |            |     |     |             |   |      |             |   |   |            |     |      |      |
| Total Survey             | 0          | 403 | 143 | 230         | 0 | 8    | 4           | 1 | 0 | 4          | 503 | 13   | 1309 |
| PHF                      | 0          | .78 | .69 | .76         | 0 | .5   | .25         | 0 | 0 | .25        | .9  | .63  | .880 |
| % Trucks                 | 0          | 2.2 | 1.4 | .9          | 0 | 12.5 | 0           | 0 | 0 | 0          | 2   | 15.4 | 2    |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0 | 0    | 0           | 0 | 0 | 0          | 0   | 0    | 0    |
| Peds                     | 0          | 0   | 0   | 0           | 0 | 0    | 0           | 2 | 0 | 0          | 0   | 0    | 0    |
| <hr/>                    |            |     |     |             |   |      |             |   |   |            |     |      |      |
| Hourly Totals            |            |     |     |             |   |      |             |   |   |            |     |      |      |
| 16:00-17:00              | 0          | 208 | 75  | 107         | 0 | 6    | 3           | 0 | 0 | 2          | 247 | 7    | 655  |
| 16:15-17:15              | 0          | 203 | 73  | 120         | 0 | 4    | 2           | 0 | 0 | 2          | 252 | 7    | 663  |
| 16:30-17:30              | 0          | 189 | 74  | 134         | 0 | 4    | 2           | 0 | 0 | 4          | 248 | 9    | 664  |
| 16:45-17:45              | 0          | 184 | 78  | 122         | 0 | 3    | 2           | 1 | 0 | 2          | 250 | 5    | 647  |
| 17:00-18:00              | 0          | 195 | 68  | 123         | 0 | 2    | 1           | 1 | 0 | 2          | 256 | 6    | 654  |





ELROD @ 11TH

TIME ENDED: 18:00

## P=PHF BY APPROACH

V5BL

TEV=166

(503) 641-6333

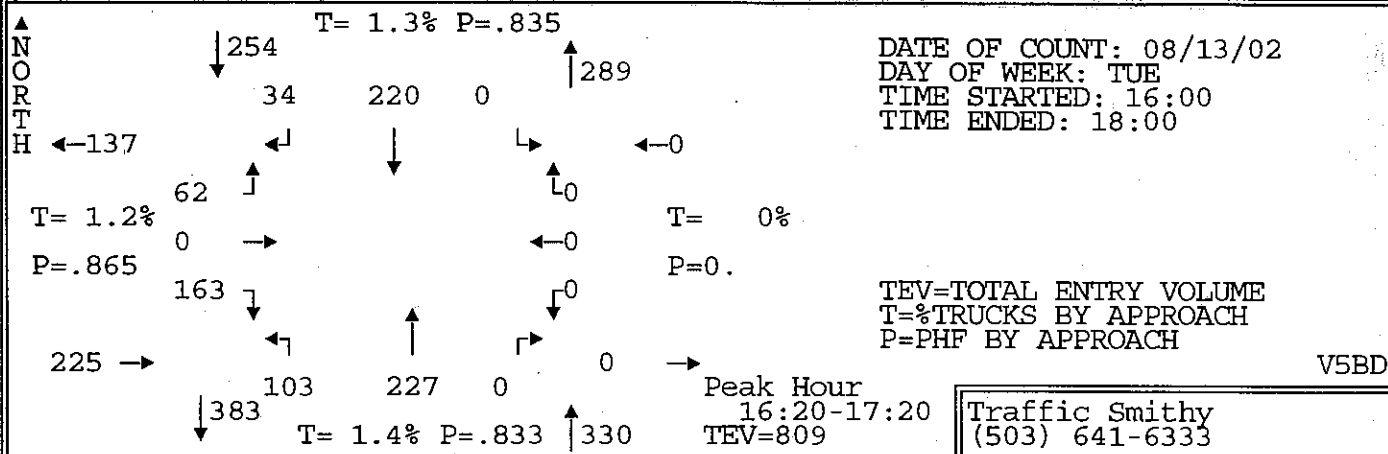
[illegible]

|               |   |     |     |     |   |     |   |   |   |   |     |     |      |
|---------------|---|-----|-----|-----|---|-----|---|---|---|---|-----|-----|------|
| Total Survey  | 0 | 25  | 157 | 122 | 0 | 1   | 0 | 0 | 0 | 0 | 13  | 2   | 320  |
| PHF           | 0 | .43 | .79 | .67 | 0 | .25 | 0 | 0 | 0 | 0 | .42 | .25 | .741 |
| % Trucks      | 0 | 0   | .6  | 1.6 | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0   | .9   |
| Stopped Buses | 0 | 0   | 0   | 0   | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0   | 0    |
| Peds          | 0 | 0   | 0   | 0   | 0 | 0   | 0 | 3 | 0 | 0 | 0   | 0   | 0    |

| Hourly Totals |   |    |    |    |   |   |   |   |   |   |   |   |     |
|---------------|---|----|----|----|---|---|---|---|---|---|---|---|-----|
| 16:00-17:00   | 0 | 12 | 77 | 67 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 2 | 165 |
| 16:15-17:15   | 0 | 12 | 76 | 67 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 2 | 165 |
| 16:30-17:30   | 0 | 10 | 79 | 53 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 2 | 152 |
| 16:45-17:45   | 0 | 12 | 81 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 148 |
| 17:00-18:00   | 0 | 13 | 80 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 155 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

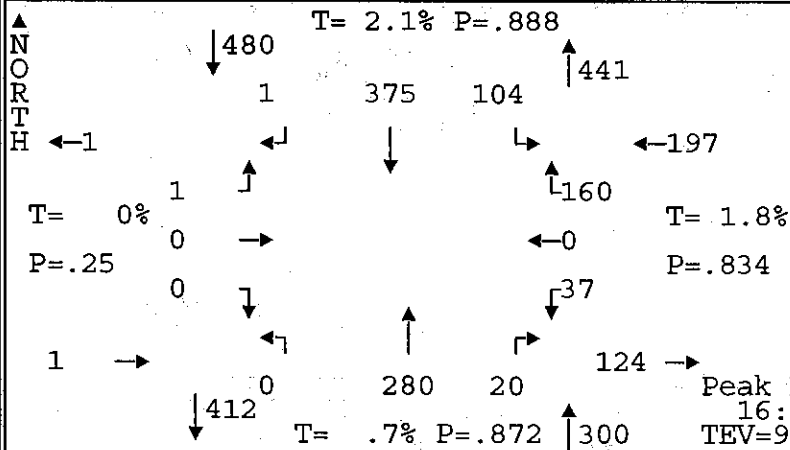
## KOOSBAY BLVD @ THOMPSON



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |     | SOUTH BOUND |     |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL  |
|--------------------------|------------|---|-----|-------------|-----|---|-------------|-----|---|------------|---|---|------|
|                          | ↓          | → | ↑   | ←           | ↓   | → | ←           | ↑   | → | ↓          | ← | ↑ |      |
| 16:00-16:05              | 16         | 0 | 11  | 3           | 12  | 0 | 9           | 21  | 0 | 0          | 0 | 0 | 72   |
| 16:05-16:10              | 12         | 0 | 5   | 4           | 7   | 0 | 11          | 20  | 0 | 0          | 0 | 0 | 59   |
| 16:10-16:15              | 16         | 0 | 3   | 5           | 22  | 0 | 14          | 22  | 0 | 0          | 0 | 0 | 82   |
| 16:15-16:20              | 21         | 0 | 2   | 4           | 20  | 0 | 11          | 12  | 0 | 0          | 0 | 0 | 70   |
| 16:20-16:25              | 15         | 0 | 5   | 6           | 23  | 0 | 6           | 21  | 0 | 0          | 0 | 0 | 76   |
| 16:25-16:30              | 11         | 0 | 7   | 3           | 14  | 0 | 6           | 17  | 0 | 0          | 0 | 0 | 58   |
| 16:30-16:35              | 13         | 0 | 5   | 3           | 15  | 0 | 6           | 16  | 0 | 0          | 0 | 0 | 58   |
| 16:35-16:40              | 14         | 0 | 5   | 2           | 14  | 0 | 12          | 24  | 0 | 0          | 0 | 0 | 71   |
| 16:40-16:45              | 15         | 0 | 7   | 0           | 12  | 0 | 9           | 16  | 0 | 0          | 0 | 0 | 59   |
| 16:45-16:50              | 8          | 0 | 4   | 6           | 19  | 0 | 3           | 17  | 0 | 0          | 0 | 0 | 57   |
| 16:50-16:55              | 21         | 0 | 6   | 2           | 16  | 0 | 7           | 17  | 0 | 0          | 0 | 0 | 69   |
| 16:55-17:00              | 9          | 0 | 0   | 3           | 24  | 0 | 9           | 20  | 0 | 0          | 0 | 0 | 65   |
| 17:00-17:05              | 13         | 0 | 2   | 3           | 13  | 0 | 8           | 17  | 0 | 0          | 0 | 0 | 56   |
| 17:05-17:10              | 22         | 0 | 8   | 4           | 22  | 0 | 12          | 17  | 0 | 0          | 0 | 0 | 85   |
| 17:10-17:15              | 11         | 0 | 4   | 2           | 25  | 0 | 17          | 23  | 0 | 0          | 0 | 0 | 82   |
| 17:15-17:20              | 11         | 0 | 9   | 0           | 23  | 0 | 8           | 22  | 0 | 0          | 0 | 0 | 73   |
| 17:20-17:25              | 9          | 0 | 4   | 2           | 15  | 0 | 10          | 18  | 0 | 0          | 0 | 0 | 58   |
| 17:25-17:30              | 12         | 0 | 0   | 4           | 7   | 0 | 10          | 10  | 0 | 0          | 0 | 0 | 43   |
| 17:30-17:35              | 10         | 0 | 2   | 2           | 13  | 0 | 6           | 15  | 0 | 0          | 0 | 0 | 48   |
| 17:35-17:40              | 14         | 0 | 2   | 6           | 17  | 0 | 11          | 20  | 0 | 0          | 0 | 0 | 70   |
| 17:40-17:45              | 7          | 0 | 0   | 2           | 17  | 0 | 6           | 20  | 0 | 0          | 0 | 0 | 52   |
| 17:45-17:50              | 10         | 0 | 3   | 1           | 11  | 0 | 7           | 19  | 0 | 0          | 0 | 0 | 51   |
| 17:50-17:55              | 9          | 0 | 1   | 4           | 16  | 0 | 5           | 16  | 0 | 0          | 0 | 0 | 51   |
| 17:55-18:00              | 5          | 0 | 3   | 1           | 14  | 0 | 7           | 14  | 0 | 0          | 0 | 0 | 44   |
| <hr/>                    |            |   |     |             |     |   |             |     |   |            |   |   |      |
| Total Survey             | 304        | 0 | 98  | 72          | 391 | 0 | 210         | 434 | 0 | 0          | 0 | 0 | 1509 |
| PHF                      | .89        | 0 | .74 | .71         | .79 | 0 | .7          | .92 | 0 | 0          | 0 | 0 | .842 |
| % Trucks                 | 1          | 0 | 2   | 1.4         | 1.3 | 0 | 1.4         | 1.4 | 0 | 0          | 0 | 0 | 1.3  |
| Stopped Buses            | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 |      |
| Peds                     | 0          | 0 | 0   | 0           | 2   | 0 | 0           | 0   | 0 | 0          | 0 | 0 |      |
| <hr/>                    |            |   |     |             |     |   |             |     |   |            |   |   |      |
| Hourly Totals            |            |   |     |             |     |   |             |     |   |            |   |   |      |
| 16:00-17:00              | 171        | 0 | 60  | 41          | 198 | 0 | 103         | 223 | 0 | 0          | 0 | 0 | 796  |
| 16:15-17:15              | 173        | 0 | 55  | 38          | 217 | 0 | 106         | 217 | 0 | 0          | 0 | 0 | 806  |
| 16:30-17:30              | 158        | 0 | 54  | 31          | 205 | 0 | 111         | 217 | 0 | 0          | 0 | 0 | 776  |
| 16:45-17:45              | 147        | 0 | 41  | 36          | 211 | 0 | 107         | 216 | 0 | 0          | 0 | 0 | 758  |
| 17:00-18:00              | 133        | 0 | 38  | 31          | 193 | 0 | 107         | 211 | 0 | 0          | 0 | 0 | 713  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## THOMPSON @ WOODLAND



DATE OF COUNT: 08/13/02  
 DAY OF WEEK: TUE  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5BE

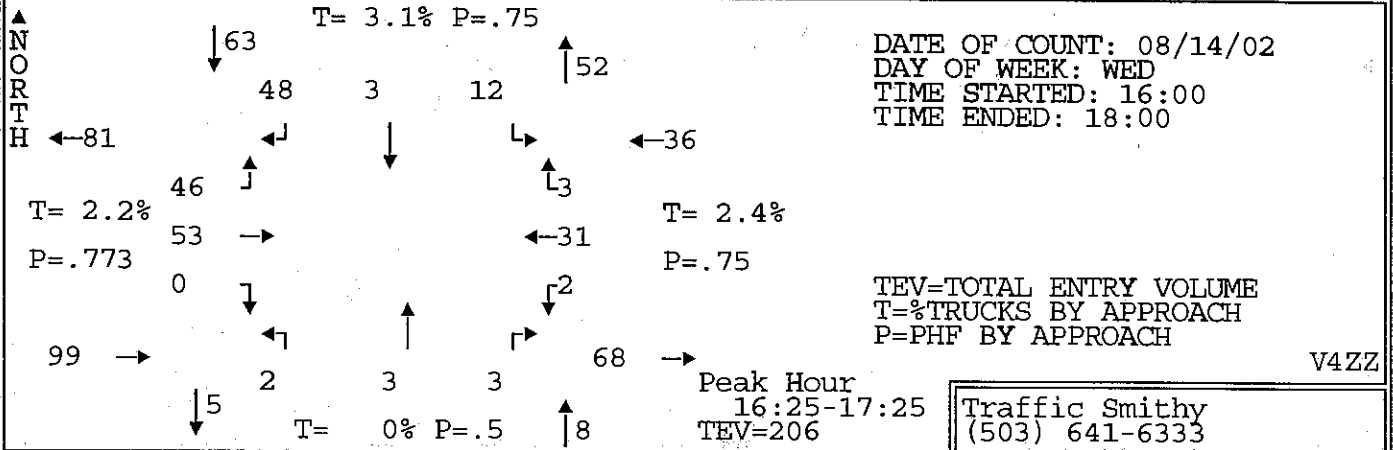
Peak Hour  
 16:00-17:00  
 TEV=978

Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |     | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|-----|-------------|-----|-----|-------------|-----|-----|------------|---|-----|------|
|                          | ↓          | → | ↑   | ←           | ↓   | ↘   | ←           | ↑   | ↗   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 1   | 0           | 32  | 3   | 0           | 26  | 1   | 2          | 0 | 16  | 81   |
| 16:05-16:10              | 0          | 0 | 0   | 0           | 36  | 10  | 0           | 27  | 2   | 1          | 0 | 19  | 95   |
| 16:10-16:15              | 0          | 0 | 0   | 0           | 34  | 11  | 0           | 25  | 1   | 3          | 0 | 15  | 89   |
| 16:15-16:20              | 0          | 0 | 0   | 0           | 36  | 8   | 0           | 20  | 2   | 3          | 0 | 18  | 87   |
| 16:20-16:25              | 0          | 0 | 0   | 0           | 33  | 12  | 0           | 18  | 2   | 5          | 0 | 8   | 78   |
| 16:25-16:30              | 0          | 0 | 0   | 1           | 34  | 4   | 0           | 15  | 0   | 2          | 0 | 15  | 71   |
| 16:30-16:35              | 0          | 0 | 0   | 0           | 26  | 9   | 0           | 30  | 2   | 1          | 0 | 13  | 81   |
| 16:35-16:40              | 0          | 0 | 0   | 0           | 29  | 12  | 0           | 24  | 3   | 0          | 0 | 15  | 83   |
| 16:40-16:45              | 0          | 0 | 0   | 0           | 36  | 10  | 0           | 27  | 0   | 2          | 0 | 6   | 81   |
| 16:45-16:50              | 0          | 0 | 0   | 0           | 32  | 10  | 0           | 21  | 2   | 4          | 0 | 13  | 82   |
| 16:50-16:55              | 0          | 0 | 0   | 0           | 24  | 13  | 0           | 21  | 3   | 6          | 0 | 10  | 77   |
| 16:55-17:00              | 0          | 0 | 0   | 0           | 23  | 2   | 0           | 26  | 2   | 8          | 0 | 12  | 73   |
| 17:00-17:05              | 0          | 0 | 0   | 0           | 26  | 5   | 0           | 25  | 1   | 0          | 0 | 14  | 71   |
| 17:05-17:10              | 0          | 0 | 0   | 0           | 36  | 7   | 0           | 30  | 3   | 1          | 0 | 14  | 91   |
| 17:10-17:15              | 0          | 0 | 0   | 0           | 21  | 6   | 0           | 23  | 5   | 3          | 0 | 11  | 69   |
| 17:15-17:20              | 0          | 0 | 0   | 0           | 29  | 10  | 0           | 24  | 0   | 5          | 0 | 13  | 81   |
| 17:20-17:25              | 0          | 0 | 0   | 0           | 24  | 5   | 0           | 18  | 0   | 0          | 0 | 15  | 62   |
| 17:25-17:30              | 0          | 0 | 0   | 0           | 24  | 14  | 0           | 17  | 1   | 1          | 0 | 9   | 66   |
| 17:30-17:35              | 0          | 0 | 0   | 0           | 19  | 10  | 0           | 19  | 1   | 1          | 0 | 10  | 60   |
| 17:35-17:40              | 0          | 0 | 0   | 0           | 24  | 5   | 0           | 25  | 1   | 1          | 0 | 11  | 67   |
| 17:40-17:45              | 0          | 0 | 0   | 0           | 30  | 12  | 0           | 17  | 3   | 1          | 0 | 7   | 70   |
| 17:45-17:50              | 0          | 0 | 0   | 0           | 16  | 3   | 0           | 22  | 1   | 1          | 0 | 4   | 47   |
| 17:50-17:55              | 0          | 0 | 0   | 0           | 22  | 7   | 0           | 19  | 1   | 3          | 0 | 10  | 62   |
| 17:55-18:00              | 0          | 0 | 0   | 0           | 29  | 5   | 0           | 16  | 1   | 2          | 0 | 5   | 58   |
| <b>Total Survey</b>      |            |   |     |             |     |     |             |     |     |            |   |     |      |
| PHF                      | 0          | 0 | .25 | .25         | 675 | 193 | 0           | 535 | 38  | 56         | 0 | 283 | 1782 |
| % Trucks                 | 0          | 0 | 0   | 0           | 2.5 | .5  | 0           | .86 | .71 | .51        | 0 | .77 | .902 |
| Stopped Buses            | 0          | 0 | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 1 | 0   | 0           | 0   | 0   | 0           | 5   | 0   | 0          | 0 | 0   | 0    |
| <b>Hourly Totals</b>     |            |   |     |             |     |     |             |     |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 1   | 1           | 375 | 104 | 0           | 280 | 20  | 37         | 0 | 160 | 978  |
| 16:15-17:15              | 0          | 0 | 0   | 1           | 356 | 98  | 0           | 280 | 25  | 35         | 0 | 149 | 944  |
| 16:30-17:30              | 0          | 0 | 0   | 0           | 330 | 103 | 0           | 286 | 22  | 31         | 0 | 145 | 917  |
| 16:45-17:45              | 0          | 0 | 0   | 0           | 312 | 99  | 0           | 266 | 22  | 31         | 0 | 139 | 869  |
| 17:00-18:00              | 0          | 0 | 0   | 0           | 300 | 89  | 0           | 255 | 18  | 19         | 0 | 123 | 804  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## CROKER @ LAKESHORE

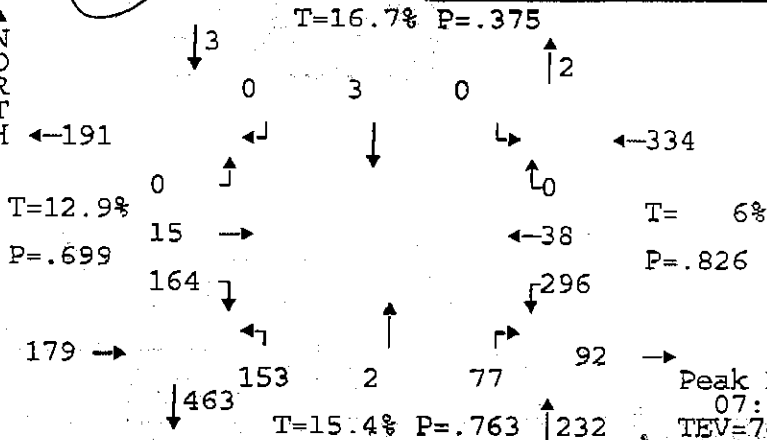


| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------|
|                          | ↓          | →   | ↑   | ←           | ↓   | ↘   | ←           | ↑   | ↗   | ↓          | ←   | ↑   |      |
| 16:00-16:05              | 0          | 4   | 5   | 3           | 0   | 3   | 0           | 0   | 0   | 0          | 5   | 0   | 20   |
| 16:05-16:10              | 0          | 2   | 3   | 3           | 0   | 0   | 0           | 0   | 0   | 0          | 5   | 0   | 13   |
| 16:10-16:15              | 0          | 2   | 5   | 2           | 0   | 0   | 0           | 0   | 0   | 0          | 2   | 0   | 11   |
| 16:15-16:20              | 0          | 3   | 4   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 1   | 1   | 9    |
| 16:20-16:25              | 0          | 3   | 4   | 2           | 0   | 0   | 0           | 0   | 1   | 0          | 2   | 0   | 12   |
| 16:25-16:30              | 0          | 7   | 1   | 7           | 2   | 0   | 0           | 0   | 0   | 0          | 3   | 0   | 20   |
| 16:30-16:35              | 0          | 0   | 4   | 3           | 0   | 1   | 1           | 0   | 0   | 0          | 4   | 1   | 14   |
| 16:35-16:40              | 0          | 4   | 10  | 2           | 0   | 0   | 0           | 0   | 1   | 0          | 4   | 0   | 21   |
| 16:40-16:45              | 0          | 3   | 1   | 1           | 0   | 1   | 0           | 0   | 0   | 0          | 2   | 0   | 8    |
| 16:45-16:50              | 0          | 4   | 2   | 4           | 0   | 1   | 0           | 1   | 0   | 0          | 2   | 1   | 15   |
| 16:50-16:55              | 0          | 7   | 2   | 4           | 0   | 0   | 1           | 0   | 0   | 1          | 1   | 0   | 16   |
| 16:55-17:00              | 0          | 7   | 3   | 4           | 1   | 4   | 0           | 0   | 1   | 0          | 3   | 1   | 24   |
| 17:00-17:05              | 0          | 7   | 6   | 4           | 0   | 1   | 0           | 2   | 0   | 0          | 3   | 0   | 23   |
| 17:05-17:10              | 0          | 4   | 4   | 6           | 0   | 1   | 0           | 0   | 0   | 0          | 2   | 0   | 17   |
| 17:10-17:15              | 0          | 2   | 5   | 4           | 0   | 2   | 0           | 0   | 0   | 0          | 3   | 0   | 16   |
| 17:15-17:20              | 0          | 1   | 1   | 4           | 0   | 0   | 0           | 0   | 1   | 1          | 0   | 0   | 8    |
| 17:20-17:25              | 0          | 7   | 7   | 5           | 0   | 1   | 0           | 0   | 0   | 0          | 4   | 0   | 24   |
| 17:25-17:30              | 0          | 7   | 5   | 4           | 0   | 0   | 0           | 0   | 0   | 0          | 3   | 0   | 19   |
| 17:30-17:35              | 0          | 4   | 4   | 2           | 0   | 0   | 0           | 0   | 1   | 0          | 1   | 1   | 13   |
| 17:35-17:40              | 0          | 5   | 3   | 1           | 0   | 1   | 0           | 0   | 0   | 0          | 3   | 3   | 16   |
| 17:40-17:45              | 0          | 4   | 3   | 3           | 0   | 0   | 0           | 0   | 0   | 0          | 4   | 1   | 15   |
| 17:45-17:50              | 1          | 1   | 3   | 6           | 0   | 0   | 0           | 0   | 0   | 2          | 2   | 0   | 15   |
| 17:50-17:55              | 0          | 2   | 3   | 3           | 0   | 0   | 0           | 0   | 0   | 0          | 5   | 0   | 13   |
| 17:55-18:00              | 0          | 2   | 5   | 1           | 0   | 0   | 0           | 0   | 0   | 0          | 6   | 0   | 14   |
|                          |            |     |     |             |     |     |             |     |     |            |     |     |      |
| Total Survey             | 1          | 92  | 93  | 78          | 3   | 16  | 2           | 3   | 5   | 4          | 70  | 9   | 376  |
| PHF                      | 0          | .63 | .77 | .86         | .38 | .5  | .5          | .38 | .75 | .5         | .7  | .38 | .804 |
| % Trucks                 | 0          | 2.2 | 2.2 | 2.6         | 0   | 6.3 | 0           | 0   | 0   | 0          | 2.9 | 0   | 2.4  |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   |      |
| Peds                     | 0          | 0   | 0   | 0           | 3   | 0   | 0           | 3   | 0   | 0          | 0   | 0   |      |
|                          |            |     |     |             |     |     |             |     |     |            |     |     |      |
| Hourly Totals            |            |     |     |             |     |     |             |     |     |            |     |     |      |
| 16:00-17:00              | 0          | 46  | 44  | 35          | 3   | 10  | 2           | 1   | 3   | 1          | 34  | 4   | 183  |
| 16:15-17:15              | 0          | 51  | 46  | 41          | 3   | 11  | 2           | 3   | 3   | 1          | 30  | 4   | 195  |
| 16:30-17:30              | 0          | 53  | 50  | 45          | 1   | 12  | 2           | 3   | 3   | 2          | 31  | 3   | 205  |
| 16:45-17:45              | 0          | 59  | 45  | 45          | 1   | 11  | 1           | 3   | 3   | 2          | 29  | 7   | 206  |
| 17:00-18:00              | 1          | 46  | 49  | 43          | 0   | 6   | 0           | 2   | 2   | 3          | 36  | 5   | 193  |

19

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT (CORRECTED COUNTS) COOS RIVER HIGHWAY (6TH AVENUE) AT D STREET

NORTH



DATE OF COUNT: 09/17/02  
 DAY OF WEEK: Tue  
 TIME STARTED: 07:00  
 TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

Peak Hour  
 07:20-08:20  
 TEV=748

Traffic Smithy  
 (503) 641-6333

PMMK

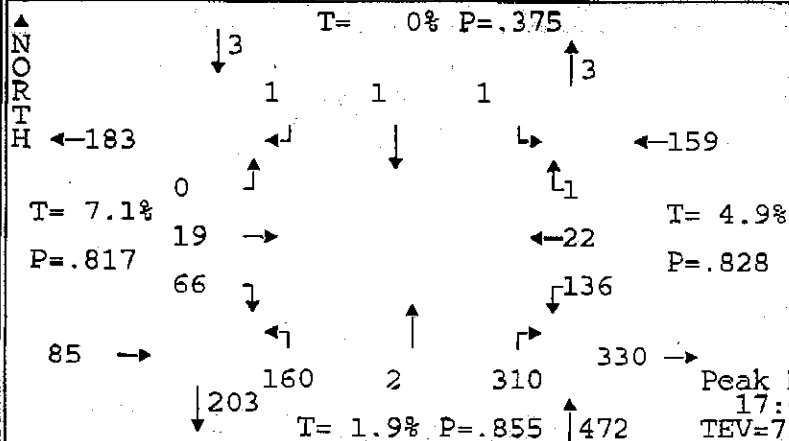
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|---|----|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑ | →  | ↓          | ← | ↑ |     |
| 07:00-07:05              | 3          | 0 | 0 | 0           | 0 | 0 | 10          | 0 | 6  | 14         | 2 | 0 | 35  |
| 07:05-07:10              | 4          | 0 | 0 | 0           | 0 | 0 | 5           | 0 | 3  | 20         | 0 | 0 | 32  |
| 07:10-07:15              | 5          | 1 | 0 | 0           | 0 | 0 | 10          | 0 | 4  | 19         | 3 | 0 | 42  |
| 07:15-07:20              | 6          | 1 | 0 | 0           | 1 | 0 | 3           | 0 | 11 | 27         | 1 | 0 | 50  |
| 07:20-07:25              | 8          | 1 | 0 | 0           | 0 | 0 | 11          | 0 | 5  | 24         | 4 | 0 | 53  |
| 07:25-07:30              | 10         | 2 | 0 | 0           | 0 | 0 | 6           | 0 | 3  | 24         | 6 | 0 | 51  |
| 07:30-07:35              | 11         | 0 | 0 | 0           | 0 | 0 | 11          | 0 | 5  | 19         | 3 | 0 | 49  |
| 07:35-07:40              | 13         | 0 | 0 | 0           | 0 | 0 | 8           | 1 | 4  | 38         | 2 | 0 | 66  |
| 07:40-07:45              | 12         | 0 | 0 | 0           | 0 | 0 | 22          | 0 | 7  | 32         | 2 | 0 | 75  |
| 07:45-07:50              | 24         | 2 | 0 | 0           | 2 | 0 | 18          | 0 | 7  | 22         | 5 | 0 | 80  |
| 07:50-07:55              | 19         | 1 | 0 | 0           | 0 | 0 | 14          | 0 | 8  | 34         | 3 | 0 | 79  |
| 07:55-08:00              | 17         | 1 | 0 | 0           | 0 | 0 | 13          | 1 | 10 | 22         | 6 | 0 | 70  |
| 08:00-08:05              | 17         | 0 | 0 | 0           | 0 | 0 | 12          | 0 | 5  | 18         | 5 | 0 | 57  |
| 08:05-08:10              | 14         | 3 | 0 | 0           | 0 | 0 | 17          | 0 | 10 | 19         | 0 | 0 | 63  |
| 08:10-08:15              | 12         | 3 | 0 | 0           | 1 | 0 | 11          | 0 | 4  | 14         | 1 | 0 | 46  |
| 08:15-08:20              | 7          | 2 | 0 | 0           | 0 | 0 | 10          | 0 | 9  | 30         | 1 | 0 | 59  |
| 08:20-08:25              | 10         | 0 | 0 | 0           | 0 | 0 | 5           | 0 | 3  | 19         | 0 | 0 | 37  |
| 08:25-08:30              | 9          | 1 | 0 | 0           | 0 | 0 | 4           | 0 | 8  | 13         | 1 | 0 | 36  |
| 08:30-08:35              | 6          | 1 | 0 | 0           | 0 | 0 | 2           | 0 | 5  | 19         | 0 | 0 | 33  |
| 08:35-08:40              | 12         | 0 | 0 | 0           | 1 | 0 | 5           | 1 | 10 | 20         | 0 | 1 | 50  |
| 08:40-08:45              | 6          | 1 | 0 | 0           | 1 | 0 | 5           | 0 | 7  | 17         | 3 | 0 | 40  |
| 08:45-08:50              | 2          | 2 | 0 | 0           | 0 | 0 | 5           | 0 | 7  | 14         | 1 | 0 | 31  |
| 08:50-08:55              | 3          | 0 | 0 | 0           | 0 | 0 | 5           | 1 | 6  | 8          | 0 | 0 | 23  |
| 08:55-09:00              | 4          | 0 | 0 | 0           | 0 | 0 | 1           | 0 | 7  | 10         | 0 | 0 | 22  |

|               |      |      |   |   |      |   |      |    |      |     |      |     |      |
|---------------|------|------|---|---|------|---|------|----|------|-----|------|-----|------|
| Total Survey  | 234  | 22   | 0 | 0 | 6    | 0 | 213  | 4  | 154  | 496 | 49   | 1   | 1179 |
| PHF           | .68  | .47  | 0 | 0 | .38  | 0 | .71  | .5 | .77  | .8  | .68  | 0   | .799 |
| % Trucks      | 12.4 | 18.2 | 0 | 0 | 16.7 | 0 | 14.1 | 0  | 17.5 | 5   | 14.3 | 100 | 10.5 |
| Stopped Buses | 0    | 0    | 0 | 0 | 0    | 0 | 0    | 0  | 0    | 0   | 0    | 0   | 0    |
| Peds          | 0    | 0    | 0 | 0 | 1    | 0 | 0    | 0  | 0    | 0   | 5    | 0   | 0    |

|               |     |    |   |   |   |   |     |   |    |     |    |   |     |
|---------------|-----|----|---|---|---|---|-----|---|----|-----|----|---|-----|
| Hourly Totals |     |    |   |   |   |   |     |   |    |     |    |   |     |
| 07:00-08:00   | 132 | 9  | 0 | 0 | 3 | 0 | 131 | 2 | 73 | 295 | 37 | 0 | 682 |
| 07:15-08:15   | 163 | 14 | 0 | 0 | 4 | 0 | 146 | 2 | 79 | 293 | 38 | 0 | 739 |
| 07:30-08:30   | 165 | 13 | 0 | 0 | 3 | 0 | 145 | 2 | 80 | 280 | 29 | 0 | 717 |
| 07:45-08:45   | 153 | 15 | 0 | 0 | 5 | 0 | 116 | 2 | 86 | 247 | 25 | 1 | 650 |
| 08:00-09:00   | 102 | 13 | 0 | 0 | 3 | 0 | 82  | 2 | 81 | 201 | 12 | 1 | 497 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT COOS RIVER HIGHWAY (6TH AVENUE) AT D STREET

(CORRECTED  
COUNTS)



DATE OF COUNT: 09/17/02  
DAY OF WEEK: Tue  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

PMMM

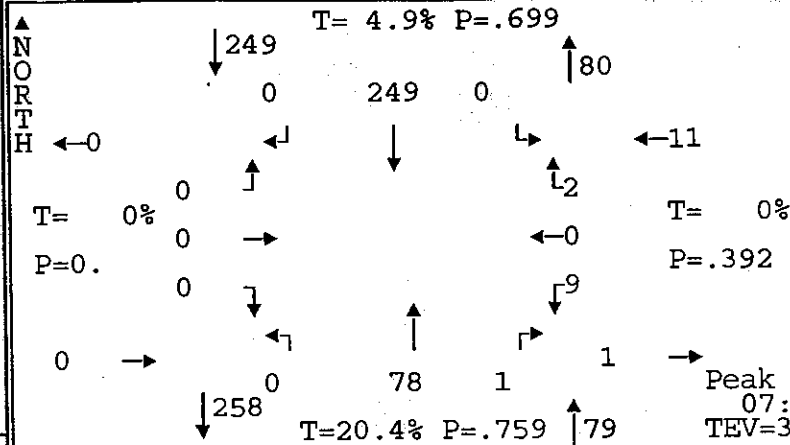
Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|---|----|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | ↘ | ↖           | ↑ | ↗  | ↓          | ← | ↑ |     |
| 16:00-16:05              | 10         | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 22 | 34         | 0 | 0 | 69  |
| 16:05-16:10              | 6          | 1 | 0 | 0           | 0 | 0 | 8           | 0 | 15 | 25         | 2 | 0 | 57  |
| 16:10-16:15              | 3          | 7 | 0 | 0           | 1 | 0 | 10          | 0 | 24 | 11         | 1 | 0 | 57  |
| 16:15-16:20              | 5          | 1 | 0 | 0           | 0 | 0 | 6           | 0 | 25 | 12         | 3 | 0 | 52  |
| 16:20-16:25              | 3          | 1 | 0 | 0           | 0 | 0 | 5           | 0 | 18 | 20         | 1 | 0 | 48  |
| 16:25-16:30              | 4          | 4 | 0 | 0           | 0 | 0 | 5           | 0 | 31 | 10         | 1 | 0 | 55  |
| 16:30-16:35              | 3          | 3 | 0 | 0           | 0 | 0 | 5           | 0 | 17 | 14         | 2 | 0 | 44  |
| 16:35-16:40              | 3          | 3 | 0 | 0           | 0 | 0 | 4           | 0 | 21 | 13         | 1 | 0 | 45  |
| 16:40-16:45              | 2          | 1 | 0 | 0           | 0 | 0 | 4           | 0 | 25 | 12         | 2 | 0 | 46  |
| 16:45-16:50              | 3          | 2 | 0 | 0           | 0 | 0 | 9           | 0 | 15 | 17         | 1 | 0 | 47  |
| 16:50-16:55              | 6          | 0 | 0 | 0           | 0 | 0 | 6           | 0 | 25 | 16         | 1 | 0 | 54  |
| 16:55-17:00              | 10         | 2 | 1 | 0           | 1 | 0 | 4           | 1 | 23 | 12         | 1 | 0 | 55  |
| 17:00-17:05              | 5          | 2 | 0 | 0           | 0 | 0 | 13          | 0 | 25 | 13         | 0 | 0 | 58  |
| 17:05-17:10              | 3          | 0 | 0 | 0           | 1 | 0 | 7           | 0 | 30 | 12         | 2 | 1 | 56  |
| 17:10-17:15              | 5          | 4 | 0 | 0           | 0 | 1 | 9           | 0 | 25 | 16         | 4 | 0 | 64  |
| 17:15-17:20              | 5          | 0 | 0 | 0           | 0 | 0 | 10          | 1 | 22 | 12         | 0 | 0 | 50  |
| 17:20-17:25              | 7          | 0 | 0 | 1           | 0 | 0 | 12          | 0 | 28 | 11         | 1 | 0 | 60  |
| 17:25-17:30              | 5          | 5 | 0 | 0           | 0 | 0 | 8           | 0 | 21 | 12         | 1 | 0 | 52  |
| 17:30-17:35              | 8          | 1 | 0 | 0           | 0 | 0 | 15          | 0 | 30 | 12         | 6 | 0 | 70  |
| 17:35-17:40              | 8          | 1 | 0 | 0           | 0 | 0 | 12          | 0 | 31 | 9          | 1 | 0 | 62  |
| 17:40-17:45              | 5          | 1 | 0 | 0           | 0 | 0 | 17          | 0 | 33 | 16         | 1 | 0 | 73  |
| 17:45-17:50              | 5          | 3 | 0 | 0           | 0 | 0 | 19          | 0 | 26 | 5          | 1 | 0 | 62  |
| 17:50-17:55              | 5          | 2 | 0 | 0           | 0 | 0 | 14          | 0 | 18 | 11         | 4 | 0 | 54  |
| 17:55-18:00              | 4          | 0 | 0 | 0           | 0 | 0 | 24          | 1 | 21 | 7          | 1 | 0 | 58  |

|               |     |     |   |     |     |     |     |    |     |     |     |     |      |
|---------------|-----|-----|---|-----|-----|-----|-----|----|-----|-----|-----|-----|------|
| Total Survey  | 124 | 44  | 1 | 1   | 3   | 1   | 229 | 3  | 571 | 332 | 38  | 1   | 1348 |
| PHF           | .79 | .68 | 0 | .25 | .25 | .25 | .7  | .5 | .82 | .83 | .69 | .25 | .876 |
| % Trucks      | 8.9 | 2.3 | 0 | 0   | 0   | 0   | 2.6 | 0  | 1.6 | 4.8 | 5.3 | 0   | 3.3  |
| Stopped Buses | 0   | 0   | 0 | 0   | 0   | 0   | 0   | 0  | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0   | 0   | 0 | 0   | 1   | 0   | 0   | 0  | 0   | 0   | 12  | 0   | 0    |

|               |    |    |   |   |   |   |     |   |     |     |    |   |     |
|---------------|----|----|---|---|---|---|-----|---|-----|-----|----|---|-----|
| Hourly Totals |    |    |   |   |   |   |     |   |     |     |    |   |     |
| 16:00-17:00   | 58 | 25 | 1 | 0 | 2 | 0 | 69  | 1 | 261 | 196 | 16 | 0 | 629 |
| 16:15-17:15   | 52 | 23 | 1 | 0 | 2 | 1 | 77  | 1 | 280 | 167 | 19 | 1 | 624 |
| 16:30-17:30   | 57 | 22 | 1 | 1 | 2 | 1 | 91  | 2 | 277 | 160 | 16 | 1 | 631 |
| 16:45-17:45   | 68 | 18 | 1 | 1 | 2 | 1 | 122 | 2 | 308 | 158 | 19 | 1 | 701 |
| 17:00-18:00   | 66 | 19 | 0 | 1 | 1 | 1 | 160 | 2 | 310 | 136 | 22 | 1 | 719 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT COOS RIVER HIGHWAY @ "D" ST.



DATE OF COUNT: 08/13/02  
DAY OF WEEK: TUE  
TIME STARTED: 07:00  
TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

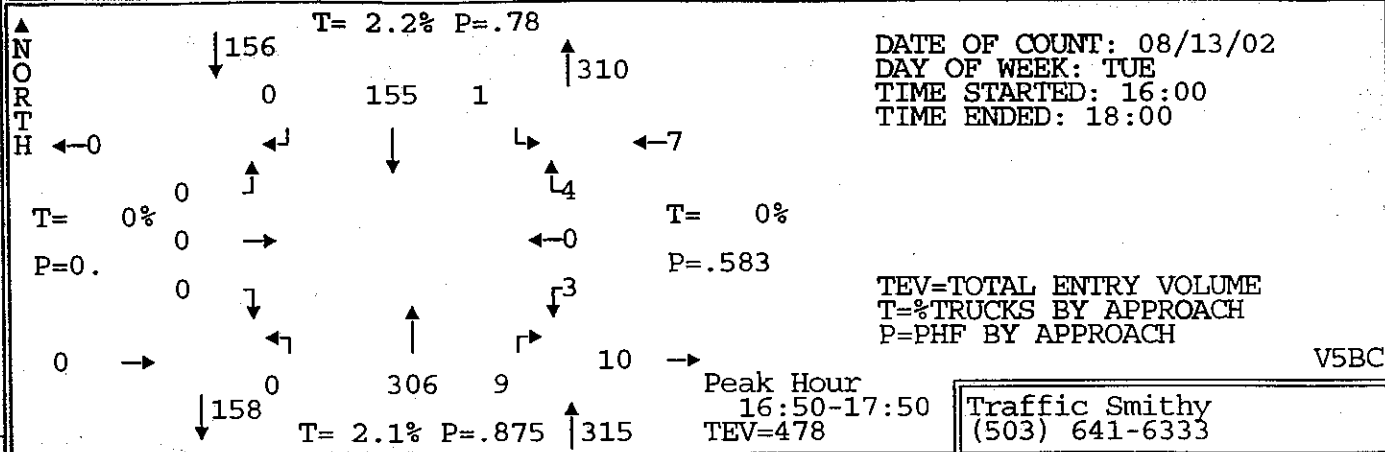
V5BB

Peak Hour  
07:05-08:05  
TEV=339

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |     |   | NORTH BOUND |      |      | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|-----|---|-------------|------|------|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓   | → | ←           | ↑    | →    | ↓          | ← | ↑   |      |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 9   | 0 | 0           | 3    | 0    | 0          | 0 | 0   | 12   |
| 07:05-07:10              | 0          | 0 | 0 | 0           | 20  | 0 | 0           | 6    | 0    | 1          | 0 | 0   | 27   |
| 07:10-07:15              | 0          | 0 | 0 | 0           | 24  | 0 | 0           | 6    | 0    | 1          | 0 | 0   | 31   |
| 07:15-07:20              | 0          | 0 | 0 | 0           | 20  | 0 | 0           | 3    | 0    | 1          | 0 | 1   | 25   |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 12  | 0 | 0           | 4    | 1    | 1          | 0 | 0   | 18   |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 20  | 0 | 0           | 11   | 0    | 3          | 0 | 1   | 35   |
| 07:30-07:35              | 0          | 0 | 0 | 0           | 32  | 0 | 0           | 9    | 0    | 0          | 0 | 0   | 41   |
| 07:35-07:40              | 0          | 0 | 0 | 0           | 30  | 0 | 0           | 6    | 0    | 0          | 0 | 0   | 36   |
| 07:40-07:45              | 0          | 0 | 0 | 0           | 27  | 0 | 0           | 6    | 0    | 0          | 0 | 0   | 33   |
| 07:45-07:50              | 0          | 0 | 0 | 0           | 19  | 0 | 0           | 6    | 0    | 2          | 0 | 0   | 27   |
| 07:50-07:55              | 0          | 0 | 0 | 0           | 13  | 0 | 0           | 3    | 0    | 0          | 0 | 0   | 16   |
| 07:55-08:00              | 0          | 0 | 0 | 0           | 21  | 0 | 0           | 8    | 0    | 0          | 0 | 0   | 29   |
| 08:00-08:05              | 0          | 0 | 0 | 0           | 11  | 0 | 0           | 10   | 0    | 0          | 0 | 0   | 21   |
| 08:05-08:10              | 0          | 0 | 0 | 0           | 14  | 0 | 0           | 10   | 0    | 0          | 0 | 0   | 24   |
| 08:10-08:15              | 0          | 0 | 0 | 0           | 8   | 0 | 0           | 9    | 0    | 0          | 0 | 0   | 17   |
| 08:15-08:20              | 0          | 0 | 0 | 0           | 22  | 0 | 0           | 7    | 0    | 1          | 0 | 0   | 30   |
| 08:20-08:25              | 0          | 0 | 0 | 0           | 13  | 0 | 0           | 7    | 0    | 0          | 0 | 0   | 20   |
| 08:25-08:30              | 0          | 0 | 0 | 0           | 15  | 0 | 0           | 8    | 0    | 0          | 0 | 0   | 23   |
| 08:30-08:35              | 0          | 0 | 0 | 0           | 25  | 2 | 0           | 3    | 0    | 0          | 0 | 0   | 30   |
| 08:35-08:40              | 0          | 0 | 0 | 0           | 15  | 0 | 0           | 7    | 0    | 1          | 0 | 0   | 23   |
| 08:40-08:45              | 0          | 0 | 0 | 0           | 22  | 1 | 0           | 11   | 0    | 1          | 0 | 0   | 35   |
| 08:45-08:50              | 0          | 0 | 0 | 0           | 20  | 0 | 0           | 8    | 0    | 1          | 0 | 0   | 29   |
| 08:50-08:55              | 0          | 0 | 0 | 0           | 12  | 0 | 0           | 4    | 1    | 0          | 0 | 0   | 17   |
| 08:55-09:00              | 0          | 0 | 0 | 0           | 18  | 0 | 0           | 9    | 1    | 1          | 0 | 0   | 29   |
|                          |            |   |   |             |     |   |             |      |      |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 0           | 442 | 3 | 0           | 164  | 3    | 14         | 0 | 2   | 628  |
| PHF                      | 0          | 0 | 0 | 0           | .7  | 0 | 0           | .75  | .25  | .45        | 0 | .25 | .756 |
| % Trucks                 | 0          | 0 | 0 | 0           | 5   | 0 | 0           | 20.1 | 33.3 | 0          | 0 | 0   | 8.9  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0   | 0 | 0           | 0    | 0    | 0          | 0 | 0   |      |
| Peds                     | 0          | 0 | 0 | 0           | 0   | 0 | 0           | 0    | 0    | 0          | 0 | 0   |      |
|                          |            |   |   |             |     |   |             |      |      |            |   |     |      |
| Hourly Totals            |            |   |   |             |     |   |             |      |      |            |   |     |      |
| 07:00-08:00              | 0          | 0 | 0 | 0           | 247 | 0 | 0           | 71   | 1    | 9          | 0 | 2   | 330  |
| 07:15-08:15              | 0          | 0 | 0 | 0           | 227 | 0 | 0           | 85   | 1    | 7          | 0 | 2   | 322  |
| 07:30-08:30              | 0          | 0 | 0 | 0           | 225 | 0 | 0           | 89   | 0    | 3          | 0 | 0   | 317  |
| 07:45-08:45              | 0          | 0 | 0 | 0           | 198 | 3 | 0           | 89   | 0    | 5          | 0 | 0   | 295  |
| 08:00-09:00              | 0          | 0 | 0 | 0           | 195 | 3 | 0           | 93   | 2    | 5          | 0 | 0   | 298  |

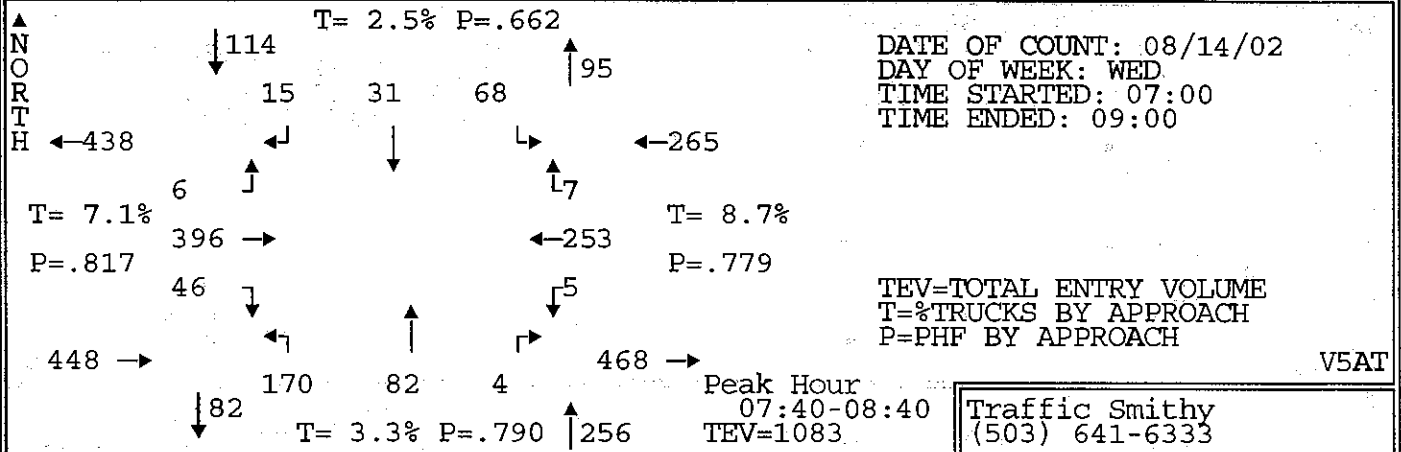
**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COOS RIVER HIGHWAY @ "D" ST**



| TIME PERIOD FROM - TO | EAST BOUND |   |   | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |   |     | ALL  |
|-----------------------|------------|---|---|-------------|-----|-----|-------------|-----|-----|------------|---|-----|------|
|                       | ↓          | → | ↑ | ←           | ↓   | →   | ←           | ↑   | →   | ↓          | ← | ↑   |      |
| 16:00-16:05           | 0          | 0 | 0 | 0           | 9   | 0   | 0           | 19  | 0   | 0          | 0 | 0   | 28   |
| 16:05-16:10           | 0          | 0 | 0 | 0           | 12  | 0   | 0           | 25  | 0   | 0          | 0 | 0   | 37   |
| 16:10-16:15           | 0          | 0 | 0 | 0           | 15  | 0   | 0           | 20  | 0   | 1          | 0 | 0   | 36   |
| 16:15-16:20           | 0          | 0 | 0 | 0           | 10  | 0   | 0           | 24  | 1   | 0          | 0 | 0   | 35   |
| 16:20-16:25           | 0          | 0 | 0 | 0           | 8   | 0   | 0           | 24  | 0   | 0          | 0 | 0   | 32   |
| 16:25-16:30           | 0          | 0 | 0 | 0           | 12  | 0   | 0           | 19  | 0   | 0          | 0 | 0   | 31   |
| 16:30-16:35           | 0          | 0 | 0 | 0           | 12  | 0   | 0           | 18  | 0   | 0          | 0 | 1   | 31   |
| 16:35-16:40           | 0          | 0 | 0 | 0           | 3   | 0   | 0           | 15  | 0   | 0          | 0 | 0   | 18   |
| 16:40-16:45           | 0          | 0 | 0 | 0           | 7   | 0   | 0           | 18  | 0   | 0          | 0 | 0   | 25   |
| 16:45-16:50           | 0          | 0 | 0 | 0           | 13  | 0   | 0           | 20  | 1   | 0          | 0 | 0   | 34   |
| 16:50-16:55           | 0          | 0 | 0 | 0           | 10  | 0   | 0           | 27  | 0   | 0          | 0 | 0   | 37   |
| 16:55-17:00           | 0          | 0 | 0 | 0           | 13  | 1   | 0           | 16  | 0   | 0          | 0 | 0   | 30   |
| 17:00-17:05           | 0          | 0 | 0 | 0           | 12  | 0   | 0           | 27  | 0   | 1          | 0 | 0   | 40   |
| 17:05-17:10           | 0          | 0 | 0 | 0           | 16  | 0   | 0           | 24  | 2   | 1          | 0 | 0   | 43   |
| 17:10-17:15           | 0          | 0 | 0 | 0           | 22  | 0   | 0           | 27  | 0   | 0          | 0 | 0   | 49   |
| 17:15-17:20           | 0          | 0 | 0 | 0           | 11  | 0   | 0           | 23  | 1   | 0          | 0 | 2   | 37   |
| 17:20-17:25           | 0          | 0 | 0 | 0           | 11  | 0   | 0           | 31  | 0   | 0          | 0 | 1   | 43   |
| 17:25-17:30           | 0          | 0 | 0 | 0           | 16  | 0   | 0           | 20  | 1   | 0          | 0 | 0   | 37   |
| 17:30-17:35           | 0          | 0 | 0 | 0           | 11  | 0   | 0           | 36  | 2   | 0          | 0 | 0   | 49   |
| 17:35-17:40           | 0          | 0 | 0 | 0           | 13  | 0   | 0           | 28  | 1   | 1          | 0 | 0   | 43   |
| 17:40-17:45           | 0          | 0 | 0 | 0           | 10  | 0   | 0           | 21  | 2   | 0          | 0 | 1   | 34   |
| 17:45-17:50           | 0          | 0 | 0 | 0           | 10  | 0   | 0           | 26  | 0   | 0          | 0 | 0   | 36   |
| 17:50-17:55           | 0          | 0 | 0 | 0           | 10  | 0   | 0           | 24  | 0   | 1          | 0 | 0   | 35   |
| 17:55-18:00           | 0          | 0 | 0 | 0           | 8   | 0   | 0           | 15  | 1   | 0          | 0 | 0   | 24   |
| <b>Total Survey</b>   |            |   |   |             |     |     |             |     |     |            |   |     |      |
| PHF                   | 0          | 0 | 0 | 0           | 274 | 1   | 0           | 547 | 12  | 5          | 0 | 5   | 844  |
| % Trucks              | 0          | 0 | 0 | 0           | .77 | .25 | 0           | .88 | .45 | .38        | 0 | .33 | .905 |
| Stopped Buses         | 0          | 0 | 0 | 0           | 2.2 | 0   | 0           | 2.2 | 0   | 0          | 0 | 0   | 2.1  |
| Peds                  | 0          | 0 | 0 | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0 | 0   |      |
| <b>Hourly Totals</b>  |            |   |   |             |     |     |             |     |     |            |   |     |      |
| 16:00-17:00           | 0          | 0 | 0 | 0           | 124 | 1   | 0           | 245 | 2   | 1          | 0 | 1   | 374  |
| 16:15-17:15           | 0          | 0 | 0 | 0           | 138 | 1   | 0           | 259 | 4   | 2          | 0 | 1   | 405  |
| 16:30-17:30           | 0          | 0 | 0 | 0           | 146 | 1   | 0           | 266 | 5   | 2          | 0 | 4   | 424  |
| 16:45-17:45           | 0          | 0 | 0 | 0           | 158 | 1   | 0           | 300 | 10  | 3          | 0 | 4   | 476  |
| 17:00-18:00           | 0          | 0 | 0 | 0           | 150 | 0   | 0           | 302 | 10  | 4          | 0 | 4   | 470  |

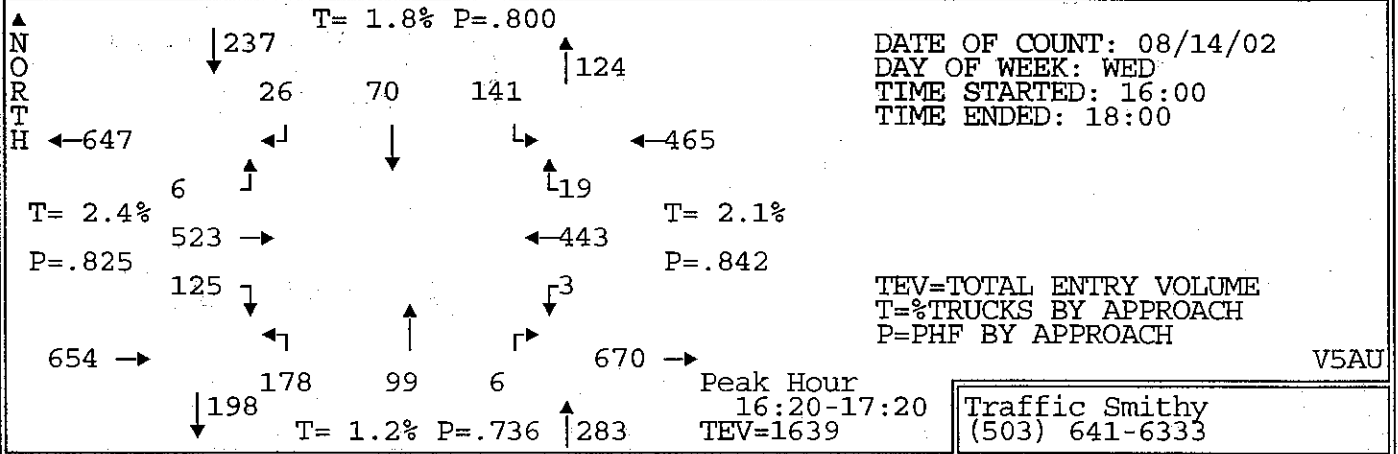


# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CENTRAL @ 10TH



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |    | SOUTH BOUND |     |     | NORTH BOUND |     |      | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|----|-------------|-----|-----|-------------|-----|------|------------|-----|-----|------|
|                          | ↓          | →   | ↑  | ←           | ↓   | →   | ←           | ↑   | →    | ↓          | ←   | ↑   |      |
| 07:00-07:05              | 1          | 19  | 1  | 0           | 1   | 1   | 2           | 2   | 0    | 0          | 15  | 0   | 42   |
| 07:05-07:10              | 2          | 13  | 0  | 0           | 0   | 3   | 2           | 1   | 0    | 0          | 9   | 1   | 31   |
| 07:10-07:15              | 2          | 14  | 0  | 1           | 2   | 1   | 2           | 2   | 0    | 0          | 12  | 1   | 37   |
| 07:15-07:20              | 2          | 20  | 0  | 0           | 0   | 1   | 11          | 2   | 0    | 0          | 3   | 0   | 39   |
| 07:20-07:25              | 1          | 19  | 0  | 0           | 2   | 6   | 8           | 6   | 0    | 0          | 12  | 0   | 54   |
| 07:25-07:30              | 1          | 23  | 0  | 0           | 2   | 1   | 15          | 6   | 1    | 0          | 19  | 1   | 69   |
| 07:30-07:35              | 3          | 23  | 0  | 0           | 3   | 6   | 7           | 5   | 0    | 0          | 6   | 0   | 53   |
| 07:35-07:40              | 3          | 23  | 0  | 2           | 1   | 4   | 7           | 2   | 1    | 0          | 20  | 1   | 64   |
| 07:40-07:45              | 4          | 42  | 0  | 2           | 1   | 4   | 10          | 6   | 1    | 3          | 22  | 0   | 95   |
| 07:45-07:50              | 5          | 37  | 0  | 1           | 3   | 8   | 15          | 7   | 2    | 0          | 26  | 2   | 106  |
| 07:50-07:55              | 4          | 39  | 1  | 2           | 2   | 6   | 28          | 7   | 0    | 1          | 30  | 1   | 121  |
| 07:55-08:00              | 11         | 30  | 0  | 2           | 4   | 11  | 13          | 8   | 1    | 0          | 20  | 0   | 100  |
| 08:00-08:05              | 6          | 46  | 0  | 0           | 3   | 11  | 15          | 8   | 0    | 0          | 16  | 1   | 106  |
| 08:05-08:10              | 4          | 24  | 0  | 2           | 3   | 7   | 11          | 5   | 0    | 0          | 13  | 0   | 69   |
| 08:10-08:15              | 2          | 36  | 0  | 1           | 4   | 1   | 9           | 4   | 0    | 1          | 20  | 1   | 79   |
| 08:15-08:20              | 3          | 21  | 1  | 0           | 0   | 3   | 11          | 9   | 0    | 0          | 22  | 0   | 70   |
| 08:20-08:25              | 1          | 38  | 1  | 1           | 1   | 2   | 15          | 11  | 0    | 0          | 19  | 0   | 89   |
| 08:25-08:30              | 2          | 26  | 1  | 3           | 6   | 3   | 8           | 1   | 0    | 0          | 20  | 0   | 70   |
| 08:30-08:35              | 1          | 26  | 1  | 0           | 2   | 5   | 14          | 7   | 0    | 0          | 21  | 1   | 78   |
| 08:35-08:40              | 3          | 31  | 1  | 1           | 2   | 7   | 21          | 9   | 0    | 0          | 24  | 1   | 100  |
| 08:40-08:45              | 4          | 22  | 0  | 2           | 2   | 3   | 23          | 6   | 1    | 0          | 23  | 1   | 87   |
| 08:45-08:50              | 2          | 53  | 0  | 4           | 3   | 4   | 13          | 7   | 1    | 0          | 27  | 0   | 114  |
| 08:50-08:55              | 7          | 35  | 0  | 2           | 2   | 9   | 15          | 9   | 0    | 0          | 17  | 0   | 96   |
| 08:55-09:00              | 2          | 28  | 0  | 2           | 4   | 9   | 26          | 9   | 0    | 0          | 25  | 1   | 106  |
|                          |            |     |    |             |     |     |             |     |      |            |     |     |      |
| Total Survey             | 76         | 688 | 7  | 28          | 53  | 116 | 301         | 139 | 8    | 5          | 441 | 13  | 1875 |
| PHF                      | .55        | .84 | .5 | .75         | .77 | .59 | .76         | .85 | .33  | .31        | .81 | .58 | .827 |
| % Trucks                 | 2.6        | 7.7 | 0  | 7.1         | 5.7 | 0   | 4.3         | .7  | 12.5 | 40         | 8.4 | 7.7 | 6.1  |
| Stopped Buses            | 0          | 0   | 0  | 0           | 0   | 0   | 0           | 0   | 0    | 0          | 0   | 0   |      |
| Peds                     | 0          | 0   | 0  | 0           | 1   | 0   | 0           | 4   | 0    | 0          | 1   | 0   |      |
|                          |            |     |    |             |     |     |             |     |      |            |     |     |      |
| Hourly Totals            |            |     |    |             |     |     |             |     |      |            |     |     |      |
| 07:00-08:00              | 39         | 302 | 2  | 10          | 21  | 52  | 120         | 54  | 6    | 4          | 194 | 7   | 811  |
| 07:15-08:15              | 46         | 362 | 1  | 12          | 28  | 66  | 149         | 66  | 6    | 5          | 207 | 7   | 955  |
| 07:30-08:30              | 48         | 385 | 4  | 16          | 31  | 66  | 149         | 73  | 5    | 5          | 234 | 6   | 1022 |
| 07:45-08:45              | 46         | 376 | 6  | 15          | 32  | 67  | 183         | 82  | 4    | 2          | 254 | 8   | 1075 |
| 08:00-09:00              | 37         | 386 | 5  | 18          | 32  | 64  | 181         | 85  | 2    | 1          | 247 | 6   | 1064 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CENTRAL @ 10TH



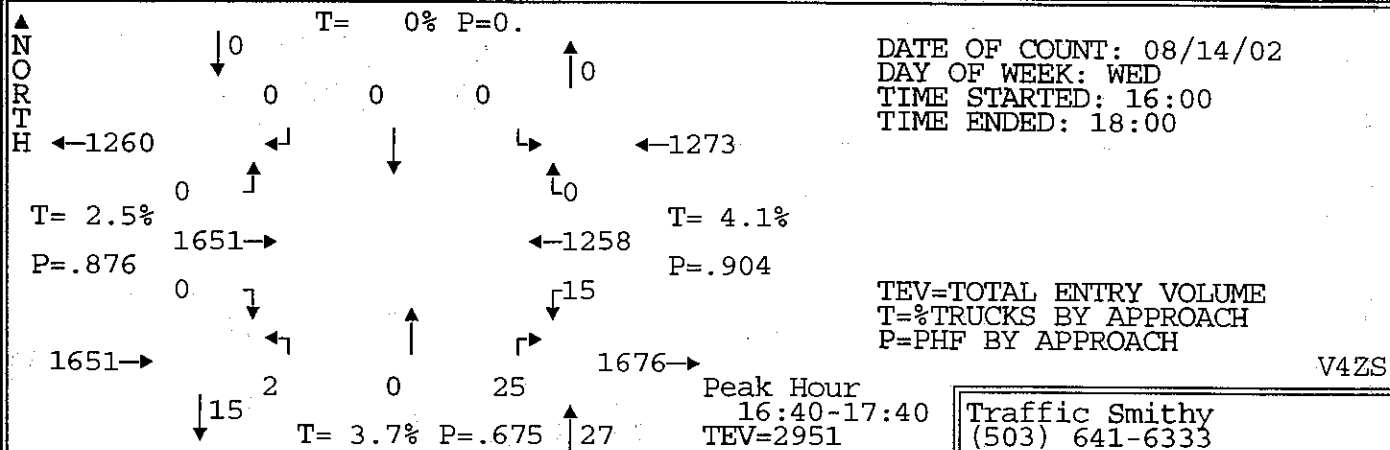
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |    |    | NORTH BOUND |    |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|----|----|-------------|----|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓  | ←  | ←           | ↑  | → | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 6          | 42 | 0 | 3           | 6  | 12 | 18          | 10 | 1 | 2          | 33 | 0 | 133 |
| 16:05-16:10              | 8          | 42 | 3 | 0           | 8  | 14 | 16          | 5  | 2 | 1          | 28 | 3 | 130 |
| 16:10-16:15              | 15         | 44 | 0 | 2           | 4  | 18 | 19          | 9  | 0 | 2          | 39 | 1 | 153 |
| 16:15-16:20              | 8          | 44 | 3 | 0           | 6  | 16 | 15          | 8  | 0 | 1          | 27 | 3 | 131 |
| 16:20-16:25              | 6          | 46 | 0 | 1           | 5  | 10 | 13          | 10 | 0 | 0          | 35 | 1 | 127 |
| 16:25-16:30              | 9          | 36 | 1 | 6           | 6  | 12 | 12          | 2  | 0 | 0          | 30 | 2 | 116 |
| 16:30-16:35              | 9          | 57 | 0 | 4           | 1  | 9  | 10          | 8  | 1 | 1          | 38 | 3 | 141 |
| 16:35-16:40              | 9          | 47 | 0 | 0           | 4  | 12 | 14          | 5  | 0 | 0          | 34 | 2 | 127 |
| 16:40-16:45              | 6          | 35 | 0 | 3           | 5  | 15 | 21          | 7  | 1 | 1          | 19 | 1 | 114 |
| 16:45-16:50              | 16         | 46 | 0 | 2           | 3  | 12 | 10          | 12 | 0 | 0          | 31 | 1 | 133 |
| 16:50-16:55              | 7          | 40 | 1 | 0           | 5  | 11 | 14          | 6  | 1 | 1          | 43 | 2 | 131 |
| 16:55-17:00              | 13         | 30 | 0 | 0           | 11 | 11 | 13          | 13 | 3 | 0          | 36 | 2 | 132 |
| 17:00-17:05              | 6          | 34 | 2 | 2           | 5  | 13 | 17          | 9  | 0 | 0          | 51 | 3 | 142 |
| 17:05-17:10              | 13         | 44 | 2 | 2           | 5  | 13 | 27          | 14 | 0 | 0          | 39 | 0 | 159 |
| 17:10-17:15              | 13         | 52 | 0 | 2           | 15 | 17 | 17          | 8  | 0 | 0          | 40 | 1 | 165 |
| 17:15-17:20              | 18         | 56 | 0 | 4           | 5  | 6  | 10          | 5  | 0 | 0          | 47 | 1 | 152 |
| 17:20-17:25              | 6          | 39 | 0 | 2           | 6  | 5  | 20          | 12 | 0 | 0          | 31 | 0 | 121 |
| 17:25-17:30              | 4          | 31 | 1 | 2           | 1  | 16 | 17          | 8  | 0 | 0          | 32 | 0 | 112 |
| 17:30-17:35              | 6          | 43 | 2 | 1           | 2  | 6  | 20          | 10 | 0 | 1          | 24 | 0 | 115 |
| 17:35-17:40              | 11         | 46 | 1 | 1           | 4  | 3  | 16          | 9  | 1 | 0          | 37 | 3 | 132 |
| 17:40-17:45              | 5          | 34 | 1 | 3           | 7  | 8  | 19          | 7  | 0 | 1          | 33 | 4 | 122 |
| 17:45-17:50              | 11         | 22 | 3 | 0           | 1  | 9  | 16          | 7  | 0 | 1          | 32 | 2 | 104 |
| 17:50-17:55              | 4          | 31 | 0 | 2           | 6  | 14 | 18          | 7  | 0 | 0          | 38 | 0 | 120 |
| 17:55-18:00              | 7          | 34 | 2 | 2           | 5  | 10 | 17          | 5  | 0 | 0          | 23 | 2 | 107 |

|               |     |     |     |     |     |     |     |     |     |     |     |     |      |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Total Survey  | 216 | 975 | 22  | 44  | 126 | 272 | 389 | 196 | 10  | 12  | 820 | 37  | 3119 |
| PHF           | .71 | .86 | .38 | .59 | .7  | .82 | .73 | .69 | .38 | .38 | .85 | .68 | .860 |
| % Trucks      | 2.3 | 2.5 | 0   | 2.3 | 2.4 | 1.5 | 1.8 | 0   | 0   | 0   | 2.1 | 2.7 | 2    |
| Stopped Buses | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0   | 0   | 0   | 0   | 6   | 0   | 0   | 5   | 0   | 0   | 1   | 0   | 0    |

|               |     |     |    |    |    |     |     |     |   |   |     |    |      |
|---------------|-----|-----|----|----|----|-----|-----|-----|---|---|-----|----|------|
| Hourly Totals |     |     |    |    |    |     |     |     |   |   |     |    |      |
| 16:00-17:00   | 112 | 509 | 8  | 21 | 64 | 152 | 175 | 95  | 9 | 9 | 393 | 21 | 1568 |
| 16:15-17:15   | 115 | 511 | 9  | 22 | 71 | 151 | 183 | 102 | 6 | 4 | 423 | 21 | 1618 |
| 16:30-17:30   | 120 | 511 | 6  | 23 | 66 | 140 | 190 | 107 | 6 | 3 | 441 | 16 | 1629 |
| 16:45-17:45   | 118 | 495 | 10 | 21 | 69 | 121 | 200 | 113 | 5 | 3 | 444 | 17 | 1616 |
| 17:00-18:00   | 104 | 466 | 14 | 23 | 62 | 120 | 214 | 101 | 1 | 3 | 427 | 16 | 1551 |

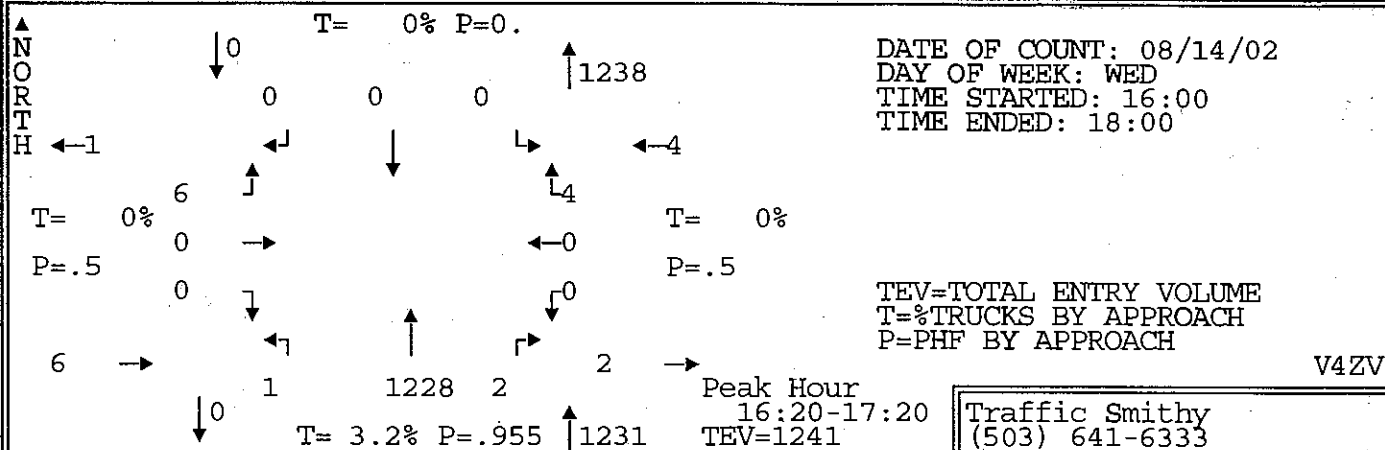
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## FRONT @ HIGHWAY 101



| TIME PERIOD<br>FROM - TO | EAST BOUND |      |   | SOUTH BOUND |   |   | NORTH BOUND |   |     | WEST BOUND |      |   | ALL  |
|--------------------------|------------|------|---|-------------|---|---|-------------|---|-----|------------|------|---|------|
|                          | ↓          | →    | ↑ | ←           | ↓ | → | ←           | ↑ | →   | ↓          | ←    | ↑ |      |
| 16:00-16:05              | 0          | 117  | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 1          | 106  | 0 | 224  |
| 16:05-16:10              | 0          | 118  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 1          | 84   | 0 | 205  |
| 16:10-16:15              | 0          | 124  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 1          | 90   | 0 | 218  |
| 16:15-16:20              | 1          | 120  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 0          | 90   | 0 | 214  |
| 16:20-16:25              | 0          | 109  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 1          | 113  | 0 | 226  |
| 16:25-16:30              | 0          | 124  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 0          | 97   | 0 | 224  |
| 16:30-16:35              | 0          | 133  | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 1          | 103  | 0 | 240  |
| 16:35-16:40              | 0          | 124  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 0          | 106  | 0 | 232  |
| 16:40-16:45              | 0          | 133  | 0 | 0           | 0 | 0 | 0           | 0 | 1   | 3          | 104  | 0 | 241  |
| 16:45-16:50              | 0          | 117  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 1          | 120  | 0 | 241  |
| 16:50-16:55              | 0          | 127  | 0 | 0           | 0 | 0 | 1           | 0 | 0   | 0          | 124  | 0 | 252  |
| 16:55-17:00              | 0          | 130  | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 2          | 92   | 0 | 224  |
| 17:00-17:05              | 0          | 130  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 0          | 98   | 0 | 230  |
| 17:05-17:10              | 0          | 147  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 4          | 107  | 0 | 261  |
| 17:10-17:15              | 0          | 154  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 3          | 103  | 0 | 262  |
| 17:15-17:20              | 0          | 170  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 0          | 95   | 0 | 268  |
| 17:20-17:25              | 0          | 114  | 0 | 0           | 0 | 0 | 0           | 0 | 3   | 1          | 112  | 0 | 230  |
| 17:25-17:30              | 0          | 152  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 0          | 94   | 0 | 248  |
| 17:30-17:35              | 0          | 139  | 0 | 0           | 0 | 0 | 0           | 0 | 5   | 1          | 109  | 0 | 254  |
| 17:35-17:40              | 0          | 138  | 0 | 0           | 0 | 0 | 1           | 0 | 1   | 0          | 100  | 0 | 240  |
| 17:40-17:45              | 0          | 140  | 0 | 0           | 0 | 0 | 0           | 0 | 4   | 1          | 81   | 0 | 226  |
| 17:45-17:50              | 0          | 118  | 0 | 0           | 0 | 0 | 1           | 0 | 1   | 0          | 89   | 0 | 209  |
| 17:50-17:55              | 0          | 105  | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 0          | 68   | 0 | 175  |
| 17:55-18:00              | 0          | 127  | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 97   | 0 | 224  |
| <b>Total Survey</b>      |            |      |   |             |   |   |             |   |     |            |      |   |      |
| PHF                      | 1          | 3110 | 0 | 0           | 0 | 0 | 7           | 0 | 47  | 21         | 2382 | 0 | 5568 |
| % Trucks                 | 0          | .88  | 0 | 0           | 0 | 0 | .5          | 0 | .63 | .54        | .9   | 0 | .932 |
| Stopped Buses            | 0          | 2.5  | 0 | 0           | 0 | 0 | 0           | 0 | 4.3 | 14.3       | 4    | 0 | 3.2  |
| Peds                     | 0          | 0    | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 0    | 0 | 0    |
| 0                        | 5          | 0    | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 0    | 0 | 0    |
| <b>Hourly Totals</b>     |            |      |   |             |   |   |             |   |     |            |      |   |      |
| 16:00-17:00              | 1          | 1476 | 0 | 0           | 0 | 0 | 5           | 0 | 19  | 11         | 1229 | 0 | 2741 |
| 16:15-17:15              | 1          | 1548 | 0 | 0           | 0 | 0 | 5           | 0 | 21  | 15         | 1257 | 0 | 2847 |
| 16:30-17:30              | 0          | 1631 | 0 | 0           | 0 | 0 | 2           | 0 | 23  | 15         | 1258 | 0 | 2929 |
| 16:45-17:45              | 0          | 1658 | 0 | 0           | 0 | 0 | 2           | 0 | 28  | 13         | 1235 | 0 | 2936 |
| 17:00-18:00              | 0          | 1634 | 0 | 0           | 0 | 0 | 2           | 0 | 28  | 10         | 1153 | 0 | 2827 |

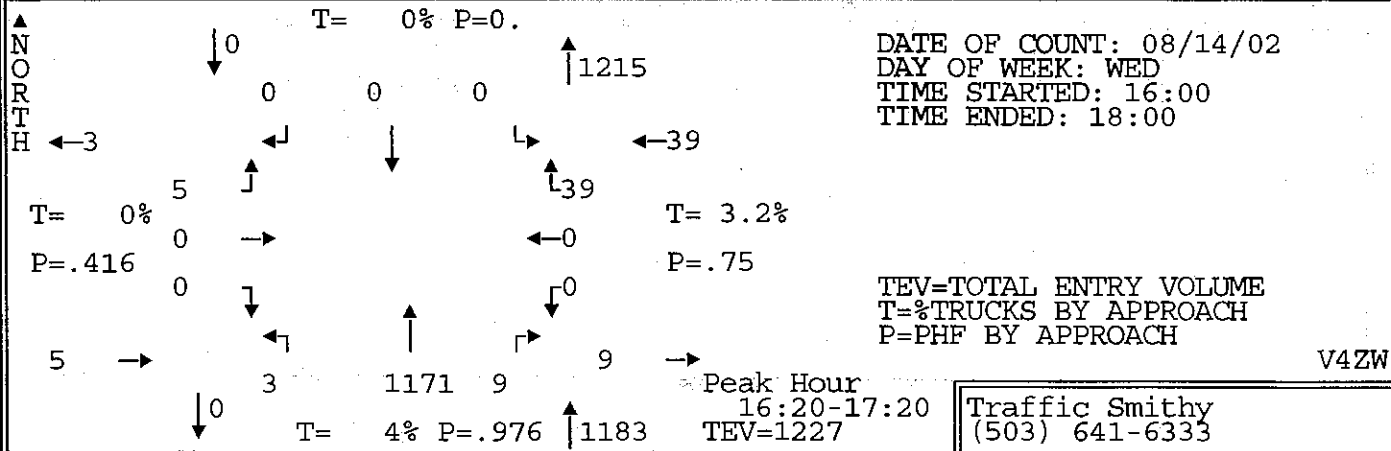
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CEDAR @ BAY SHORE



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |    | SOUTH BOUND |   |   | NORTH BOUND |      |      | WEST BOUND |   |    | ALL  |
|--------------------------|------------|---|----|-------------|---|---|-------------|------|------|------------|---|----|------|
|                          | ↓          | → | ↑  | ←           | ↓ | → | ←           | ↑    | →    | ↓          | ← | ↑  |      |
| 16:00-16:05              | 0          | 0 | 1  | 0           | 0 | 0 | 0           | 84   | 0    | 0          | 0 | 0  | 85   |
| 16:05-16:10              | 0          | 0 | 3  | 0           | 0 | 0 | 0           | 100  | 0    | 0          | 0 | 0  | 103  |
| 16:10-16:15              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 80   | 2    | 0          | 0 | 0  | 82   |
| 16:15-16:20              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 74   | 0    | 0          | 0 | 0  | 74   |
| 16:20-16:25              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 120  | 0    | 0          | 0 | 0  | 120  |
| 16:25-16:30              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 102  | 1    | 0          | 0 | 0  | 103  |
| 16:30-16:35              | 0          | 0 | 1  | 0           | 0 | 0 | 0           | 88   | 0    | 0          | 0 | 0  | 89   |
| 16:35-16:40              | 0          | 0 | 2  | 0           | 0 | 0 | 1           | 100  | 0    | 0          | 0 | 0  | 103  |
| 16:40-16:45              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 101  | 0    | 0          | 0 | 0  | 101  |
| 16:45-16:50              | 0          | 0 | 1  | 0           | 0 | 0 | 0           | 93   | 1    | 0          | 0 | 2  | 97   |
| 16:50-16:55              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 111  | 0    | 0          | 0 | 0  | 111  |
| 16:55-17:00              | 0          | 0 | 2  | 0           | 0 | 0 | 0           | 117  | 0    | 0          | 0 | 0  | 119  |
| 17:00-17:05              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 85   | 0    | 0          | 0 | 0  | 85   |
| 17:05-17:10              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 101  | 0    | 0          | 0 | 0  | 101  |
| 17:10-17:15              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 101  | 0    | 0          | 0 | 1  | 102  |
| 17:15-17:20              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 109  | 0    | 0          | 0 | 1  | 110  |
| 17:20-17:25              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 89   | 1    | 0          | 0 | 1  | 91   |
| 17:25-17:30              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 101  | 0    | 0          | 0 | 2  | 103  |
| 17:30-17:35              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 92   | 0    | 0          | 0 | 0  | 92   |
| 17:35-17:40              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 89   | 2    | 0          | 0 | 0  | 91   |
| 17:40-17:45              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 102  | 1    | 0          | 0 | 0  | 103  |
| 17:45-17:50              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 87   | 0    | 0          | 0 | 1  | 88   |
| 17:50-17:55              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 83   | 0    | 0          | 0 | 0  | 83   |
| 17:55-18:00              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 65   | 0    | 0          | 0 | 0  | 65   |
|                          |            |   |    |             |   |   |             |      |      |            |   |    |      |
| Total Survey             | 0          | 0 | 10 | 0           | 0 | 0 | 1           | 2274 | 8    | 0          | 0 | 8  | 2301 |
| PHF                      | 0          | 0 | .5 | 0           | 0 | 0 | .25         | .96  | .5   | 0          | 0 | .5 | .948 |
| % Trucks                 | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 3.1  | 12.5 | 0          | 0 | 0  | 3.1  |
| Stopped Buses            | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 0    | 0    | 0          | 0 | 0  | 0    |
| Peds                     | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 4    | 0    | 0          | 0 | 0  | 0    |
|                          |            |   |    |             |   |   |             |      |      |            |   |    |      |
| Hourly Totals            |            |   |    |             |   |   |             |      |      |            |   |    |      |
| 16:00-17:00              | 0          | 0 | 10 | 0           | 0 | 0 | 1           | 1170 | 4    | 0          | 0 | 2  | 1187 |
| 16:15-17:15              | 0          | 0 | 6  | 0           | 0 | 0 | 1           | 1193 | 2    | 0          | 0 | 3  | 1205 |
| 16:30-17:30              | 0          | 0 | 6  | 0           | 0 | 0 | 1           | 1196 | 2    | 0          | 0 | 7  | 1212 |
| 16:45-17:45              | 0          | 0 | 3  | 0           | 0 | 0 | 0           | 1190 | 5    | 0          | 0 | 7  | 1205 |
| 17:00-18:00              | 0          | 0 | 0  | 0           | 0 | 0 | 0           | 1104 | 4    | 0          | 0 | 6  | 1114 |

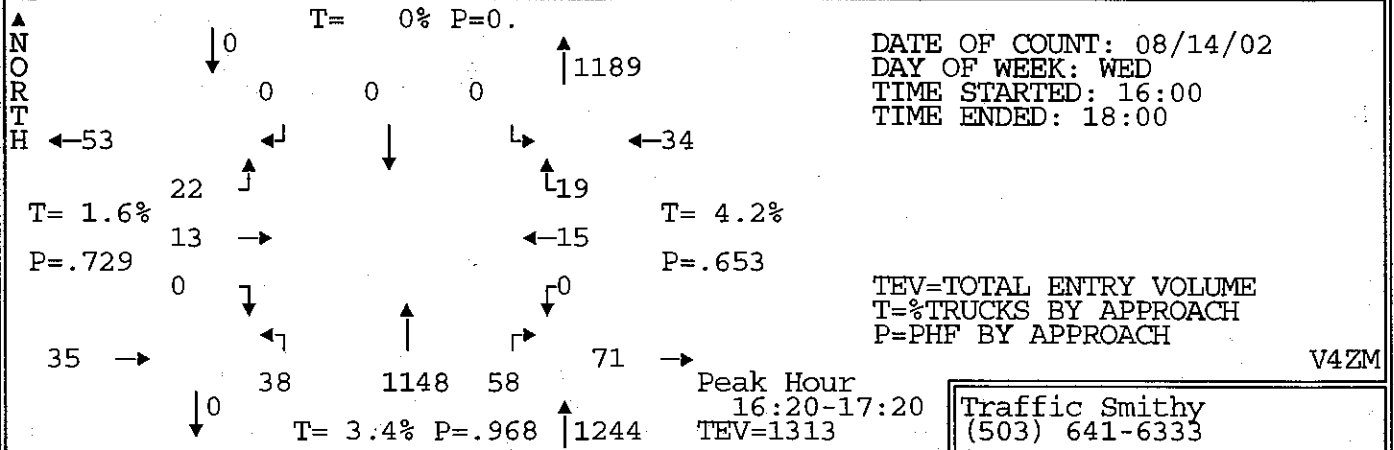
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## BIRCH @ BAYSHORE



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |     | SOUTH BOUND |   |   | NORTH BOUND |      |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|-----|-------------|---|---|-------------|------|-----|------------|---|-----|------|
|                          | ↓          | → | ↑   | ←           | ↓ | → | ←           | ↑    | →   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 95   | 2   | 0          | 0 | 2   | 99   |
| 16:05-16:10              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 83   | 0   | 0          | 0 | 3   | 86   |
| 16:10-16:15              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 81   | 2   | 0          | 0 | 1   | 84   |
| 16:15-16:20              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 79   | 0   | 0          | 0 | 2   | 81   |
| 16:20-16:25              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 111  | 1   | 0          | 0 | 2   | 114  |
| 16:25-16:30              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 96   | 0   | 0          | 0 | 4   | 100  |
| 16:30-16:35              | 0          | 0 | 0   | 0           | 0 | 0 | 1           | 92   | 1   | 0          | 0 | 6   | 100  |
| 16:35-16:40              | 0          | 0 | 2   | 0           | 0 | 0 | 0           | 94   | 1   | 0          | 0 | 1   | 98   |
| 16:40-16:45              | 0          | 0 | 0   | 0           | 0 | 0 | 1           | 99   | 0   | 0          | 0 | 4   | 104  |
| 16:45-16:50              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 96   | 0   | 0          | 0 | 3   | 99   |
| 16:50-16:55              | 0          | 0 | 0   | 0           | 0 | 0 | 1           | 100  | 1   | 0          | 0 | 6   | 108  |
| 16:55-17:00              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 105  | 0   | 0          | 0 | 1   | 106  |
| 17:00-17:05              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 89   | 1   | 0          | 0 | 3   | 93   |
| 17:05-17:10              | 0          | 0 | 1   | 0           | 0 | 0 | 0           | 91   | 0   | 0          | 0 | 3   | 95   |
| 17:10-17:15              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 93   | 2   | 0          | 0 | 3   | 98   |
| 17:15-17:20              | 0          | 0 | 2   | 0           | 0 | 0 | 0           | 105  | 2   | 0          | 0 | 3   | 112  |
| 17:20-17:25              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 88   | 0   | 0          | 0 | 4   | 92   |
| 17:25-17:30              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 85   | 0   | 0          | 0 | 2   | 87   |
| 17:30-17:35              | 0          | 0 | 2   | 0           | 0 | 0 | 1           | 102  | 0   | 0          | 0 | 1   | 106  |
| 17:35-17:40              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 92   | 0   | 0          | 0 | 2   | 94   |
| 17:40-17:45              | 0          | 0 | 3   | 0           | 0 | 0 | 0           | 82   | 0   | 0          | 0 | 1   | 86   |
| 17:45-17:50              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 94   | 0   | 0          | 0 | 1   | 95   |
| 17:50-17:55              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 81   | 1   | 0          | 0 | 3   | 85   |
| 17:55-18:00              | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 61   | 0   | 0          | 0 | 1   | 62   |
| <hr/>                    |            |   |     |             |   |   |             |      |     |            |   |     |      |
| Total Survey             | 0          | 0 | 10  | 0           | 0 | 0 | 4           | 2194 | 14  | 0          | 0 | 62  | 2284 |
| PHF                      | 0          | 0 | .42 | 0           | 0 | 0 | .38         | .97  | .56 | 0          | 0 | .75 | .976 |
| % Trucks                 | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 4    | 0   | 0          | 0 | 3.2 | 3.9  |
| Stopped Buses            | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 0    | 0   | 0          | 0 | 0   |      |
| Peds                     | 0          | 0 | 0   | 0           | 0 | 0 | 0           | 6    | 0   | 0          | 1 | 0   |      |
| <hr/>                    |            |   |     |             |   |   |             |      |     |            |   |     |      |
| Hourly Totals            |            |   |     |             |   |   |             |      |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 2   | 0           | 0 | 0 | 3           | 1131 | 8   | 0          | 0 | 35  | 1179 |
| 16:15-17:15              | 0          | 0 | 3   | 0           | 0 | 0 | 3           | 1145 | 7   | 0          | 0 | 38  | 1196 |
| 16:30-17:30              | 0          | 0 | 5   | 0           | 0 | 0 | 3           | 1137 | 8   | 0          | 0 | 39  | 1192 |
| 16:45-17:45              | 0          | 0 | 8   | 0           | 0 | 0 | 2           | 1128 | 6   | 0          | 0 | 32  | 1176 |
| 17:00-18:00              | 0          | 0 | 8   | 0           | 0 | 0 | 1           | 1063 | 6   | 0          | 0 | 27  | 1105 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT ALDER @ BAYSHORE

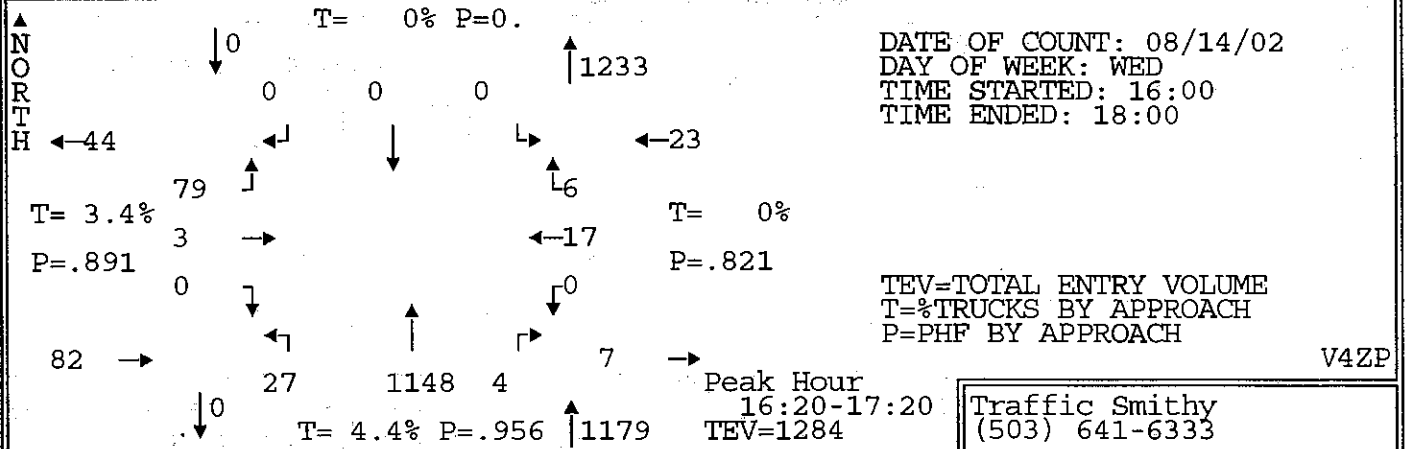


| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑   | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 1 | 0           | 0 | 0 | 3           | 86  | 2 | 0          | 2 | 1 | 95  |
| 16:05-16:10              | 0          | 4 | 0 | 0           | 0 | 0 | 2           | 87  | 5 | 0          | 4 | 1 | 103 |
| 16:10-16:15              | 0          | 0 | 4 | 0           | 0 | 0 | 2           | 80  | 0 | 0          | 1 | 2 | 89  |
| 16:15-16:20              | 0          | 1 | 1 | 0           | 0 | 0 | 1           | 81  | 4 | 0          | 3 | 3 | 94  |
| 16:20-16:25              | 0          | 0 | 2 | 0           | 0 | 0 | 1           | 100 | 4 | 0          | 1 | 2 | 110 |
| 16:25-16:30              | 0          | 3 | 3 | 0           | 0 | 0 | 1           | 89  | 6 | 0          | 2 | 0 | 104 |
| 16:30-16:35              | 0          | 2 | 1 | 0           | 0 | 0 | 8           | 99  | 3 | 0          | 0 | 1 | 114 |
| 16:35-16:40              | 0          | 1 | 1 | 0           | 0 | 0 | 3           | 98  | 9 | 0          | 0 | 1 | 113 |
| 16:40-16:45              | 0          | 1 | 1 | 0           | 0 | 0 | 2           | 82  | 9 | 0          | 0 | 2 | 97  |
| 16:45-16:50              | 0          | 0 | 4 | 0           | 0 | 0 | 3           | 105 | 4 | 0          | 0 | 2 | 118 |
| 16:50-16:55              | 0          | 1 | 0 | 0           | 0 | 0 | 3           | 93  | 1 | 0          | 1 | 4 | 103 |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 0 | 0 | 2           | 103 | 7 | 0          | 4 | 0 | 116 |
| 17:00-17:05              | 0          | 1 | 3 | 0           | 0 | 0 | 6           | 86  | 6 | 0          | 2 | 2 | 106 |
| 17:05-17:10              | 0          | 2 | 4 | 0           | 0 | 0 | 2           | 88  | 4 | 0          | 1 | 1 | 102 |
| 17:10-17:15              | 0          | 0 | 2 | 0           | 0 | 0 | 2           | 104 | 3 | 0          | 2 | 1 | 114 |
| 17:15-17:20              | 0          | 2 | 1 | 0           | 0 | 0 | 5           | 101 | 2 | 0          | 2 | 3 | 116 |
| 17:20-17:25              | 0          | 0 | 2 | 0           | 0 | 0 | 3           | 88  | 4 | 0          | 0 | 1 | 98  |
| 17:25-17:30              | 0          | 0 | 1 | 0           | 0 | 0 | 4           | 88  | 2 | 0          | 2 | 1 | 98  |
| 17:30-17:35              | 0          | 0 | 1 | 0           | 0 | 0 | 6           | 97  | 3 | 0          | 3 | 1 | 111 |
| 17:35-17:40              | 0          | 1 | 1 | 0           | 0 | 0 | 1           | 91  | 2 | 0          | 1 | 0 | 97  |
| 17:40-17:45              | 0          | 3 | 2 | 0           | 0 | 0 | 4           | 79  | 1 | 0          | 2 | 2 | 93  |
| 17:45-17:50              | 0          | 2 | 1 | 0           | 0 | 0 | 2           | 102 | 7 | 0          | 3 | 0 | 117 |
| 17:50-17:55              | 0          | 0 | 1 | 0           | 0 | 0 | 5           | 75  | 2 | 0          | 1 | 1 | 85  |
| 17:55-18:00              | 0          | 1 | 1 | 0           | 0 | 0 | 2           | 63  | 1 | 0          | 2 | 1 | 71  |

|               |   |     |     |   |   |   |     |      |     |   |     |     |      |
|---------------|---|-----|-----|---|---|---|-----|------|-----|---|-----|-----|------|
| Total Survey  | 0 | 25  | 38  | 0 | 0 | 0 | 73  | 2165 | 91  | 0 | 39  | 33  | 2464 |
| PHF           | 0 | .54 | .61 | 0 | 0 | 0 | .73 | .95  | .66 | 0 | .54 | .59 | .974 |
| % Trucks      | 0 | 4   | 0   | 0 | 0 | 0 | 4.1 | 3.4  | 3.3 | 0 | 2.6 | 6.1 | 3.4  |
| Stopped Buses | 0 | 0   | 0   | 0 | 0 | 0 | 0   | 0    | 0   | 0 | 0   | 0   | 0    |
| Peds          | 0 | 0   | 0   | 0 | 4 | 0 | 0   | 6    | 0   | 0 | 2   | 0   | 0    |

|               |   |    |    |   |   |   |    |      |    |   |    |    |      |
|---------------|---|----|----|---|---|---|----|------|----|---|----|----|------|
| Hourly Totals |   |    |    |   |   |   |    |      |    |   |    |    |      |
| 16:00-17:00   | 0 | 13 | 18 | 0 | 0 | 0 | 31 | 1103 | 54 | 0 | 18 | 19 | 1256 |
| 16:15-17:15   | 0 | 12 | 22 | 0 | 0 | 0 | 34 | 1128 | 60 | 0 | 16 | 19 | 1291 |
| 16:30-17:30   | 0 | 10 | 20 | 0 | 0 | 0 | 43 | 1135 | 54 | 0 | 14 | 19 | 1295 |
| 16:45-17:45   | 0 | 10 | 21 | 0 | 0 | 0 | 41 | 1123 | 39 | 0 | 20 | 18 | 1272 |
| 17:00-18:00   | 0 | 12 | 20 | 0 | 0 | 0 | 42 | 1062 | 37 | 0 | 21 | 14 | 1208 |

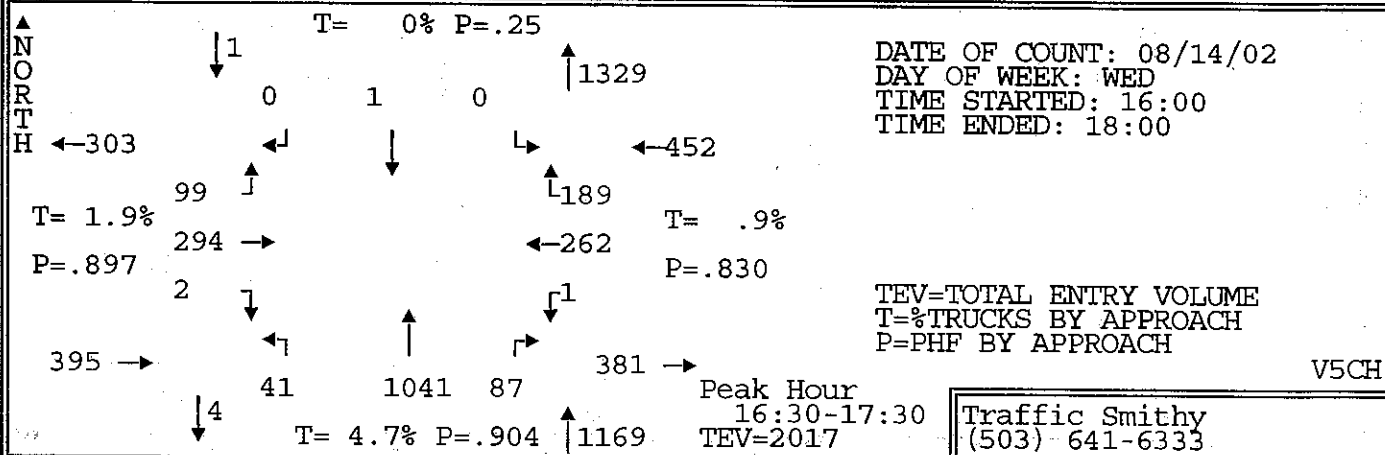
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT MARKET @ BAYSHORE



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |    |   | NORTH BOUND |      |     | WEST BOUND |     |    | ALL  |
|--------------------------|------------|-----|-----|-------------|----|---|-------------|------|-----|------------|-----|----|------|
|                          | ↓          | →   | ↑   | ←           | ↓  | ↘ | ←           | ↑    | ↗   | ↓          | ←   | ↑  |      |
| 16:00-16:05              | 2          | 0   | 3   | 0           | 0  | 0 | 0           | 71   | 0   | 0          | 0   | 0  | 76   |
| 16:05-16:10              | 0          | 1   | 6   | 0           | 0  | 0 | 3           | 83   | 0   | 0          | 2   | 0  | 95   |
| 16:10-16:15              | 0          | 1   | 13  | 0           | 0  | 0 | 1           | 81   | 0   | 0          | 0   | 0  | 96   |
| 16:15-16:20              | 0          | 1   | 4   | 0           | 0  | 0 | 4           | 90   | 1   | 0          | 2   | 0  | 102  |
| 16:20-16:25              | 0          | 0   | 7   | 0           | 0  | 0 | 2           | 92   | 0   | 0          | 3   | 0  | 104  |
| 16:25-16:30              | 0          | 1   | 4   | 0           | 0  | 0 | 5           | 98   | 1   | 0          | 1   | 1  | 111  |
| 16:30-16:35              | 0          | 0   | 10  | 0           | 0  | 0 | 3           | 89   | 2   | 0          | 1   | 0  | 105  |
| 16:35-16:40              | 0          | 0   | 3   | 0           | 0  | 0 | 2           | 102  | 0   | 0          | 1   | 0  | 108  |
| 16:40-16:45              | 0          | 0   | 9   | 0           | 0  | 0 | 2           | 108  | 0   | 0          | 2   | 0  | 121  |
| 16:45-16:50              | 0          | 0   | 7   | 0           | 0  | 0 | 2           | 79   | 0   | 0          | 0   | 1  | 89   |
| 16:50-16:55              | 0          | 1   | 6   | 0           | 0  | 0 | 2           | 110  | 0   | 0          | 0   | 1  | 120  |
| 16:55-17:00              | 0          | 1   | 4   | 0           | 0  | 0 | 1           | 95   | 0   | 0          | 2   | 1  | 104  |
| 17:00-17:05              | 0          | 0   | 6   | 0           | 0  | 0 | 2           | 83   | 0   | 0          | 2   | 0  | 93   |
| 17:05-17:10              | 0          | 0   | 12  | 0           | 0  | 0 | 1           | 103  | 1   | 0          | 1   | 0  | 118  |
| 17:10-17:15              | 0          | 0   | 5   | 0           | 0  | 0 | 2           | 96   | 0   | 0          | 2   | 1  | 106  |
| 17:15-17:20              | 0          | 0   | 6   | 0           | 0  | 0 | 3           | 93   | 0   | 0          | 2   | 1  | 105  |
| 17:20-17:25              | 0          | 0   | 4   | 0           | 0  | 0 | 4           | 84   | 1   | 0          | 0   | 0  | 93   |
| 17:25-17:30              | 0          | 0   | 5   | 0           | 0  | 0 | 3           | 98   | 0   | 0          | 1   | 2  | 109  |
| 17:30-17:35              | 0          | 0   | 3   | 0           | 0  | 0 | 0           | 91   | 0   | 0          | 2   | 0  | 96   |
| 17:35-17:40              | 0          | 1   | 5   | 0           | 0  | 0 | 1           | 82   | 2   | 0          | 0   | 2  | 93   |
| 17:40-17:45              | 0          | 0   | 5   | 0           | 0  | 0 | 1           | 103  | 0   | 0          | 2   | 1  | 112  |
| 17:45-17:50              | 0          | 0   | 1   | 0           | 0  | 0 | 1           | 79   | 0   | 0          | 1   | 0  | 82   |
| 17:50-17:55              | 0          | 0   | 5   | 0           | 0  | 0 | 2           | 60   | 0   | 0          | 0   | 2  | 69   |
| 17:55-18:00              | 0          | 0   | 5   | 0           | 0  | 0 | 0           | 66   | 0   | 0          | 1   | 0  | 72   |
| Total Survey             | 2          | 7   | 138 | 0           | 0  | 0 | 47          | 2136 | 8   | 0          | 28  | 13 | 2379 |
| PHF                      | 0          | .38 | .86 | 0           | 0  | 0 | .68         | .96  | .33 | 0          | .85 | .5 | .961 |
| % Trucks                 | 0          | 0   | 3.6 | 0           | 0  | 0 | 0           | 4.5  | 0   | 0          | 0   | 0  | 4.3  |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0  | 0 | 0           | 0    | 0   | 0          | 0   | 0  | 0    |
| Peds                     | 0          | 0   | 0   | 0           | 11 | 0 | 0           | 3    | 0   | 0          | 0   | 0  | 0    |
| Hourly Totals            |            |     |     |             |    |   |             |      |     |            |     |    |      |
| 16:00-17:00              | 2          | 6   | 76  | 0           | 0  | 0 | 27          | 1098 | 4   | 0          | 14  | 4  | 1231 |
| 16:15-17:15              | 0          | 4   | 77  | 0           | 0  | 0 | 28          | 1145 | 5   | 0          | 17  | 5  | 1281 |
| 16:30-17:30              | 0          | 2   | 77  | 0           | 0  | 0 | 27          | 1140 | 4   | 0          | 14  | 7  | 1271 |
| 16:45-17:45              | 0          | 3   | 68  | 0           | 0  | 0 | 22          | 1117 | 4   | 0          | 14  | 10 | 1238 |
| 17:00-18:00              | 0          | 1   | 62  | 0           | 0  | 0 | 20          | 1038 | 4   | 0          | 14  | 9  | 1148 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## JOHNSON @ BAYSHORE



| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |   |   | NORTH BOUND |     |    | WEST BOUND |    |    | ALL |
|--------------------------|------------|----|----|-------------|---|---|-------------|-----|----|------------|----|----|-----|
|                          | ↓          | →  | ↑  | ←           | ↓ | ↘ | ←           | ↑   | ↗  | ↓          | ←  | ↑  |     |
| 16:00-16:05              | 0          | 20 | 9  | 0           | 0 | 0 | 2           | 65  | 10 | 0          | 23 | 7  | 136 |
| 16:05-16:10              | 0          | 32 | 6  | 0           | 1 | 0 | 1           | 75  | 8  | 0          | 29 | 19 | 171 |
| 16:10-16:15              | 0          | 22 | 8  | 0           | 2 | 0 | 2           | 86  | 10 | 0          | 22 | 13 | 165 |
| 16:15-16:20              | 0          | 23 | 10 | 0           | 0 | 0 | 2           | 70  | 3  | 0          | 21 | 25 | 154 |
| 16:20-16:25              | 0          | 13 | 7  | 0           | 0 | 0 | 3           | 104 | 7  | 0          | 16 | 12 | 162 |
| 16:25-16:30              | 0          | 23 | 8  | 0           | 0 | 0 | 3           | 80  | 11 | 0          | 11 | 21 | 157 |
| 16:30-16:35              | 0          | 19 | 8  | 0           | 0 | 0 | 2           | 87  | 7  | 1          | 21 | 19 | 164 |
| 16:35-16:40              | 0          | 40 | 1  | 0           | 0 | 0 | 7           | 73  | 8  | 0          | 23 | 22 | 174 |
| 16:40-16:45              | 0          | 27 | 15 | 0           | 0 | 0 | 3           | 84  | 9  | 0          | 17 | 18 | 173 |
| 16:45-16:50              | 0          | 13 | 7  | 0           | 0 | 0 | 1           | 98  | 4  | 0          | 16 | 8  | 147 |
| 16:50-16:55              | 2          | 25 | 9  | 0           | 0 | 0 | 2           | 100 | 6  | 0          | 25 | 16 | 185 |
| 16:55-17:00              | 0          | 36 | 9  | 0           | 0 | 0 | 3           | 99  | 10 | 0          | 26 | 10 | 193 |
| 17:00-17:05              | 0          | 11 | 12 | 0           | 1 | 0 | 4           | 76  | 7  | 0          | 14 | 10 | 135 |
| 17:05-17:10              | 0          | 29 | 6  | 0           | 0 | 0 | 5           | 72  | 5  | 0          | 32 | 14 | 163 |
| 17:10-17:15              | 0          | 23 | 8  | 0           | 0 | 0 | 5           | 91  | 11 | 0          | 26 | 17 | 181 |
| 17:15-17:20              | 0          | 17 | 9  | 0           | 0 | 0 | 2           | 98  | 6  | 0          | 23 | 24 | 179 |
| 17:20-17:25              | 0          | 34 | 6  | 0           | 0 | 0 | 2           | 69  | 5  | 0          | 17 | 15 | 148 |
| 17:25-17:30              | 0          | 20 | 9  | 0           | 0 | 0 | 5           | 94  | 9  | 0          | 22 | 16 | 175 |
| 17:30-17:35              | 0          | 28 | 10 | 0           | 0 | 0 | 4           | 68  | 7  | 0          | 28 | 12 | 157 |
| 17:35-17:40              | 0          | 20 | 7  | 0           | 0 | 0 | 3           | 80  | 6  | 0          | 27 | 15 | 158 |
| 17:40-17:45              | 0          | 11 | 7  | 0           | 0 | 0 | 1           | 88  | 4  | 0          | 15 | 21 | 147 |
| 17:45-17:50              | 0          | 30 | 6  | 0           | 0 | 0 | 0           | 60  | 9  | 0          | 16 | 29 | 150 |
| 17:50-17:55              | 0          | 21 | 7  | 0           | 0 | 0 | 0           | 68  | 9  | 0          | 21 | 20 | 146 |
| 17:55-18:00              | 0          | 18 | 0  | 0           | 0 | 0 | 0           | 75  | 10 | 0          | 15 | 16 | 134 |

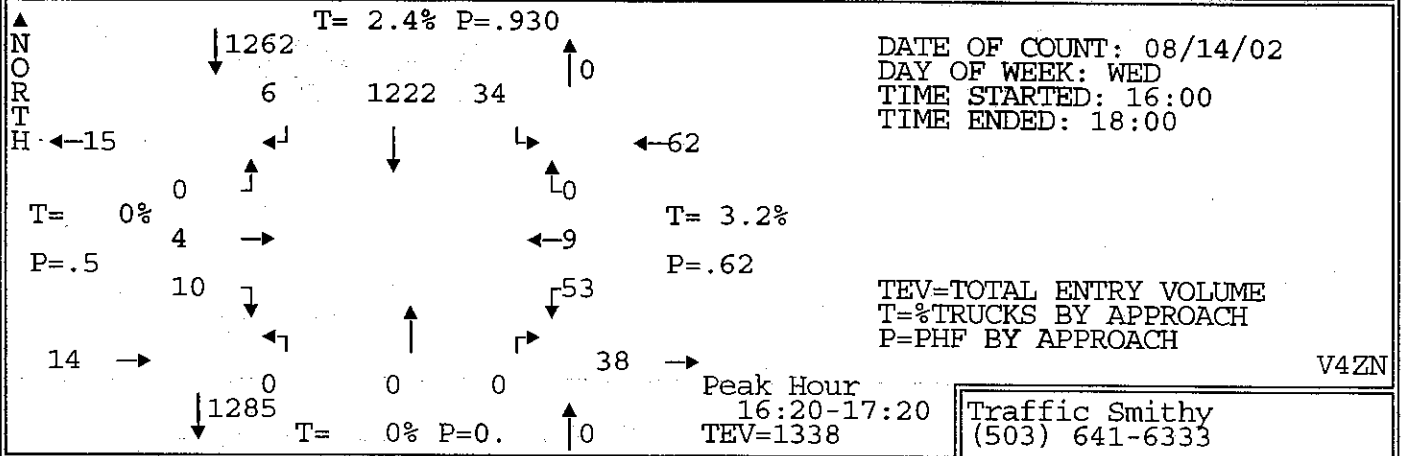
|               |     |     |     |   |     |   |     |      |     |     |     |     |      |
|---------------|-----|-----|-----|---|-----|---|-----|------|-----|-----|-----|-----|------|
| Total Survey  | 2   | 555 | 184 | 0 | 4   | 0 | 62  | 1960 | 181 | 1   | 506 | 399 | 3854 |
| PHF           | .25 | .85 | .8  | 0 | .25 | 0 | .73 | .88  | .91 | .25 | .81 | .8  | .960 |
| % Trucks      | 0   | 1.4 | 3.3 | 0 | 0   | 0 | 0   | 4.8  | 4.4 | 0   | .6  | 1.3 | 3.2  |
| Stopped Buses | 0   | 0   | 0   | 0 | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0   | 0   | 0   | 0 | 0   | 0 | 0   | 0    | 0   | 0   | 0   | 0   | 0    |

|               |   |     |     |   |   |   |    |      |    |   |     |     |      |
|---------------|---|-----|-----|---|---|---|----|------|----|---|-----|-----|------|
| Hourly Totals |   |     |     |   |   |   |    |      |    |   |     |     |      |
| 16:00-17:00   | 2 | 293 | 97  | 0 | 3 | 0 | 31 | 1021 | 93 | 1 | 250 | 190 | 1981 |
| 16:15-17:15   | 2 | 282 | 100 | 0 | 1 | 0 | 40 | 1034 | 88 | 1 | 248 | 192 | 1988 |
| 16:30-17:30   | 2 | 294 | 99  | 0 | 1 | 0 | 41 | 1041 | 87 | 1 | 262 | 189 | 2017 |
| 16:45-17:45   | 2 | 267 | 99  | 0 | 1 | 0 | 37 | 1033 | 80 | 0 | 271 | 178 | 1968 |
| 17:00-18:00   | 0 | 262 | 87  | 0 | 1 | 0 | 31 | 939  | 88 | 0 | 256 | 209 | 1873 |



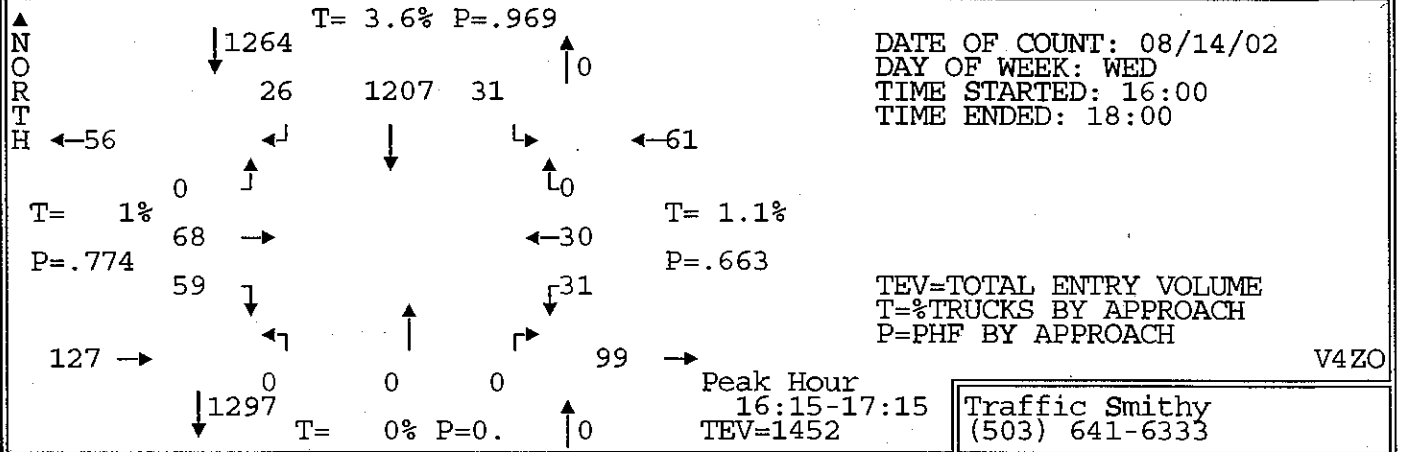
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## ALDER @ BROADWAY



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |   | SOUTH BOUND |      |     | NORTH BOUND |    |   | WEST BOUND |     |   | ALL  |
|--------------------------|------------|-----|---|-------------|------|-----|-------------|----|---|------------|-----|---|------|
|                          | ↓          | →   | ↑ | ←           | ↓    | →   | ←           | ↑  | → | ↓          | ←   | ↑ |      |
| 16:00-16:05              | 0          | 0   | 0 | 0           | 91   | 2   | 0           | 0  | 0 | 6          | 0   | 0 | 99   |
| 16:05-16:10              | 0          | 0   | 0 | 0           | 93   | 3   | 0           | 0  | 0 | 6          | 0   | 0 | 102  |
| 16:10-16:15              | 2          | 0   | 0 | 0           | 96   | 5   | 0           | 0  | 0 | 4          | 0   | 0 | 109  |
| 16:15-16:20              | 1          | 0   | 0 | 0           | 110  | 2   | 0           | 0  | 0 | 6          | 0   | 0 | 119  |
| 16:20-16:25              | 1          | 1   | 0 | 1           | 120  | 3   | 0           | 0  | 0 | 2          | 0   | 0 | 128  |
| 16:25-16:30              | 0          | 0   | 0 | 1           | 91   | 5   | 0           | 0  | 0 | 5          | 0   | 0 | 102  |
| 16:30-16:35              | 1          | 0   | 0 | 1           | 114  | 3   | 0           | 0  | 0 | 6          | 0   | 0 | 125  |
| 16:35-16:40              | 0          | 0   | 0 | 0           | 92   | 1   | 0           | 0  | 0 | 3          | 1   | 0 | 97   |
| 16:40-16:45              | 0          | 0   | 0 | 1           | 105  | 3   | 0           | 0  | 0 | 4          | 0   | 0 | 113  |
| 16:45-16:50              | 1          | 0   | 0 | 0           | 95   | 4   | 0           | 0  | 0 | 1          | 0   | 0 | 101  |
| 16:50-16:55              | 1          | 0   | 0 | 0           | 100  | 2   | 0           | 0  | 0 | 2          | 1   | 0 | 106  |
| 16:55-17:00              | 1          | 0   | 0 | 1           | 90   | 1   | 0           | 0  | 0 | 6          | 1   | 0 | 100  |
| 17:00-17:05              | 3          | 0   | 0 | 0           | 91   | 4   | 0           | 0  | 0 | 7          | 3   | 0 | 108  |
| 17:05-17:10              | 2          | 1   | 0 | 1           | 101  | 5   | 0           | 0  | 0 | 8          | 0   | 0 | 118  |
| 17:10-17:15              | 0          | 1   | 0 | 0           | 106  | 1   | 0           | 0  | 0 | 4          | 1   | 0 | 113  |
| 17:15-17:20              | 0          | 1   | 0 | 0           | 117  | 2   | 0           | 0  | 0 | 5          | 2   | 0 | 127  |
| 17:20-17:25              | 0          | 0   | 0 | 1           | 94   | 2   | 0           | 0  | 0 | 3          | 1   | 0 | 101  |
| 17:25-17:30              | 1          | 0   | 0 | 0           | 111  | 3   | 0           | 0  | 0 | 4          | 0   | 0 | 119  |
| 17:30-17:35              | 2          | 0   | 0 | 0           | 83   | 2   | 0           | 0  | 0 | 8          | 1   | 0 | 96   |
| 17:35-17:40              | 2          | 0   | 0 | 0           | 95   | 0   | 0           | 0  | 0 | 5          | 1   | 0 | 103  |
| 17:40-17:45              | 0          | 0   | 0 | 0           | 106  | 8   | 0           | 0  | 0 | 3          | 1   | 0 | 118  |
| 17:45-17:50              | 0          | 0   | 0 | 0           | 82   | 2   | 0           | 0  | 0 | 5          | 1   | 0 | 90   |
| 17:50-17:55              | 2          | 0   | 0 | 2           | 88   | 1   | 0           | 0  | 0 | 3          | 1   | 0 | 97   |
| 17:55-18:00              | 2          | 0   | 0 | 0           | 106  | 2   | 0           | 0  | 0 | 4          | 1   | 0 | 115  |
|                          |            |     |   |             |      |     |             |    |   |            |     |   |      |
| Total Survey             | 22         | 4   | 0 | 11          | 2377 | 66  | 0           | 0  | 0 | 110        | 16  | 0 | 2606 |
| PHF                      | .42        | .33 | 0 | .5          | .94  | .77 | 0           | 0  | 0 | .63        | .45 | 0 | .934 |
| % Trucks                 | 0          | 0   | 0 | 0           | 2.4  | 1.5 | 0           | 0  | 0 | 3.6        | 0   | 0 | 2.4  |
| Stopped Buses            | 0          | 0   | 0 | 0           | 0    | 0   | 0           | 0  | 0 | 0          | 0   | 0 | 0    |
| Peds                     | 0          | 0   | 0 | 0           | 11   | 0   | 0           | 11 | 0 | 0          | 2   | 0 | 0    |
|                          |            |     |   |             |      |     |             |    |   |            |     |   |      |
| Hourly Totals            |            |     |   |             |      |     |             |    |   |            |     |   |      |
| 16:00-17:00              | 8          | 1   | 0 | 7           | 1197 | 34  | 0           | 0  | 0 | 51         | 3   | 0 | 1301 |
| 16:15-17:15              | 11         | 3   | 0 | 6           | 1215 | 34  | 0           | 0  | 0 | 54         | 7   | 0 | 1330 |
| 16:30-17:30              | 10         | 3   | 0 | 5           | 1216 | 31  | 0           | 0  | 0 | 53         | 10  | 0 | 1328 |
| 16:45-17:45              | 13         | 3   | 0 | 3           | 1189 | 34  | 0           | 0  | 0 | 56         | 12  | 0 | 1310 |
| 17:00-18:00              | 14         | 3   | 0 | 4           | 1180 | 32  | 0           | 0  | 0 | 59         | 13  | 0 | 1305 |

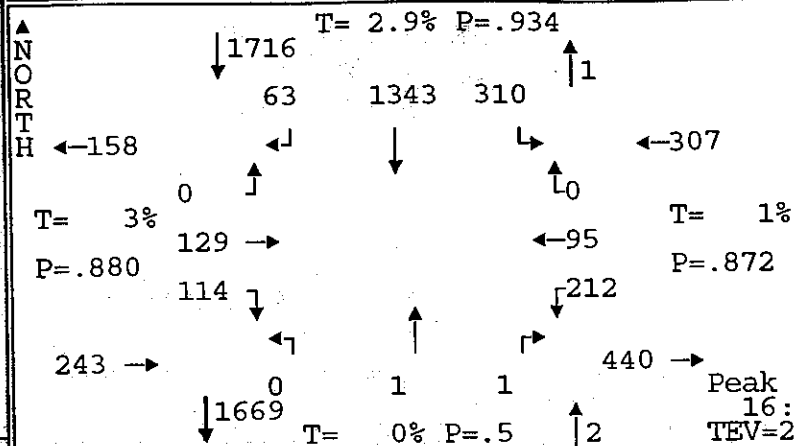
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT MARKET @ BROADWAY



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |   | SOUTH BOUND |      |     | NORTH BOUND |    |   | WEST BOUND |     |   | ALL  |
|--------------------------|------------|-----|---|-------------|------|-----|-------------|----|---|------------|-----|---|------|
|                          | ↓          | →   | ↑ | ←           | ↓    | →   | ←           | ↑  | → | ↓          | ←   | ↑ |      |
| 16:00-16:05              | 2          | 4   | 0 | 1           | 87   | 2   | 0           | 0  | 0 | 0          | 0   | 0 | 96   |
| 16:05-16:10              | 2          | 6   | 0 | 3           | 100  | 2   | 0           | 0  | 0 | 0          | 3   | 0 | 116  |
| 16:10-16:15              | 3          | 7   | 0 | 2           | 102  | 5   | 0           | 0  | 0 | 0          | 1   | 0 | 120  |
| 16:15-16:20              | 5          | 6   | 0 | 5           | 103  | 4   | 0           | 0  | 0 | 4          | 3   | 0 | 130  |
| 16:20-16:25              | 4          | 9   | 0 | 2           | 108  | 0   | 0           | 0  | 0 | 3          | 4   | 0 | 130  |
| 16:25-16:30              | 2          | 5   | 0 | 2           | 99   | 1   | 0           | 0  | 0 | 6          | 3   | 0 | 118  |
| 16:30-16:35              | 7          | 4   | 0 | 3           | 96   | 7   | 0           | 0  | 0 | 2          | 4   | 0 | 123  |
| 16:35-16:40              | 1          | 4   | 0 | 1           | 108  | 1   | 0           | 0  | 0 | 3          | 2   | 0 | 120  |
| 16:40-16:45              | 3          | 7   | 0 | 1           | 95   | 6   | 0           | 0  | 0 | 3          | 3   | 0 | 118  |
| 16:45-16:50              | 7          | 4   | 0 | 3           | 104  | 3   | 0           | 0  | 0 | 0          | 2   | 0 | 123  |
| 16:50-16:55              | 5          | 5   | 0 | 2           | 103  | 1   | 0           | 0  | 0 | 0          | 0   | 0 | 118  |
| 16:55-17:00              | 3          | 5   | 0 | 2           | 76   | 2   | 0           | 0  | 0 | 0          | 3   | 0 | 91   |
| 17:00-17:05              | 8          | 4   | 0 | 0           | 116  | 2   | 0           | 0  | 0 | 2          | 2   | 0 | 134  |
| 17:05-17:10              | 7          | 9   | 0 | 2           | 96   | 4   | 0           | 0  | 0 | 2          | 3   | 0 | 123  |
| 17:10-17:15              | 7          | 6   | 0 | 3           | 103  | 0   | 0           | 0  | 0 | 4          | 1   | 0 | 124  |
| 17:15-17:20              | 3          | 3   | 0 | 0           | 114  | 3   | 0           | 0  | 0 | 3          | 3   | 0 | 129  |
| 17:20-17:25              | 7          | 3   | 0 | 0           | 101  | 2   | 0           | 0  | 0 | 2          | 4   | 0 | 119  |
| 17:25-17:30              | 3          | 4   | 0 | 3           | 102  | 1   | 0           | 0  | 0 | 1          | 3   | 0 | 117  |
| 17:30-17:35              | 2          | 3   | 0 | 1           | 90   | 1   | 0           | 0  | 0 | 1          | 1   | 0 | 99   |
| 17:35-17:40              | 0          | 3   | 0 | 1           | 87   | 2   | 0           | 0  | 0 | 0          | 1   | 0 | 94   |
| 17:40-17:45              | 1          | 2   | 0 | 3           | 117  | 2   | 0           | 0  | 0 | 2          | 1   | 0 | 128  |
| 17:45-17:50              | 3          | 1   | 0 | 1           | 77   | 0   | 0           | 0  | 0 | 1          | 2   | 0 | 85   |
| 17:50-17:55              | 2          | 4   | 0 | 0           | 102  | 2   | 0           | 0  | 0 | 0          | 2   | 0 | 112  |
| 17:55-18:00              | 2          | 2   | 0 | 2           | 88   | 4   | 0           | 0  | 0 | 2          | 0   | 0 | 100  |
| <hr/>                    |            |     |   |             |      |     |             |    |   |            |     |   |      |
| Total Survey             | 89         | 110 | 0 | 43          | 2374 | 57  | 0           | 0  | 0 | 43         | 51  | 0 | 2767 |
| PHF                      | .67        | .85 | 0 | .72         | .96  | .55 | 0           | 0  | 0 | .6         | .68 | 0 | .952 |
| % Trucks                 | 0          | 1.8 | 0 | 2.3         | 3.5  | 7   | 0           | 0  | 0 | 2.3        | 0   | 0 | 3.3  |
| Stopped Buses            | 0          | 0   | 0 | 0           | 0    | 0   | 0           | 0  | 0 | 0          | 0   | 0 |      |
| Peds                     | 0          | 4   | 0 | 0           | 22   | 0   | 0           | 15 | 0 | 0          | 5   | 0 |      |
| <hr/>                    |            |     |   |             |      |     |             |    |   |            |     |   |      |
| Hourly Totals            |            |     |   |             |      |     |             |    |   |            |     |   |      |
| 16:00-17:00              | 44         | 66  | 0 | 27          | 1181 | 34  | 0           | 0  | 0 | 23         | 28  | 0 | 1403 |
| 16:15-17:15              | 59         | 68  | 0 | 26          | 1207 | 31  | 0           | 0  | 0 | 31         | 30  | 0 | 1452 |
| 16:30-17:30              | 61         | 58  | 0 | 20          | 1214 | 32  | 0           | 0  | 0 | 24         | 30  | 0 | 1439 |
| 16:45-17:45              | 53         | 51  | 0 | 20          | 1209 | 23  | 0           | 0  | 0 | 19         | 24  | 0 | 1399 |
| 17:00-18:00              | 45         | 44  | 0 | 16          | 1193 | 23  | 0           | 0  | 0 | 20         | 23  | 0 | 1364 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## JOHNSON @ BROADWAY



DATE OF COUNT: 08/14/02  
 DAY OF WEEK: TUE  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5CG

Peak Hour  
 16:40-17:40  
 TEV=2268

Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |     |    | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|-----|----|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓   | →  | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 4          | 14 | 0 | 1           | 84  | 26 | 0           | 0 | 0 | 19         | 9  | 0 | 157 |
| 16:05-16:10              | 10         | 8  | 0 | 5           | 103 | 28 | 0           | 0 | 0 | 20         | 3  | 0 | 177 |
| 16:10-16:15              | 6          | 14 | 0 | 5           | 95  | 23 | 0           | 0 | 0 | 22         | 7  | 0 | 172 |
| 16:15-16:20              | 5          | 14 | 0 | 10          | 100 | 29 | 0           | 0 | 0 | 11         | 6  | 0 | 175 |
| 16:20-16:25              | 4          | 19 | 0 | 5           | 116 | 19 | 0           | 0 | 0 | 16         | 8  | 0 | 187 |
| 16:25-16:30              | 4          | 11 | 0 | 4           | 102 | 20 | 0           | 0 | 0 | 11         | 7  | 0 | 159 |
| 16:30-16:35              | 11         | 10 | 0 | 4           | 102 | 22 | 0           | 0 | 0 | 15         | 7  | 0 | 171 |
| 16:35-16:40              | 10         | 8  | 0 | 3           | 95  | 27 | 0           | 0 | 0 | 20         | 11 | 0 | 174 |
| 16:40-16:45              | 10         | 13 | 0 | 4           | 123 | 30 | 0           | 0 | 0 | 15         | 7  | 0 | 202 |
| 16:45-16:50              | 12         | 10 | 0 | 1           | 106 | 25 | 0           | 0 | 0 | 16         | 9  | 0 | 179 |
| 16:50-16:55              | 10         | 14 | 0 | 10          | 84  | 27 | 0           | 0 | 0 | 14         | 8  | 0 | 167 |
| 16:55-17:00              | 8          | 10 | 0 | 5           | 114 | 29 | 0           | 0 | 0 | 20         | 5  | 0 | 191 |
| 17:00-17:05              | 7          | 11 | 0 | 3           | 111 | 19 | 0           | 1 | 0 | 16         | 6  | 0 | 174 |
| 17:05-17:10              | 10         | 12 | 0 | 9           | 101 | 29 | 0           | 0 | 0 | 23         | 9  | 0 | 193 |
| 17:10-17:15              | 9          | 9  | 0 | 9           | 128 | 18 | 0           | 0 | 0 | 22         | 9  | 0 | 204 |
| 17:15-17:20              | 13         | 8  | 0 | 5           | 128 | 24 | 0           | 0 | 0 | 16         | 9  | 0 | 203 |
| 17:20-17:25              | 14         | 7  | 0 | 7           | 108 | 32 | 0           | 0 | 1 | 10         | 7  | 0 | 186 |
| 17:25-17:30              | 7          | 17 | 0 | 2           | 110 | 28 | 0           | 0 | 0 | 17         | 9  | 0 | 190 |
| 17:30-17:35              | 9          | 10 | 0 | 4           | 106 | 24 | 0           | 0 | 0 | 21         | 8  | 0 | 182 |
| 17:35-17:40              | 5          | 8  | 0 | 4           | 124 | 25 | 0           | 0 | 0 | 22         | 9  | 0 | 197 |
| 17:40-17:45              | 7          | 11 | 0 | 3           | 104 | 13 | 0           | 0 | 0 | 19         | 3  | 0 | 160 |
| 17:45-17:50              | 5          | 6  | 0 | 6           | 107 | 24 | 0           | 0 | 0 | 6          | 4  | 0 | 158 |
| 17:50-17:55              | 7          | 5  | 0 | 5           | 96  | 25 | 0           | 0 | 1 | 19         | 7  | 0 | 165 |
| 17:55-18:00              | 3          | 1  | 0 | 5           | 93  | 24 | 0           | 0 | 0 | 15         | 2  | 0 | 143 |

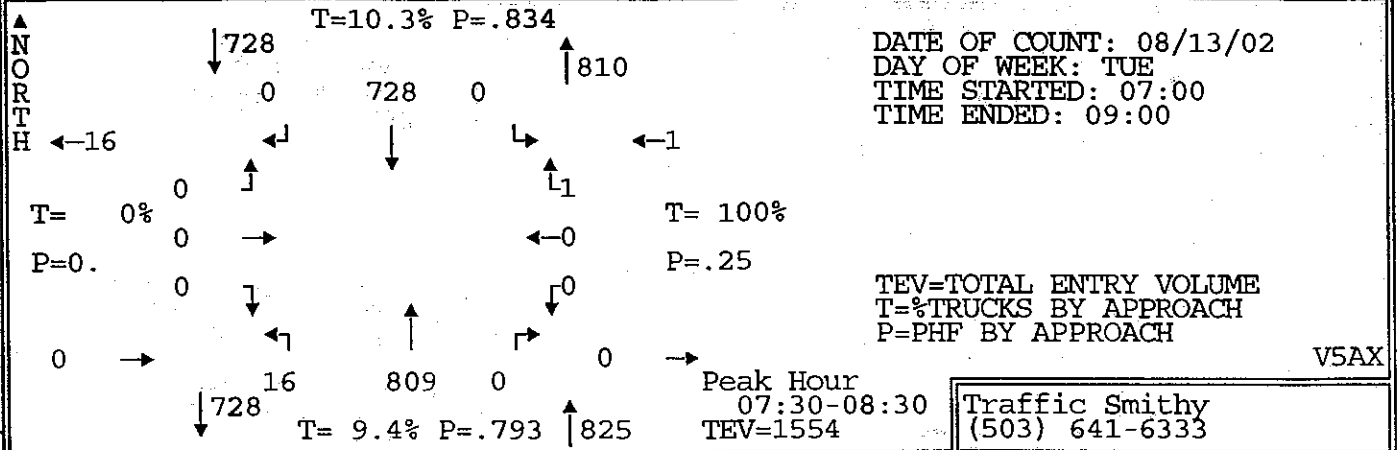
|               |     |     |   |     |      |     |   |     |     |     |     |   |      |
|---------------|-----|-----|---|-----|------|-----|---|-----|-----|-----|-----|---|------|
| Total Survey  | 190 | 250 | 0 | 119 | 2540 | 590 | 0 | 1   | 2   | 405 | 169 | 0 | 4266 |
| PHF           | .79 | .87 | 0 | .68 | .92  | .92 | 0 | .25 | .25 | .87 | .88 | 0 | .945 |
| % Trucks      | 2.6 | 3.2 | 0 | 2.5 | 3.3  | 1.4 | 0 | 0   | 0   | .5  | 2.4 | 0 | 2.6  |
| Stopped Buses | 0   | 0   | 0 | 0   | 0    | 0   | 0 | 0   | 0   | 0   | 0   | 0 | 0    |
| Peds          | 0   | 1   | 0 | 0   | 2    | 0   | 0 | 6   | 0   | 0   | 3   | 0 | 0    |

### Hourly Totals

|             |     |     |   |    |      |     |   |   |   |     |    |   |      |
|-------------|-----|-----|---|----|------|-----|---|---|---|-----|----|---|------|
| 16:00-17:00 | 94  | 145 | 0 | 57 | 1224 | 305 | 0 | 0 | 0 | 199 | 87 | 0 | 2111 |
| 16:15-17:15 | 100 | 141 | 0 | 67 | 1282 | 294 | 0 | 1 | 0 | 199 | 92 | 0 | 2176 |
| 16:30-17:30 | 121 | 129 | 0 | 62 | 1310 | 310 | 0 | 1 | 1 | 204 | 96 | 0 | 2234 |
| 16:45-17:45 | 111 | 127 | 0 | 62 | 1324 | 293 | 0 | 1 | 1 | 216 | 91 | 0 | 2226 |
| 17:00-18:00 | 96  | 105 | 0 | 62 | 1316 | 285 | 0 | 1 | 2 | 206 | 82 | 0 | 2155 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

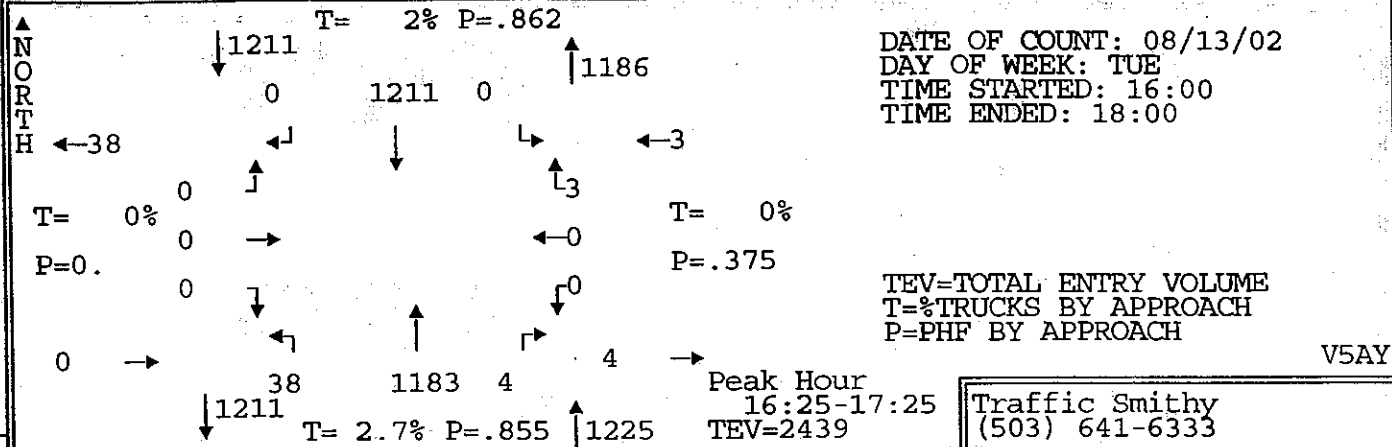
## BROADWAY/BAYSHORE @ FIR



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |   | NORTH BOUND |      |   | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|------|---|-------------|------|---|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓    | → | ←           | ↑    | → | ↓          | ← | ↑   |      |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 37   | 0 | 1           | 44   | 0 | 0          | 0 | 0   | 82   |
| 07:05-07:10              | 0          | 0 | 0 | 0           | 41   | 0 | 0           | 43   | 0 | 0          | 0 | 0   | 84   |
| 07:10-07:15              | 0          | 0 | 0 | 0           | 28   | 0 | 0           | 43   | 0 | 0          | 0 | 0   | 71   |
| 07:15-07:20              | 0          | 0 | 0 | 0           | 37   | 0 | 0           | 53   | 0 | 0          | 0 | 0   | 90   |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 27   | 0 | 0           | 45   | 0 | 0          | 0 | 0   | 72   |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 43   | 0 | 1           | 49   | 0 | 0          | 0 | 0   | 93   |
| 07:30-07:35              | 0          | 0 | 0 | 0           | 54   | 0 | 0           | 57   | 0 | 0          | 0 | 0   | 111  |
| 07:35-07:40              | 0          | 0 | 0 | 0           | 51   | 0 | 1           | 64   | 0 | 0          | 0 | 0   | 116  |
| 07:40-07:45              | 0          | 0 | 0 | 0           | 63   | 0 | 1           | 70   | 0 | 0          | 0 | 0   | 134  |
| 07:45-07:50              | 0          | 0 | 0 | 0           | 54   | 0 | 2           | 83   | 0 | 0          | 0 | 0   | 139  |
| 07:50-07:55              | 0          | 0 | 0 | 0           | 67   | 0 | 1           | 85   | 0 | 0          | 0 | 0   | 153  |
| 07:55-08:00              | 0          | 0 | 0 | 0           | 88   | 0 | 0           | 89   | 0 | 0          | 0 | 0   | 177  |
| 08:00-08:05              | 0          | 0 | 0 | 0           | 63   | 0 | 0           | 66   | 0 | 0          | 0 | 0   | 129  |
| 08:05-08:10              | 0          | 0 | 0 | 0           | 59   | 0 | 0           | 73   | 0 | 0          | 0 | 0   | 132  |
| 08:10-08:15              | 0          | 0 | 0 | 0           | 62   | 0 | 1           | 48   | 0 | 0          | 0 | 1   | 112  |
| 08:15-08:20              | 0          | 0 | 0 | 0           | 58   | 0 | 3           | 57   | 0 | 0          | 0 | 0   | 118  |
| 08:20-08:25              | 0          | 0 | 0 | 0           | 51   | 0 | 5           | 61   | 0 | 0          | 0 | 0   | 117  |
| 08:25-08:30              | 0          | 0 | 0 | 0           | 58   | 0 | 2           | 56   | 0 | 0          | 0 | 0   | 116  |
| 08:30-08:35              | 0          | 0 | 0 | 0           | 51   | 0 | 0           | 56   | 0 | 0          | 0 | 0   | 107  |
| 08:35-08:40              | 0          | 0 | 0 | 0           | 42   | 0 | 0           | 60   | 0 | 0          | 0 | 0   | 102  |
| 08:40-08:45              | 0          | 0 | 0 | 0           | 61   | 0 | 0           | 69   | 0 | 0          | 0 | 0   | 130  |
| 08:45-08:50              | 0          | 0 | 0 | 0           | 77   | 0 | 2           | 54   | 0 | 0          | 0 | 0   | 133  |
| 08:50-08:55              | 0          | 0 | 0 | 1           | 72   | 0 | 0           | 63   | 0 | 0          | 0 | 0   | 136  |
| 08:55-09:00              | 0          | 0 | 0 | 0           | 78   | 0 | 3           | 63   | 0 | 0          | 0 | 0   | 144  |
|                          |            |   |   |             |      |   |             |      |   |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 1           | 1322 | 0 | 23          | 1451 | 0 | 0          | 0 | 1   | 2798 |
| PHF                      | 0          | 0 | 0 | 0           | .83  | 0 | .4          | .79  | 0 | 0          | 0 | .25 | .828 |
| % Trucks                 | 0          | 0 | 0 | 0           | 10.3 | 0 | 13          | 9.3  | 0 | 0          | 0 | 100 | 9.8  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0 | 0           | 0    | 0 | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 7    | 0 | 0           | 0    | 0 | 0          | 0 | 0   | 0    |
|                          |            |   |   |             |      |   |             |      |   |            |   |     |      |
| Hourly Totals            |            |   |   |             |      |   |             |      |   |            |   |     |      |
| 07:00-08:00              | 0          | 0 | 0 | 0           | 590  | 0 | 7           | 725  | 0 | 0          | 0 | 0   | 1322 |
| 07:15-08:15              | 0          | 0 | 0 | 0           | 668  | 0 | 7           | 782  | 0 | 0          | 0 | 1   | 1458 |
| 07:30-08:30              | 0          | 0 | 0 | 0           | 728  | 0 | 16          | 809  | 0 | 0          | 0 | 1   | 1554 |
| 07:45-08:45              | 0          | 0 | 0 | 0           | 714  | 0 | 14          | 803  | 0 | 0          | 0 | 1   | 1532 |
| 08:00-09:00              | 0          | 0 | 0 | 1           | 732  | 0 | 16          | 726  | 0 | 0          | 0 | 1   | 1476 |

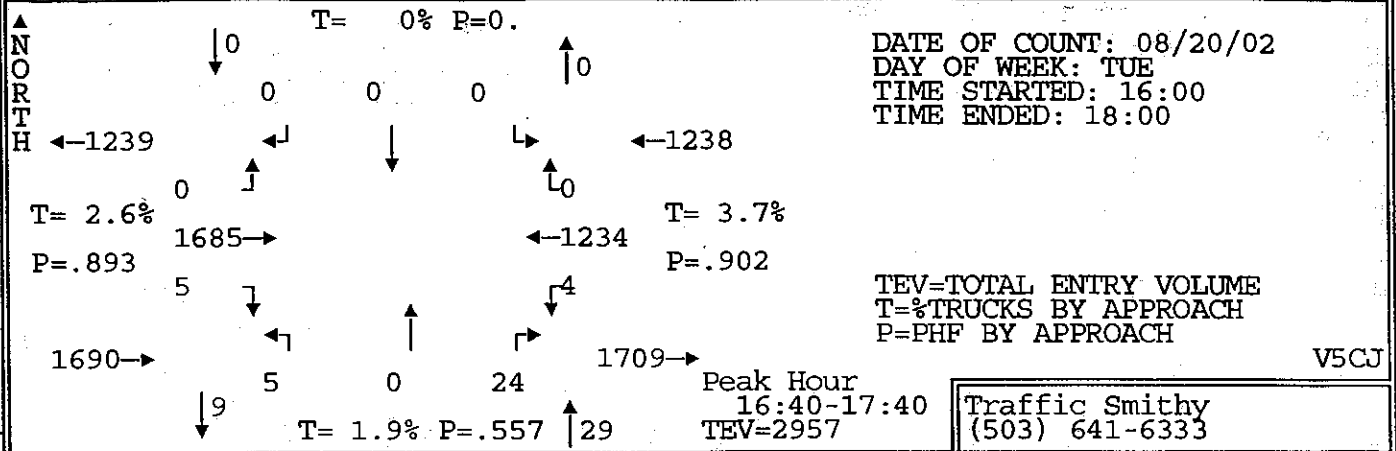
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## BROADWAY/BAYSHORE @ FIR



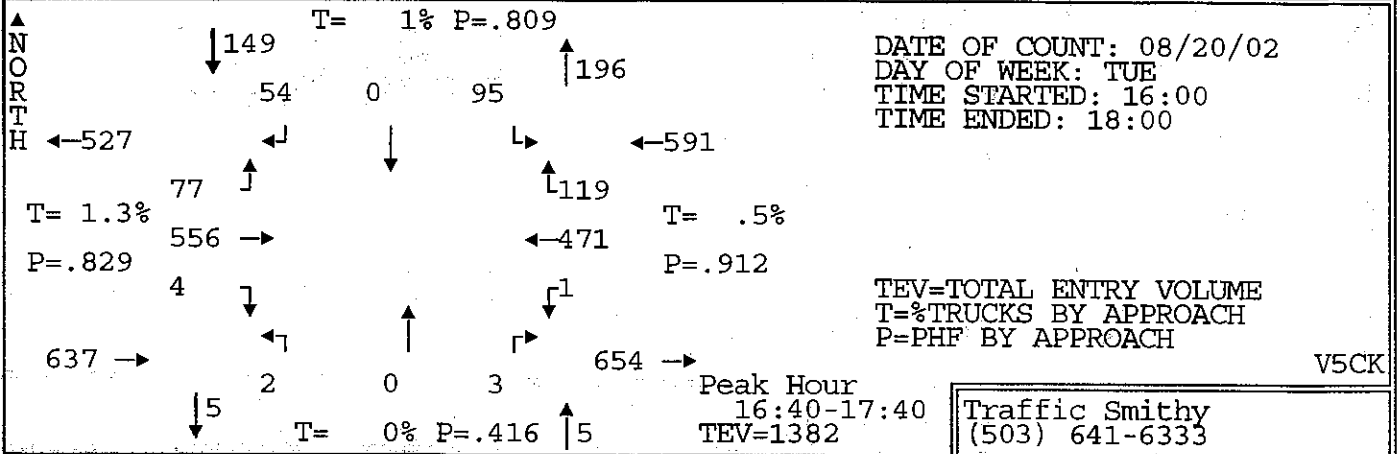
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |   | NORTH BOUND |      |    | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|------|---|-------------|------|----|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓    | ↑ | ←           | ↑    | →  | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 87   | 0 | 0           | 89   | 0  | 0          | 0 | 0   | 176  |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 116  | 0 | 6           | 81   | 0  | 0          | 0 | 0   | 203  |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 104  | 0 | 5           | 86   | 0  | 1          | 0 | 0   | 196  |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 95   | 0 | 6           | 88   | 0  | 0          | 0 | 0   | 189  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 101  | 0 | 0           | 77   | 0  | 1          | 0 | 0   | 179  |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 113  | 0 | 7           | 93   | 1  | 0          | 0 | 0   | 214  |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 105  | 0 | 1           | 103  | 0  | 0          | 0 | 0   | 209  |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 105  | 0 | 0           | 94   | 0  | 0          | 0 | 2   | 201  |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 83   | 0 | 4           | 114  | 1  | 0          | 0 | 0   | 202  |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 88   | 0 | 4           | 86   | 1  | 0          | 0 | 0   | 179  |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 86   | 0 | 2           | 81   | 0  | 0          | 0 | 0   | 169  |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 95   | 0 | 3           | 93   | 0  | 0          | 0 | 0   | 191  |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 79   | 0 | 3           | 84   | 0  | 0          | 0 | 0   | 166  |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 112  | 0 | 7           | 109  | 0  | 0          | 0 | 1   | 229  |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 121  | 0 | 3           | 124  | 0  | 0          | 0 | 0   | 248  |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 118  | 0 | 3           | 111  | 1  | 0          | 0 | 0   | 233  |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 106  | 0 | 1           | 91   | 0  | 0          | 0 | 0   | 198  |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 74   | 0 | 1           | 96   | 0  | 0          | 0 | 0   | 171  |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 86   | 0 | 3           | 86   | 0  | 0          | 0 | 1   | 176  |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 99   | 0 | 1           | 75   | 0  | 0          | 0 | 0   | 175  |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 91   | 0 | 1           | 78   | 0  | 0          | 0 | 0   | 170  |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 79   | 0 | 2           | 89   | 0  | 0          | 0 | 1   | 171  |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 84   | 0 | 1           | 67   | 0  | 0          | 0 | 0   | 152  |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 84   | 0 | 2           | 55   | 0  | 0          | 0 | 0   | 141  |
|                          |            |   |   |             |      |   |             |      |    |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 0           | 2311 | 0 | 66          | 2150 | 4  | 2          | 0 | 5   | 4538 |
| PHF                      | 0          | 0 | 0 | 0           | .86  | 0 | .73         | .86  | .5 | 0          | 0 | .38 | .858 |
| % Trucks                 | 0          | 0 | 0 | 0           | 2    | 0 | 1.5         | 2.7  | 25 | 0          | 0 | 0   | 2.4  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0 | 0           | 0    | 0  | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0 | 0           | 0    | 0  | 0          | 0 | 0   | 0    |
|                          |            |   |   |             |      |   |             |      |    |            |   |     |      |
| Hourly Totals            |            |   |   |             |      |   |             |      |    |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 0 | 0           | 1178 | 0 | 38          | 1085 | 3  | 2          | 0 | 2   | 2308 |
| 16:15-17:15              | 0          | 0 | 0 | 0           | 1183 | 0 | 40          | 1146 | 3  | 1          | 0 | 3   | 2376 |
| 16:30-17:30              | 0          | 0 | 0 | 0           | 1172 | 0 | 32          | 1186 | 3  | 0          | 0 | 3   | 2396 |
| 16:45-17:45              | 0          | 0 | 0 | 0           | 1155 | 0 | 32          | 1114 | 2  | 0          | 0 | 2   | 2305 |
| 17:00-18:00              | 0          | 0 | 0 | 0           | 1133 | 0 | 28          | 1065 | 1  | 0          | 0 | 3   | 2230 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**HIGHWAY 101 (NEWPORT) @ FRONT**



| TIME PERIOD<br>FROM - TO | EAST BOUND |      |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |      |   | ALL  |
|--------------------------|------------|------|---|-------------|---|---|-------------|---|----|------------|------|---|------|
|                          | ↓          | →    | ↑ | ↙           | ↓ | ↘ | ↙           | ↑ | ↘  | ↙          | ←    | ↑ |      |
| 16:00-16:05              | 0          | 116  | 0 | 0           | 0 | 0 | 1           | 0 | 2  | 1          | 106  | 0 | 226  |
| 16:05-16:10              | 0          | 133  | 0 | 0           | 0 | 0 | 1           | 0 | 1  | 0          | 113  | 0 | 248  |
| 16:10-16:15              | 0          | 127  | 0 | 0           | 0 | 0 | 0           | 0 | 1  | 2          | 83   | 0 | 213  |
| 16:15-16:20              | 1          | 119  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 3          | 98   | 0 | 221  |
| 16:20-16:25              | 0          | 138  | 0 | 0           | 0 | 0 | 0           | 0 | 5  | 0          | 110  | 0 | 253  |
| 16:25-16:30              | 0          | 120  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 1          | 96   | 0 | 217  |
| 16:30-16:35              | 0          | 108  | 0 | 0           | 0 | 0 | 2           | 0 | 3  | 0          | 97   | 0 | 210  |
| 16:35-16:40              | 0          | 107  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 111  | 0 | 218  |
| 16:40-16:45              | 0          | 134  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 114  | 0 | 248  |
| 16:45-16:50              | 1          | 129  | 0 | 0           | 0 | 0 | 0           | 0 | 1  | 0          | 115  | 0 | 246  |
| 16:50-16:55              | 1          | 118  | 0 | 0           | 0 | 0 | 0           | 0 | 3  | 0          | 114  | 0 | 236  |
| 16:55-17:00              | 1          | 154  | 0 | 0           | 0 | 0 | 2           | 0 | 4  | 1          | 110  | 0 | 272  |
| 17:00-17:05              | 1          | 123  | 0 | 0           | 0 | 0 | 0           | 0 | 2  | 1          | 112  | 0 | 239  |
| 17:05-17:10              | 0          | 135  | 0 | 0           | 0 | 0 | 1           | 0 | 4  | 1          | 102  | 0 | 243  |
| 17:10-17:15              | 0          | 163  | 0 | 0           | 0 | 0 | 0           | 0 | 1  | 1          | 109  | 0 | 274  |
| 17:15-17:20              | 1          | 161  | 0 | 0           | 0 | 0 | 0           | 0 | 3  | 0          | 88   | 0 | 253  |
| 17:20-17:25              | 0          | 148  | 0 | 0           | 0 | 0 | 0           | 0 | 3  | 0          | 86   | 0 | 237  |
| 17:25-17:30              | 0          | 133  | 0 | 0           | 0 | 0 | 1           | 0 | 3  | 0          | 99   | 0 | 236  |
| 17:30-17:35              | 0          | 135  | 0 | 0           | 0 | 0 | 1           | 0 | 0  | 0          | 110  | 0 | 246  |
| 17:35-17:40              | 0          | 152  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 75   | 0 | 227  |
| 17:40-17:45              | 0          | 123  | 0 | 0           | 0 | 0 | 1           | 0 | 2  | 0          | 107  | 0 | 233  |
| 17:45-17:50              | 0          | 108  | 0 | 0           | 0 | 0 | 1           | 0 | 1  | 2          | 108  | 0 | 220  |
| 17:50-17:55              | 0          | 128  | 0 | 0           | 0 | 0 | 1           | 0 | 2  | 0          | 83   | 0 | 214  |
| 17:55-18:00              | 0          | 113  | 0 | 0           | 0 | 0 | 0           | 0 | 1  | 1          | 96   | 0 | 211  |
|                          |            |      |   |             |   |   |             |   |    |            |      |   |      |
| Total Survey             | 6          | 3125 | 0 | 0           | 0 | 0 | 12          | 0 | 42 | 14         | 2442 | 0 | 5641 |
| PHF                      | .42        | .89  | 0 | 0           | 0 | 0 | .42         | 0 | .6 | .33        | .9   | 0 | .960 |
| % Trucks                 | 0          | 2.6  | 0 | 0           | 0 | 0 | 8.3         | 0 | 0  | 14.3       | 3.6  | 0 | 3    |
| Stopped Buses            | 0          | 0    | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 0    | 0 | 0    |
| Peds                     | 0          | 5    | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 0    | 0 | 0    |
|                          |            |      |   |             |   |   |             |   |    |            |      |   |      |
| Hourly Totals            |            |      |   |             |   |   |             |   |    |            |      |   |      |
| 16:00-17:00              | 4          | 1503 | 0 | 0           | 0 | 0 | 6           | 0 | 20 | 8          | 1267 | 0 | 2808 |
| 16:15-17:15              | 5          | 1548 | 0 | 0           | 0 | 0 | 5           | 0 | 23 | 8          | 1288 | 0 | 2877 |
| 16:30-17:30              | 5          | 1613 | 0 | 0           | 0 | 0 | 6           | 0 | 27 | 4          | 1257 | 0 | 2912 |
| 16:45-17:45              | 5          | 1674 | 0 | 0           | 0 | 0 | 6           | 0 | 26 | 4          | 1227 | 0 | 2942 |
| 17:00-18:00              | 2          | 1622 | 0 | 0           | 0 | 0 | 6           | 0 | 22 | 6          | 1175 | 0 | 2833 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT NEWMARK @ BRUSSELS

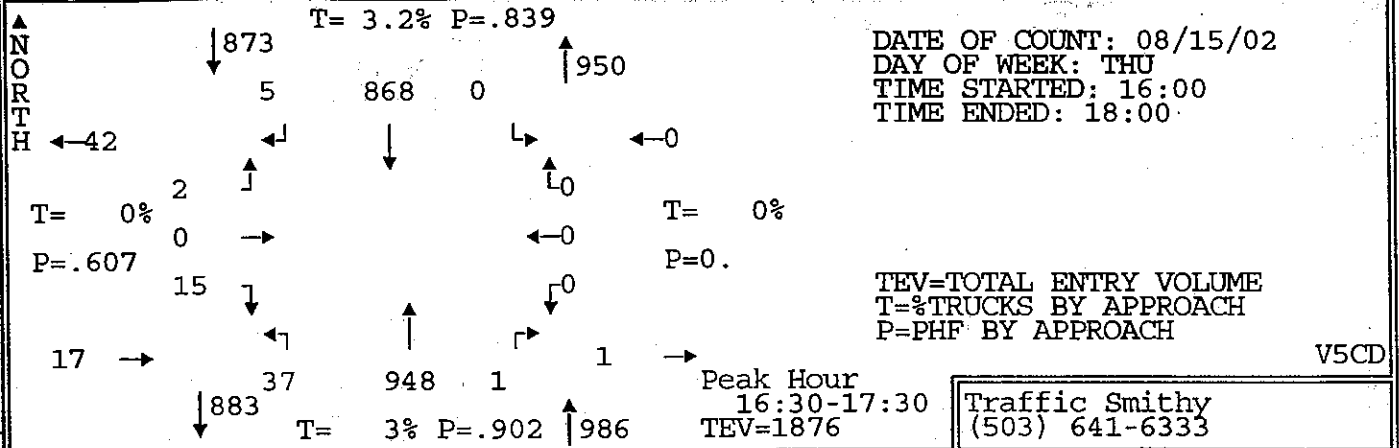


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |   |    | NORTH BOUND |   |   | WEST BOUND |    |    | ALL |
|--------------------------|------------|----|----|-------------|---|----|-------------|---|---|------------|----|----|-----|
|                          | ↓          | →  | ↑  | ↓           | → | ↑  | ↓           | → | ↑ | ↓          | →  | ↑  |     |
| 16:00-16:05              | 0          | 43 | 5  | 6           | 0 | 14 | 0           | 0 | 0 | 0          | 29 | 5  | 102 |
| 16:05-16:10              | 0          | 31 | 3  | 5           | 0 | 5  | 0           | 0 | 1 | 1          | 23 | 7  | 76  |
| 16:10-16:15              | 0          | 52 | 6  | 9           | 0 | 9  | 0           | 0 | 1 | 0          | 34 | 6  | 117 |
| 16:15-16:20              | 0          | 49 | 4  | 5           | 0 | 7  | 0           | 0 | 0 | 0          | 41 | 8  | 114 |
| 16:20-16:25              | 0          | 46 | 5  | 2           | 0 | 7  | 0           | 0 | 0 | 0          | 45 | 10 | 115 |
| 16:25-16:30              | 1          | 35 | 5  | 5           | 0 | 8  | 0           | 0 | 1 | 0          | 24 | 5  | 84  |
| 16:30-16:35              | 0          | 37 | 6  | 5           | 0 | 6  | 0           | 0 | 0 | 0          | 44 | 7  | 105 |
| 16:35-16:40              | 0          | 49 | 5  | 2           | 0 | 8  | 0           | 0 | 0 | 0          | 39 | 11 | 114 |
| 16:40-16:45              | 0          | 42 | 2  | 7           | 0 | 12 | 0           | 0 | 0 | 0          | 39 | 16 | 118 |
| 16:45-16:50              | 0          | 66 | 4  | 0           | 0 | 5  | 0           | 0 | 0 | 0          | 35 | 7  | 117 |
| 16:50-16:55              | 0          | 46 | 5  | 6           | 0 | 8  | 0           | 0 | 0 | 0          | 35 | 2  | 102 |
| 16:55-17:00              | 0          | 43 | 2  | 6           | 0 | 6  | 0           | 0 | 0 | 0          | 44 | 9  | 110 |
| 17:00-17:05              | 1          | 35 | 7  | 10          | 0 | 10 | 1           | 0 | 0 | 0          | 40 | 6  | 110 |
| 17:05-17:10              | 1          | 38 | 7  | 2           | 0 | 11 | 0           | 0 | 0 | 0          | 41 | 9  | 109 |
| 17:10-17:15              | 1          | 51 | 15 | 3           | 0 | 7  | 0           | 0 | 1 | 0          | 33 | 8  | 119 |
| 17:15-17:20              | 0          | 60 | 7  | 3           | 0 | 8  | 0           | 0 | 0 | 1          | 40 | 21 | 140 |
| 17:20-17:25              | 0          | 52 | 6  | 5           | 0 | 11 | 1           | 0 | 1 | 0          | 40 | 8  | 124 |
| 17:25-17:30              | 0          | 40 | 5  | 3           | 0 | 6  | 0           | 0 | 0 | 0          | 40 | 12 | 106 |
| 17:30-17:35              | 0          | 43 | 6  | 5           | 0 | 5  | 0           | 0 | 0 | 0          | 36 | 9  | 104 |
| 17:35-17:40              | 1          | 40 | 11 | 4           | 0 | 6  | 0           | 0 | 1 | 0          | 48 | 12 | 123 |
| 17:40-17:45              | 0          | 47 | 7  | 2           | 0 | 8  | 0           | 0 | 1 | 0          | 42 | 5  | 112 |
| 17:45-17:50              | 0          | 33 | 2  | 3           | 0 | 6  | 0           | 0 | 0 | 0          | 31 | 9  | 84  |
| 17:50-17:55              | 0          | 49 | 5  | 2           | 0 | 5  | 0           | 0 | 0 | 0          | 31 | 6  | 98  |
| 17:55-18:00              | 0          | 33 | 3  | 5           | 0 | 7  | 0           | 0 | 0 | 0          | 36 | 8  | 92  |

|               |     |      |     |     |   |     |    |   |     |     |     |     |      |
|---------------|-----|------|-----|-----|---|-----|----|---|-----|-----|-----|-----|------|
| Total Survey  | 5   | 1060 | 133 | 105 | 0 | 185 | 2  | 0 | 7   | 2   | 890 | 206 | 2595 |
| PHF           | .33 | .85  | .66 | .61 | 0 | .85 | .5 | 0 | .38 | .25 | .94 | .73 | .902 |
| % Trucks      | 0   | 1.5  | 0   | 1   | 0 | 1.1 | 0  | 0 | 0   | 0   | .6  | 0   | .9   |
| Stopped Buses | 0   | 0    | 0   | 0   | 0 | 0   | 0  | 0 | 0   | 0   | 0   | 0   |      |
| Peds          | 0   | 6    | 0   | 0   | 0 | 0   | 0  | 0 | 0   | 0   | 0   | 0   |      |

|               |   |     |    |    |   |    |   |   |   |   |     |     |      |
|---------------|---|-----|----|----|---|----|---|---|---|---|-----|-----|------|
| Hourly Totals |   |     |    |    |   |    |   |   |   |   |     |     |      |
| 16:00-17:00   | 1 | 539 | 52 | 58 | 0 | 95 | 0 | 0 | 3 | 1 | 432 | 93  | 1274 |
| 16:15-17:15   | 4 | 537 | 67 | 53 | 0 | 95 | 1 | 0 | 2 | 0 | 460 | 98  | 1317 |
| 16:30-17:30   | 3 | 559 | 71 | 52 | 0 | 98 | 2 | 0 | 2 | 1 | 470 | 116 | 1374 |
| 16:45-17:45   | 4 | 561 | 82 | 49 | 0 | 91 | 2 | 0 | 4 | 1 | 474 | 108 | 1376 |
| 17:00-18:00   | 4 | 521 | 81 | 47 | 0 | 90 | 2 | 0 | 4 | 1 | 458 | 113 | 1321 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CLARK @ HIGHWAY 101



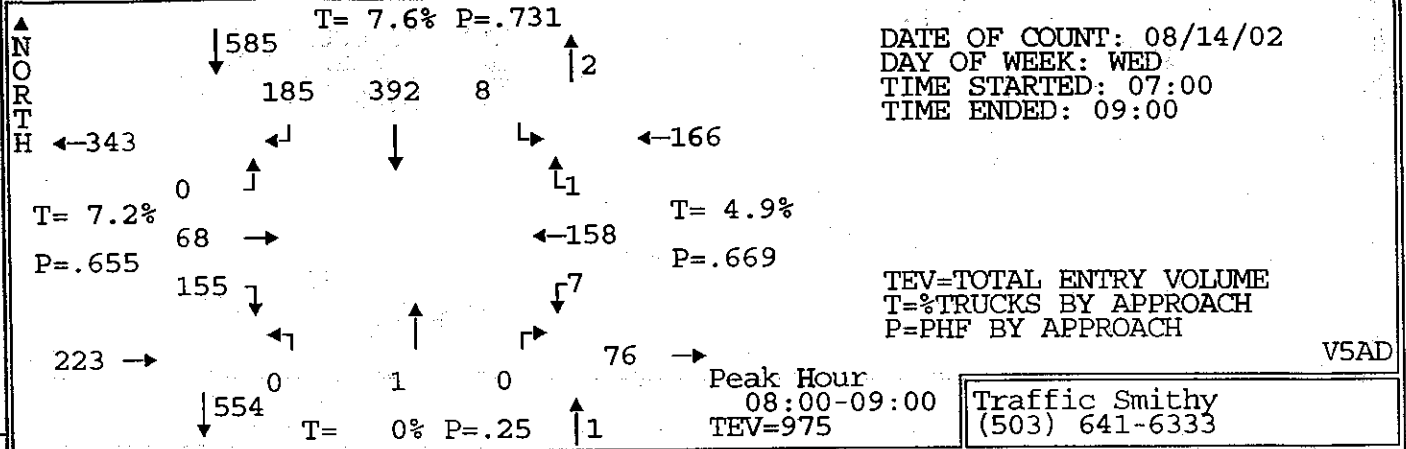
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|-----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ←           | ↑   | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 1          | 0 | 0 | 1           | 80 | 0 | 1           | 70  | 0 | 0          | 0 | 0 | 153 |
| 16:05-16:10              | 1          | 0 | 0 | 0           | 84 | 0 | 1           | 73  | 0 | 0          | 0 | 0 | 159 |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 80 | 0 | 1           | 97  | 0 | 0          | 0 | 0 | 178 |
| 16:15-16:20              | 1          | 0 | 0 | 0           | 79 | 0 | 3           | 72  | 0 | 0          | 0 | 0 | 155 |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 65 | 0 | 0           | 63  | 0 | 0          | 0 | 0 | 128 |
| 16:25-16:30              | 1          | 0 | 0 | 0           | 73 | 0 | 1           | 71  | 0 | 0          | 0 | 0 | 146 |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 74 | 0 | 5           | 89  | 0 | 0          | 0 | 0 | 168 |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 76 | 0 | 2           | 65  | 0 | 0          | 0 | 0 | 143 |
| 16:40-16:45              | 2          | 0 | 0 | 0           | 67 | 0 | 2           | 68  | 1 | 0          | 0 | 0 | 140 |
| 16:45-16:50              | 1          | 0 | 0 | 0           | 84 | 0 | 3           | 96  | 0 | 0          | 0 | 0 | 184 |
| 16:50-16:55              | 2          | 0 | 0 | 0           | 63 | 0 | 4           | 66  | 0 | 0          | 0 | 0 | 135 |
| 16:55-17:00              | 1          | 0 | 0 | 2           | 60 | 0 | 3           | 77  | 0 | 0          | 0 | 0 | 143 |
| 17:00-17:05              | 2          | 0 | 0 | 2           | 62 | 0 | 3           | 74  | 0 | 0          | 0 | 0 | 143 |
| 17:05-17:10              | 1          | 0 | 1 | 1           | 87 | 0 | 4           | 75  | 0 | 0          | 0 | 0 | 169 |
| 17:10-17:15              | 1          | 0 | 0 | 0           | 98 | 0 | 1           | 87  | 0 | 0          | 0 | 0 | 187 |
| 17:15-17:20              | 2          | 0 | 1 | 0           | 74 | 0 | 2           | 104 | 0 | 0          | 0 | 0 | 183 |
| 17:20-17:25              | 3          | 0 | 0 | 0           | 56 | 0 | 2           | 71  | 0 | 0          | 0 | 0 | 132 |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 67 | 0 | 6           | 76  | 0 | 0          | 0 | 0 | 149 |
| 17:30-17:35              | 1          | 0 | 0 | 0           | 43 | 0 | 0           | 101 | 0 | 0          | 0 | 0 | 145 |
| 17:35-17:40              | 0          | 0 | 1 | 0           | 68 | 0 | 3           | 53  | 0 | 0          | 0 | 0 | 125 |
| 17:40-17:45              | 1          | 0 | 0 | 1           | 71 | 0 | 2           | 75  | 0 | 0          | 0 | 0 | 150 |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 70 | 0 | 1           | 65  | 0 | 0          | 0 | 0 | 136 |
| 17:50-17:55              | 0          | 0 | 1 | 0           | 45 | 0 | 3           | 70  | 0 | 0          | 0 | 0 | 119 |
| 17:55-18:00              | 2          | 0 | 0 | 0           | 46 | 0 | 3           | 73  | 0 | 0          | 0 | 0 | 124 |

|               |     |   |     |     |      |   |     |      |     |   |   |   |      |
|---------------|-----|---|-----|-----|------|---|-----|------|-----|---|---|---|------|
| Total Survey  | 23  | 0 | 4   | 7   | 1672 | 0 | 56  | 1831 | 1   | 0 | 0 | 0 | 3594 |
| PHF           | .63 | 0 | .25 | .25 | .84  | 0 | .93 | .89  | .25 | 0 | 0 | 0 | .870 |
| % Trucks      | 0   | 0 | 0   | 0   | 3.2  | 0 | 0   | 3.1  | 0   | 0 | 0 | 0 | 3.1  |
| Stopped Buses | 0   | 0 | 0   | 0   | 0    | 0 | 0   | 0    | 0   | 0 | 0 | 0 | 0    |
| Peds          | 0   | 0 | 0   | 0   | 0    | 0 | 0   | 0    | 0   | 0 | 0 | 0 | 0    |

|               |    |   |   |   |     |   |    |     |   |   |   |   |      |
|---------------|----|---|---|---|-----|---|----|-----|---|---|---|---|------|
| Hourly Totals |    |   |   |   |     |   |    |     |   |   |   |   |      |
| 16:00-17:00   | 10 | 0 | 0 | 3 | 885 | 0 | 26 | 907 | 1 | 0 | 0 | 0 | 1832 |
| 16:15-17:15   | 12 | 0 | 1 | 5 | 888 | 0 | 31 | 903 | 1 | 0 | 0 | 0 | 1841 |
| 16:30-17:30   | 15 | 0 | 2 | 5 | 868 | 0 | 37 | 948 | 1 | 0 | 0 | 0 | 1876 |
| 16:45-17:45   | 15 | 0 | 3 | 6 | 833 | 0 | 33 | 955 | 0 | 0 | 0 | 0 | 1845 |
| 17:00-18:00   | 13 | 0 | 4 | 4 | 787 | 0 | 30 | 924 | 0 | 0 | 0 | 0 | 1762 |

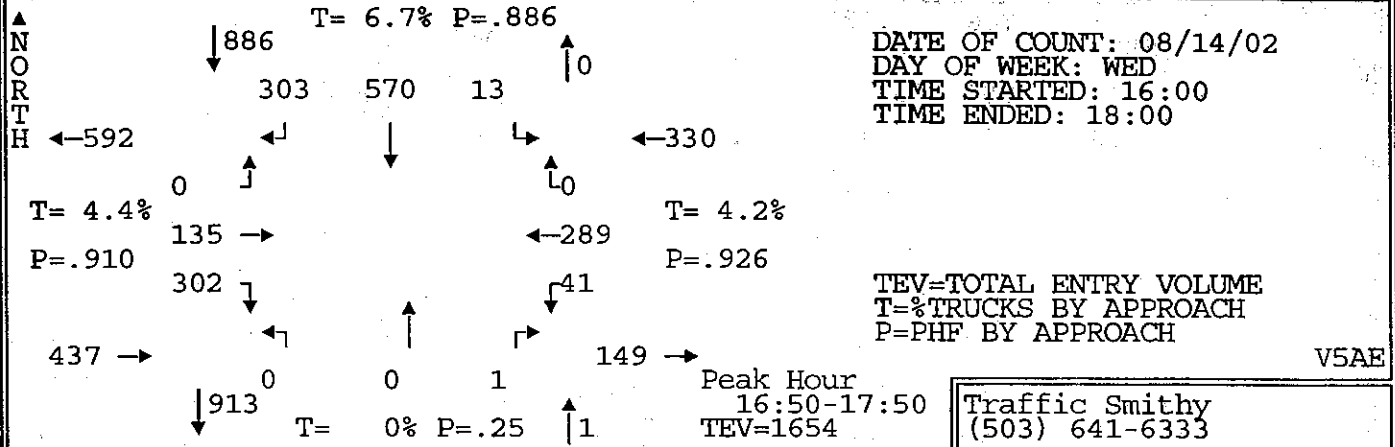


**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**CAPE ARAGO HIGHWAY @ HIGHWAY 101 SB**



| TIME PERIOD FROM - TO | EAST BOUND |      |   | SOUTH BOUND |     |    | NORTH BOUND |     |   | WEST BOUND |     |     | ALL  |
|-----------------------|------------|------|---|-------------|-----|----|-------------|-----|---|------------|-----|-----|------|
|                       | ↓          | →    | ↑ | ←           | ↓   | ↘  | ←           | ↑   | ↗ | ↓          | ←   | ↑   |      |
| 07:00-07:05           | 2          | 0    | 0 | 4           | 13  | 0  | 0           | 0   | 0 | 1          | 2   | 0   | 22   |
| 07:05-07:10           | 1          | 1    | 0 | 3           | 9   | 0  | 0           | 0   | 0 | 0          | 1   | 0   | 15   |
| 07:10-07:15           | 6          | 1    | 0 | 5           | 14  | 0  | 0           | 0   | 0 | 1          | 6   | 0   | 33   |
| 07:15-07:20           | 6          | 2    | 0 | 1           | 9   | 0  | 0           | 0   | 0 | 1          | 4   | 0   | 23   |
| 07:20-07:25           | 7          | 0    | 0 | 5           | 9   | 0  | 0           | 0   | 0 | 0          | 3   | 0   | 24   |
| 07:25-07:30           | 3          | 3    | 0 | 6           | 14  | 1  | 0           | 0   | 0 | 0          | 2   | 0   | 29   |
| 07:30-07:35           | 6          | 3    | 0 | 5           | 19  | 1  | 0           | 0   | 0 | 1          | 6   | 0   | 41   |
| 07:35-07:40           | 7          | 2    | 0 | 10          | 23  | 0  | 0           | 0   | 0 | 1          | 10  | 0   | 53   |
| 07:40-07:45           | 8          | 4    | 0 | 8           | 22  | 0  | 0           | 0   | 0 | 0          | 12  | 0   | 54   |
| 07:45-07:50           | 4          | 3    | 0 | 4           | 22  | 0  | 0           | 0   | 0 | 1          | 4   | 0   | 38   |
| 07:50-07:55           | 11         | 2    | 0 | 17          | 37  | 0  | 0           | 0   | 0 | 1          | 9   | 0   | 77   |
| 07:55-08:00           | 11         | 3    | 0 | 10          | 17  | 0  | 0           | 0   | 0 | 0          | 12  | 0   | 53   |
| 08:00-08:05           | 6          | 2    | 0 | 10          | 26  | 0  | 0           | 0   | 0 | 0          | 9   | 0   | 53   |
| 08:05-08:10           | 6          | 2    | 0 | 12          | 31  | 0  | 0           | 1   | 0 | 1          | 9   | 0   | 62   |
| 08:10-08:15           | 11         | 7    | 0 | 14          | 20  | 1  | 0           | 0   | 0 | 0          | 10  | 0   | 63   |
| 08:15-08:20           | 8          | 3    | 0 | 13          | 22  | 0  | 0           | 0   | 0 | 0          | 9   | 0   | 55   |
| 08:20-08:25           | 9          | 2    | 0 | 6           | 26  | 1  | 0           | 0   | 0 | 0          | 10  | 0   | 54   |
| 08:25-08:30           | 10         | 4    | 0 | 20          | 38  | 1  | 0           | 0   | 0 | 0          | 13  | 0   | 86   |
| 08:30-08:35           | 14         | 3    | 0 | 13          | 21  | 0  | 0           | 0   | 0 | 0          | 8   | 0   | 59   |
| 08:35-08:40           | 14         | 8    | 0 | 13          | 43  | 0  | 0           | 0   | 0 | 1          | 12  | 0   | 91   |
| 08:40-08:45           | 20         | 9    | 0 | 23          | 31  | 0  | 0           | 0   | 0 | 4          | 18  | 0   | 105  |
| 08:45-08:50           | 15         | 5    | 0 | 21          | 41  | 2  | 0           | 0   | 0 | 0          | 9   | 0   | 93   |
| 08:50-08:55           | 20         | 7    | 0 | 23          | 43  | 1  | 0           | 0   | 0 | 1          | 28  | 1   | 124  |
| 08:55-09:00           | 22         | 16   | 0 | 17          | 50  | 2  | 0           | 0   | 0 | 0          | 23  | 0   | 130  |
|                       |            |      |   |             |     |    |             |     |   |            |     |     |      |
| Total Survey          | 227        | 92   | 0 | 263         | 600 | 10 | 0           | 1   | 0 | 14         | 229 | 1   | 1437 |
| PHF                   | .68        | .61  | 0 | .69         | .73 | .4 | 0           | .25 | 0 | .35        | .66 | .25 | .702 |
| % Trucks              | 2.2        | 19.6 | 0 | 2.7         | 9.8 | 0  | 0           | 0   | 0 | 7.1        | 4.8 | 0   | 7    |
| Stopped Buses         | 0          | 0    | 0 | 0           | 0   | 0  | 0           | 0   | 0 | 0          | 0   | 0   |      |
| Peds                  | 0          | 0    | 0 | 0           | 5   | 0  | 0           | 1   | 0 | 0          | 0   | 0   |      |
|                       |            |      |   |             |     |    |             |     |   |            |     |     |      |
| Hourly Totals         |            |      |   |             |     |    |             |     |   |            |     |     |      |
| 07:00-08:00           | 72         | 24   | 0 | 78          | 208 | 2  | 0           | 0   | 0 | 7          | 71  | 0   | 462  |
| 07:15-08:15           | 86         | 33   | 0 | 102         | 249 | 3  | 0           | 1   | 0 | 6          | 90  | 0   | 570  |
| 07:30-08:30           | 97         | 37   | 0 | 129         | 303 | 4  | 0           | 1   | 0 | 5          | 113 | 0   | 689  |
| 07:45-08:45           | 124        | 48   | 0 | 155         | 334 | 3  | 0           | 1   | 0 | 8          | 123 | 0   | 796  |
| 08:00-09:00           | 155        | 68   | 0 | 185         | 392 | 8  | 0           | 1   | 0 | 7          | 158 | 1   | 975  |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**CAPE ARAGO HIGHWAY@ HIGHWAY 101 SB**

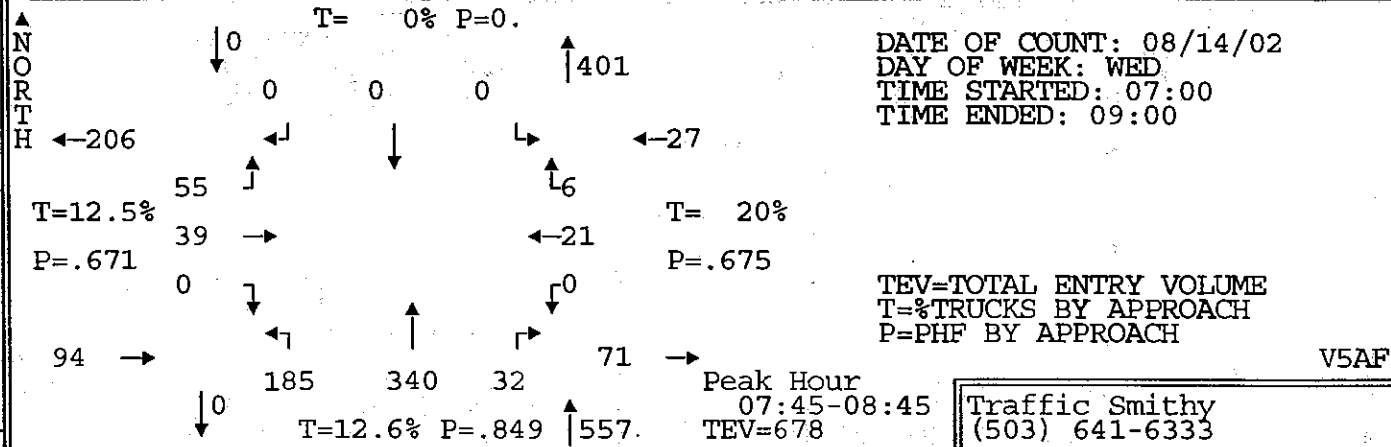


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |    |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|----|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓  | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 31         | 6  | 0 | 27          | 63 | 1 | 0           | 0 | 0 | 3          | 29 | 0 | 160 |
| 16:05-16:10              | 26         | 10 | 0 | 15          | 45 | 1 | 0           | 0 | 0 | 4          | 24 | 0 | 125 |
| 16:10-16:15              | 26         | 9  | 0 | 22          | 66 | 1 | 0           | 0 | 0 | 6          | 24 | 0 | 154 |
| 16:15-16:20              | 24         | 7  | 0 | 23          | 52 | 1 | 0           | 0 | 0 | 3          | 26 | 0 | 136 |
| 16:20-16:25              | 21         | 14 | 0 | 18          | 50 | 4 | 0           | 0 | 0 | 5          | 26 | 0 | 138 |
| 16:25-16:30              | 18         | 7  | 0 | 24          | 60 | 1 | 0           | 0 | 0 | 3          | 16 | 0 | 129 |
| 16:30-16:35              | 21         | 18 | 0 | 22          | 47 | 1 | 2           | 0 | 0 | 1          | 17 | 0 | 129 |
| 16:35-16:40              | 19         | 5  | 0 | 15          | 47 | 2 | 0           | 0 | 0 | 6          | 21 | 0 | 115 |
| 16:40-16:45              | 22         | 8  | 0 | 19          | 41 | 0 | 0           | 0 | 0 | 3          | 29 | 0 | 122 |
| 16:45-16:50              | 19         | 13 | 0 | 20          | 48 | 0 | 0           | 0 | 0 | 4          | 25 | 0 | 129 |
| 16:50-16:55              | 24         | 15 | 0 | 29          | 48 | 3 | 0           | 0 | 0 | 1          | 22 | 0 | 142 |
| 16:55-17:00              | 19         | 16 | 0 | 15          | 50 | 4 | 0           | 0 | 0 | 7          | 29 | 0 | 140 |
| 17:00-17:05              | 24         | 13 | 0 | 31          | 46 | 0 | 0           | 0 | 0 | 3          | 22 | 0 | 139 |
| 17:05-17:10              | 26         | 11 | 0 | 31          | 58 | 1 | 0           | 0 | 0 | 4          | 18 | 0 | 149 |
| 17:10-17:15              | 25         | 13 | 0 | 24          | 57 | 1 | 0           | 0 | 1 | 5          | 22 | 0 | 148 |
| 17:15-17:20              | 31         | 14 | 0 | 32          | 45 | 1 | 0           | 0 | 0 | 3          | 22 | 0 | 148 |
| 17:20-17:25              | 22         | 14 | 0 | 25          | 44 | 0 | 0           | 0 | 0 | 3          | 23 | 0 | 131 |
| 17:25-17:30              | 27         | 11 | 0 | 26          | 43 | 0 | 0           | 0 | 0 | 7          | 26 | 0 | 140 |
| 17:30-17:35              | 30         | 6  | 0 | 24          | 40 | 0 | 0           | 0 | 0 | 4          | 26 | 0 | 130 |
| 17:35-17:40              | 21         | 7  | 0 | 19          | 54 | 0 | 0           | 0 | 0 | 1          | 25 | 0 | 127 |
| 17:40-17:45              | 28         | 9  | 0 | 23          | 37 | 2 | 0           | 0 | 0 | 1          | 29 | 0 | 129 |
| 17:45-17:50              | 25         | 6  | 0 | 24          | 48 | 1 | 0           | 0 | 0 | 2          | 25 | 0 | 131 |
| 17:50-17:55              | 21         | 2  | 0 | 21          | 45 | 1 | 0           | 0 | 0 | 10         | 24 | 0 | 124 |
| 17:55-18:00              | 21         | 12 | 0 | 23          | 41 | 1 | 0           | 0 | 0 | 3          | 24 | 0 | 125 |

|               |     |     |   |     |      |     |   |    |     |     |     |   |      |
|---------------|-----|-----|---|-----|------|-----|---|----|-----|-----|-----|---|------|
| Total Survey  | 571 | 246 | 0 | 552 | 1175 | 27  | 2 | 0  | 1   | 92  | 574 | 0 | 3240 |
| PHF           | .92 | .77 | 0 | .87 | .89  | .46 | 0 | 0  | .25 | .73 | .9  | 0 | .929 |
| % Trucks      | 4.2 | 4.9 | 0 | 4.7 | 7.7  | 3.7 | 0 | 0  | 0   | 5.4 | 4   | 0 | 5.6  |
| Stopped Buses | 0   | 0   | 0 | 0   | 0    | 0   | 0 | 0  | 0   | 0   | 0   | 0 | 0    |
| Peds          | 0   | 0   | 0 | 0   | 14   | 0   | 0 | 23 | 0   | 0   | 3   | 0 | 0    |

|               |     |     |   |     |     |    |   |   |   |    |     |   |      |
|---------------|-----|-----|---|-----|-----|----|---|---|---|----|-----|---|------|
| Hourly Totals |     |     |   |     |     |    |   |   |   |    |     |   |      |
| 16:00-17:00   | 270 | 128 | 0 | 249 | 617 | 19 | 2 | 0 | 0 | 46 | 288 | 0 | 1619 |
| 16:15-17:15   | 262 | 140 | 0 | 271 | 604 | 18 | 2 | 0 | 1 | 45 | 273 | 0 | 1616 |
| 16:30-17:30   | 279 | 151 | 0 | 289 | 574 | 13 | 2 | 0 | 1 | 47 | 276 | 0 | 1632 |
| 16:45-17:45   | 296 | 142 | 0 | 299 | 570 | 12 | 0 | 0 | 1 | 43 | 289 | 0 | 1652 |
| 17:00-18:00   | 301 | 118 | 0 | 303 | 558 | 8  | 0 | 0 | 1 | 46 | 286 | 0 | 1621 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**CAPE ARAGO HIGHWAY @ HIGHWAY 101 NB**

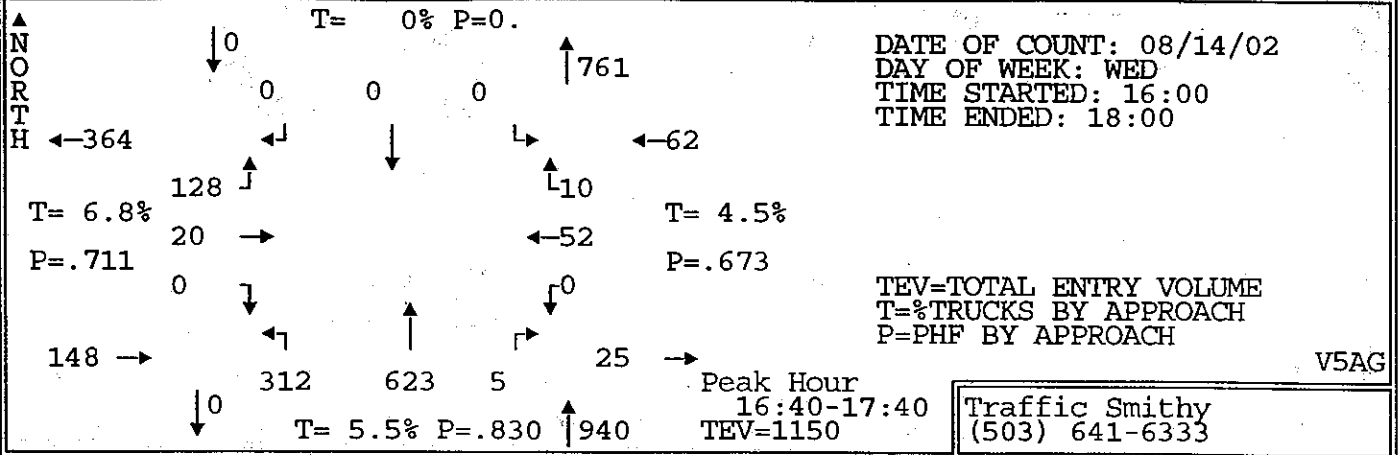


| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | ↘ | ←           | ↑  | ↗ | ↓          | ← | ↑ |     |
| 07:00-07:05              | 0          | 2 | 1 | 0           | 0 | 0 | 9           | 21 | 0 | 0          | 0 | 0 | 33  |
| 07:05-07:10              | 0          | 1 | 3 | 0           | 0 | 0 | 10          | 18 | 0 | 0          | 1 | 0 | 33  |
| 07:10-07:15              | 0          | 4 | 3 | 0           | 0 | 0 | 9           | 23 | 0 | 0          | 1 | 0 | 40  |
| 07:15-07:20              | 0          | 3 | 1 | 0           | 0 | 0 | 11          | 21 | 0 | 0          | 0 | 0 | 36  |
| 07:20-07:25              | 0          | 1 | 3 | 0           | 0 | 0 | 10          | 28 | 2 | 0          | 0 | 0 | 44  |
| 07:25-07:30              | 0          | 1 | 2 | 0           | 0 | 0 | 8           | 23 | 1 | 0          | 0 | 0 | 35  |
| 07:30-07:35              | 0          | 0 | 6 | 0           | 0 | 0 | 11          | 25 | 0 | 0          | 2 | 0 | 44  |
| 07:35-07:40              | 0          | 2 | 6 | 0           | 0 | 0 | 12          | 22 | 1 | 0          | 2 | 0 | 45  |
| 07:40-07:45              | 0          | 1 | 7 | 0           | 0 | 0 | 15          | 28 | 2 | 0          | 1 | 1 | 55  |
| 07:45-07:50              | 0          | 2 | 4 | 0           | 0 | 0 | 24          | 33 | 5 | 0          | 0 | 0 | 68  |
| 07:50-07:55              | 0          | 9 | 9 | 0           | 0 | 0 | 18          | 40 | 3 | 0          | 2 | 0 | 81  |
| 07:55-08:00              | 0          | 3 | 8 | 0           | 0 | 0 | 19          | 20 | 2 | 0          | 0 | 0 | 52  |
| 08:00-08:05              | 0          | 1 | 1 | 0           | 0 | 0 | 18          | 26 | 5 | 0          | 2 | 1 | 54  |
| 08:05-08:10              | 0          | 3 | 3 | 0           | 0 | 0 | 16          | 25 | 2 | 0          | 2 | 1 | 52  |
| 08:10-08:15              | 0          | 4 | 1 | 0           | 0 | 0 | 10          | 28 | 0 | 0          | 1 | 0 | 44  |
| 08:15-08:20              | 0          | 6 | 7 | 0           | 0 | 0 | 18          | 28 | 3 | 0          | 1 | 1 | 64  |
| 08:20-08:25              | 0          | 3 | 3 | 0           | 0 | 0 | 6           | 16 | 1 | 0          | 3 | 2 | 34  |
| 08:25-08:30              | 0          | 4 | 2 | 0           | 0 | 0 | 14          | 29 | 4 | 0          | 0 | 1 | 54  |
| 08:30-08:35              | 0          | 0 | 5 | 0           | 0 | 0 | 13          | 22 | 2 | 0          | 1 | 0 | 43  |
| 08:35-08:40              | 0          | 3 | 8 | 0           | 0 | 0 | 15          | 36 | 3 | 0          | 5 | 0 | 70  |
| 08:40-08:45              | 0          | 1 | 4 | 0           | 0 | 0 | 14          | 37 | 2 | 0          | 4 | 0 | 62  |
| 08:45-08:50              | 0          | 4 | 3 | 0           | 0 | 0 | 23          | 23 | 4 | 0          | 6 | 0 | 63  |
| 08:50-08:55              | 0          | 3 | 5 | 0           | 0 | 0 | 10          | 29 | 1 | 0          | 5 | 0 | 53  |
| 08:55-09:00              | 0          | 2 | 2 | 0           | 0 | 0 | 17          | 28 | 1 | 0          | 2 | 2 | 54  |

|               |   |     |      |   |   |   |     |      |      |   |      |      |      |
|---------------|---|-----|------|---|---|---|-----|------|------|---|------|------|------|
| Total Survey  | 0 | 63  | 97   | 0 | 0 | 0 | 330 | 629  | 44   | 0 | 41   | 9    | 1213 |
| PHF           | 0 | .7  | .65  | 0 | 0 | 0 | .76 | .89  | .8   | 0 | .52  | .38  | .843 |
| % Trucks      | 0 | 7.9 | 15.5 | 0 | 0 | 0 | 5.8 | 16.2 | 11.4 | 0 | 19.5 | 22.2 | 12.9 |
| Stopped Buses | 0 | 0   | 0    | 0 | 0 | 0 | 0   | 0    | 0    | 0 | 0    | 0    | 0    |
| Peds          | 0 | 0   | 0    | 0 | 2 | 0 | 0   | 0    | 0    | 0 | 0    | 0    | 0    |

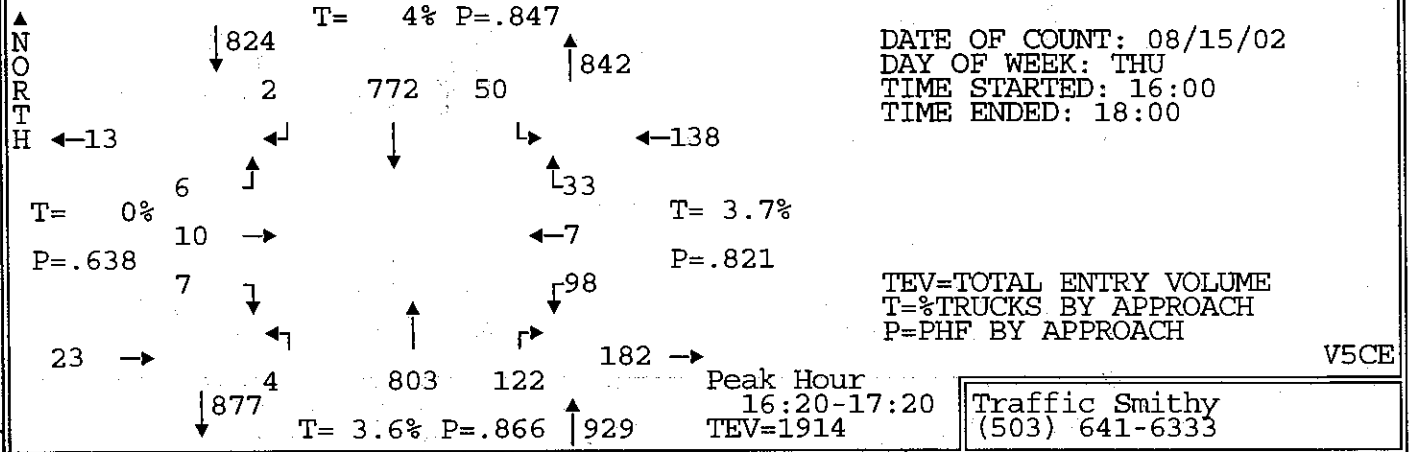
|               |   |    |    |   |   |   |     |     |    |   |    |   |     |
|---------------|---|----|----|---|---|---|-----|-----|----|---|----|---|-----|
| Hourly Totals |   |    |    |   |   |   |     |     |    |   |    |   |     |
| 07:00-08:00   | 0 | 29 | 53 | 0 | 0 | 0 | 156 | 302 | 16 | 0 | 9  | 1 | 566 |
| 07:15-08:15   | 0 | 30 | 51 | 0 | 0 | 0 | 172 | 319 | 23 | 0 | 12 | 3 | 610 |
| 07:30-08:30   | 0 | 38 | 57 | 0 | 0 | 0 | 181 | 320 | 28 | 0 | 16 | 7 | 647 |
| 07:45-08:45   | 0 | 39 | 55 | 0 | 0 | 0 | 185 | 340 | 32 | 0 | 21 | 6 | 678 |
| 08:00-09:00   | 0 | 34 | 44 | 0 | 0 | 0 | 174 | 327 | 28 | 0 | 32 | 8 | 647 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**CAPE ARAGO HIGHWAY @ HIGHWAY 101 NB**



| TIME PERIOD<br>FROM - TO | EAST BOUND |      |     | SOUTH BOUND |   |   | NORTH BOUND |      |     | WEST BOUND |     |      | ALL  |
|--------------------------|------------|------|-----|-------------|---|---|-------------|------|-----|------------|-----|------|------|
|                          | ↓          | →    | ↑   | ←           | ↓ | ↘ | ←           | ↑    | ↗   | ↓          | ←   | ↑    |      |
| 16:00-16:05              | 0          | 3    | 11  | 0           | 0 | 0 | 19          | 46   | 1   | 0          | 4   | 1    | 85   |
| 16:05-16:10              | 0          | 2    | 12  | 0           | 0 | 0 | 23          | 61   | 0   | 0          | 5   | 2    | 105  |
| 16:10-16:15              | 0          | 2    | 12  | 0           | 0 | 0 | 23          | 50   | 0   | 0          | 6   | 1    | 94   |
| 16:15-16:20              | 0          | 2    | 20  | 0           | 0 | 0 | 18          | 38   | 0   | 0          | 4   | 1    | 83   |
| 16:20-16:25              | 0          | 3    | 15  | 0           | 0 | 0 | 25          | 51   | 1   | 0          | 2   | 0    | 97   |
| 16:25-16:30              | 0          | 1    | 9   | 0           | 0 | 0 | 21          | 55   | 0   | 0          | 6   | 0    | 92   |
| 16:30-16:35              | 0          | 0    | 8   | 0           | 0 | 0 | 25          | 43   | 1   | 0          | 4   | 0    | 81   |
| 16:35-16:40              | 0          | 0    | 6   | 0           | 0 | 0 | 25          | 57   | 0   | 0          | 3   | 0    | 91   |
| 16:40-16:45              | 0          | 4    | 10  | 0           | 0 | 0 | 26          | 37   | 1   | 0          | 5   | 0    | 83   |
| 16:45-16:50              | 0          | 3    | 11  | 0           | 0 | 0 | 29          | 66   | 1   | 0          | 2   | 1    | 113  |
| 16:50-16:55              | 0          | 0    | 5   | 0           | 0 | 0 | 27          | 52   | 0   | 0          | 3   | 1    | 88   |
| 16:55-17:00              | 0          | 0    | 16  | 0           | 0 | 0 | 27          | 27   | 0   | 0          | 4   | 1    | 75   |
| 17:00-17:05              | 0          | 3    | 11  | 0           | 0 | 0 | 20          | 43   | 0   | 0          | 8   | 1    | 86   |
| 17:05-17:10              | 0          | 2    | 8   | 0           | 0 | 0 | 25          | 44   | 0   | 0          | 6   | 3    | 88   |
| 17:10-17:15              | 0          | 3    | 15  | 0           | 0 | 0 | 27          | 71   | 1   | 0          | 4   | 0    | 121  |
| 17:15-17:20              | 0          | 2    | 16  | 0           | 0 | 0 | 26          | 53   | 0   | 0          | 4   | 2    | 103  |
| 17:20-17:25              | 0          | 3    | 13  | 0           | 0 | 0 | 31          | 74   | 0   | 0          | 5   | 0    | 126  |
| 17:25-17:30              | 0          | 0    | 13  | 0           | 0 | 0 | 17          | 50   | 0   | 0          | 1   | 0    | 81   |
| 17:30-17:35              | 0          | 0    | 6   | 0           | 0 | 0 | 24          | 53   | 1   | 0          | 6   | 0    | 90   |
| 17:35-17:40              | 0          | 0    | 4   | 0           | 0 | 0 | 33          | 53   | 1   | 0          | 4   | 1    | 96   |
| 17:40-17:45              | 0          | 0    | 4   | 0           | 0 | 0 | 20          | 43   | 0   | 0          | 2   | 1    | 70   |
| 17:45-17:50              | 0          | 2    | 6   | 0           | 0 | 0 | 12          | 45   | 0   | 0          | 2   | 2    | 69   |
| 17:50-17:55              | 0          | 2    | 7   | 0           | 0 | 0 | 17          | 52   | 3   | 0          | 0   | 1    | 82   |
| 17:55-18:00              | 0          | 1    | 4   | 0           | 0 | 0 | 17          | 43   | 2   | 0          | 3   | 0    | 70   |
| <b>Total Survey</b>      |            |      |     |             |   |   |             |      |     |            |     |      |      |
| PHF                      | 0          | 38   | 242 | 0           | 0 | 0 | 557         | 1207 | 13  | 0          | 93  | 19   | 2169 |
| % Trucks                 | 0          | .63  | .73 | 0           | 0 | 0 | .93         | .79  | .63 | 0          | .72 | .5   | .821 |
| Stopped Buses            | 0          | 10.5 | 6.2 | 0           | 0 | 0 | 3.1         | 6.7  | 0   | 0          | 3.2 | 10.5 | 5.6  |
| Peds                     | 0          | 0    | 0   | 0           | 0 | 0 | 0           | 0    | 0   | 0          | 0   | 0    | 0    |
| <b>Hourly Totals</b>     |            |      |     |             |   |   |             |      |     |            |     |      |      |
| 16:00-17:00              | 0          | 20   | 135 | 0           | 0 | 0 | 288         | 583  | 5   | 0          | 48  | 8    | 1087 |
| 16:15-17:15              | 0          | 21   | 134 | 0           | 0 | 0 | 295         | 584  | 5   | 0          | 51  | 8    | 1098 |
| 16:30-17:30              | 0          | 20   | 132 | 0           | 0 | 0 | 305         | 617  | 4   | 0          | 49  | 9    | 1136 |
| 16:45-17:45              | 0          | 16   | 122 | 0           | 0 | 0 | 306         | 629  | 4   | 0          | 49  | 11   | 1137 |
| 17:00-18:00              | 0          | 18   | 107 | 0           | 0 | 0 | 269         | 624  | 8   | 0          | 45  | 11   | 1082 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**CASINO ENTRANCE @ HIGHWAY 101**



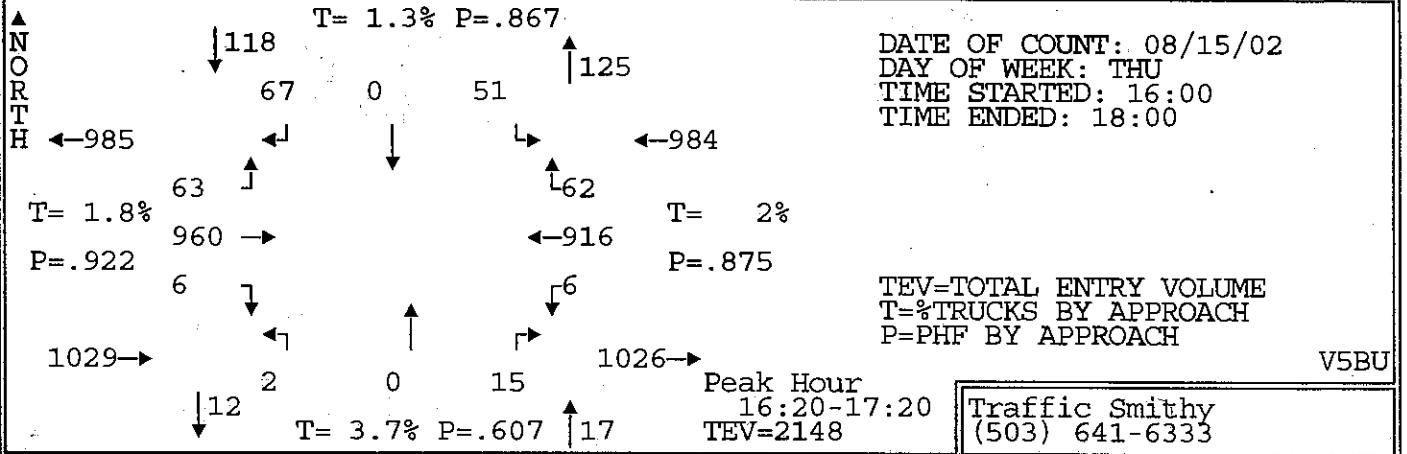
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |    |    | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|----|----|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ←           | ↑  | ↗  | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 0 | 2           | 70 | 2 | 1           | 60 | 7  | 9          | 0 | 2 | 153 |
| 16:05-16:10              | 4          | 0 | 1 | 0           | 76 | 3 | 1           | 75 | 10 | 3          | 0 | 2 | 175 |
| 16:10-16:15              | 1          | 0 | 0 | 0           | 69 | 3 | 0           | 70 | 15 | 13         | 0 | 7 | 178 |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 56 | 3 | 0           | 55 | 5  | 8          | 0 | 8 | 135 |
| 16:20-16:25              | 0          | 1 | 0 | 0           | 74 | 6 | 2           | 54 | 9  | 7          | 0 | 2 | 155 |
| 16:25-16:30              | 1          | 0 | 0 | 0           | 58 | 2 | 0           | 65 | 16 | 5          | 0 | 3 | 150 |
| 16:30-16:35              | 1          | 1 | 1 | 0           | 67 | 1 | 0           | 63 | 9  | 12         | 0 | 6 | 161 |
| 16:35-16:40              | 0          | 0 | 0 | 1           | 62 | 8 | 0           | 67 | 8  | 4          | 2 | 1 | 153 |
| 16:40-16:45              | 2          | 2 | 0 | 0           | 63 | 4 | 0           | 60 | 11 | 9          | 0 | 2 | 153 |
| 16:45-16:50              | 0          | 0 | 0 | 1           | 63 | 4 | 1           | 74 | 15 | 8          | 0 | 3 | 169 |
| 16:50-16:55              | 1          | 0 | 0 | 0           | 55 | 5 | 0           | 60 | 9  | 6          | 2 | 0 | 138 |
| 16:55-17:00              | 0          | 1 | 2 | 0           | 52 | 2 | 0           | 64 | 13 | 9          | 0 | 3 | 146 |
| 17:00-17:05              | 0          | 0 | 1 | 0           | 63 | 5 | 0           | 56 | 5  | 11         | 0 | 1 | 142 |
| 17:05-17:10              | 1          | 2 | 0 | 0           | 84 | 8 | 0           | 72 | 10 | 5          | 0 | 4 | 186 |
| 17:10-17:15              | 1          | 0 | 0 | 0           | 80 | 3 | 0           | 90 | 10 | 12         | 3 | 5 | 204 |
| 17:15-17:20              | 0          | 3 | 2 | 0           | 51 | 2 | 1           | 78 | 7  | 10         | 0 | 3 | 157 |
| 17:20-17:25              | 0          | 0 | 1 | 0           | 46 | 1 | 0           | 61 | 12 | 10         | 0 | 0 | 131 |
| 17:25-17:30              | 0          | 0 | 1 | 0           | 44 | 2 | 0           | 78 | 9  | 10         | 0 | 3 | 147 |
| 17:30-17:35              | 1          | 0 | 0 | 0           | 31 | 4 | 0           | 70 | 16 | 2          | 0 | 3 | 127 |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 82 | 2 | 0           | 39 | 8  | 5          | 0 | 3 | 139 |
| 17:40-17:45              | 1          | 0 | 0 | 0           | 56 | 2 | 1           | 74 | 10 | 8          | 0 | 5 | 157 |
| 17:45-17:50              | 0          | 2 | 2 | 0           | 55 | 3 | 1           | 48 | 10 | 4          | 1 | 5 | 131 |
| 17:50-17:55              | 0          | 0 | 2 | 1           | 45 | 2 | 0           | 65 | 7  | 1          | 0 | 4 | 127 |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 45 | 3 | 0           | 49 | 9  | 7          | 0 | 6 | 119 |

|               |     |    |    |     |      |     |    |      |     |     |     |     |      |
|---------------|-----|----|----|-----|------|-----|----|------|-----|-----|-----|-----|------|
| Total Survey  | 14  | 12 | 13 | 5   | 1447 | 80  | 8  | 1547 | 240 | 178 | 8   | 81  | 3633 |
| PHF           | .58 | .5 | .5 | .25 | .85  | .78 | .5 | .84  | .82 | .88 | .58 | .69 | .874 |
| % Trucks      | 0   | 0  | 0  | 0   | 3.9  | 5   | 0  | 4    | 1.3 | 2.8 | 0   | 6.2 | 3.7  |
| Stopped Buses | 0   | 0  | 0  | 0   | 0    | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0   | 0  | 0  | 0   | 1    | 0   | 0  | 0    | 0   | 0   | 0   | 0   | 0    |

|               |    |   |   |   |     |    |   |     |     |     |   |    |      |
|---------------|----|---|---|---|-----|----|---|-----|-----|-----|---|----|------|
| Hourly Totals |    |   |   |   |     |    |   |     |     |     |   |    |      |
| 16:00-17:00   | 10 | 5 | 4 | 4 | 765 | 43 | 5 | 767 | 127 | 93  | 4 | 39 | 1866 |
| 16:15-17:15   | 7  | 7 | 4 | 2 | 777 | 51 | 3 | 780 | 120 | 96  | 7 | 38 | 1892 |
| 16:30-17:30   | 6  | 9 | 8 | 2 | 730 | 45 | 2 | 823 | 118 | 106 | 7 | 31 | 1887 |
| 16:45-17:45   | 5  | 6 | 7 | 1 | 707 | 40 | 3 | 816 | 124 | 96  | 5 | 33 | 1843 |
| 17:00-18:00   | 4  | 7 | 9 | 1 | 682 | 37 | 3 | 780 | 113 | 85  | 4 | 42 | 1767 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## OAK @ CAPE ARAGO WAY



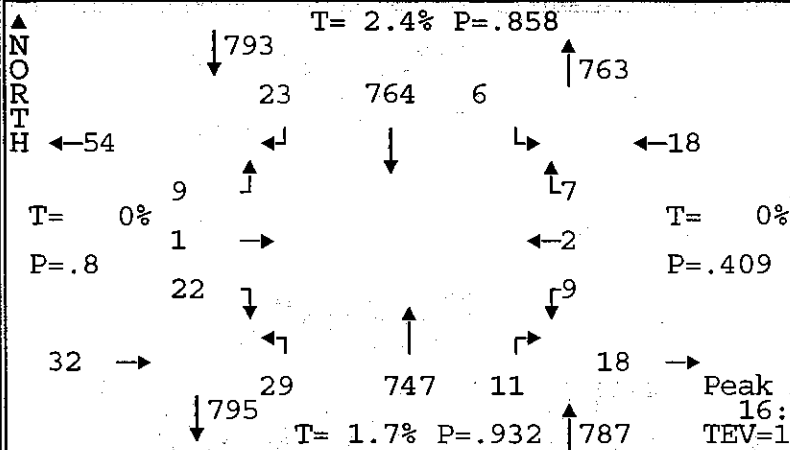
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |     |    | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|-----|----|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | → | ←           | ↑ | → | ↓          | ←   | ↑  |     |
| 16:00-16:05              | 1          | 76 | 6 | 5           | 0 | 7 | 1           | 0 | 3 | 0          | 69  | 3  | 171 |
| 16:05-16:10              | 0          | 83 | 4 | 2           | 0 | 6 | 0           | 0 | 1 | 0          | 73  | 6  | 175 |
| 16:10-16:15              | 1          | 60 | 9 | 7           | 0 | 2 | 0           | 0 | 1 | 0          | 89  | 4  | 173 |
| 16:15-16:20              | 0          | 84 | 7 | 6           | 0 | 3 | 0           | 0 | 1 | 0          | 71  | 4  | 176 |
| 16:20-16:25              | 1          | 79 | 5 | 4           | 0 | 7 | 0           | 0 | 1 | 1          | 74  | 5  | 177 |
| 16:25-16:30              | 1          | 71 | 2 | 8           | 0 | 5 | 0           | 0 | 4 | 1          | 82  | 8  | 182 |
| 16:30-16:35              | 2          | 66 | 2 | 8           | 0 | 2 | 0           | 0 | 0 | 0          | 88  | 3  | 171 |
| 16:35-16:40              | 0          | 84 | 2 | 7           | 0 | 4 | 0           | 0 | 0 | 1          | 62  | 6  | 166 |
| 16:40-16:45              | 2          | 93 | 4 | 8           | 0 | 4 | 0           | 0 | 2 | 0          | 71  | 2  | 186 |
| 16:45-16:50              | 0          | 83 | 6 | 0           | 0 | 1 | 1           | 0 | 2 | 0          | 80  | 4  | 177 |
| 16:50-16:55              | 0          | 82 | 9 | 3           | 0 | 6 | 1           | 0 | 0 | 0          | 76  | 3  | 180 |
| 16:55-17:00              | 0          | 70 | 8 | 8           | 0 | 8 | 0           | 0 | 3 | 0          | 51  | 7  | 155 |
| 17:00-17:05              | 0          | 78 | 6 | 4           | 0 | 2 | 0           | 0 | 1 | 0          | 73  | 5  | 169 |
| 17:05-17:10              | 0          | 86 | 5 | 5           | 0 | 4 | 0           | 0 | 1 | 3          | 63  | 4  | 171 |
| 17:10-17:15              | 0          | 81 | 8 | 8           | 0 | 5 | 0           | 0 | 1 | 0          | 85  | 7  | 195 |
| 17:15-17:20              | 0          | 87 | 6 | 4           | 0 | 3 | 0           | 0 | 0 | 0          | 111 | 8  | 219 |
| 17:20-17:25              | 1          | 62 | 4 | 3           | 0 | 6 | 0           | 0 | 1 | 0          | 68  | 4  | 149 |
| 17:25-17:30              | 0          | 59 | 2 | 8           | 0 | 9 | 0           | 0 | 0 | 1          | 80  | 9  | 168 |
| 17:30-17:35              | 0          | 67 | 2 | 7           | 0 | 4 | 0           | 0 | 1 | 1          | 76  | 8  | 166 |
| 17:35-17:40              | 0          | 70 | 6 | 3           | 0 | 5 | 0           | 0 | 1 | 0          | 48  | 2  | 135 |
| 17:40-17:45              | 0          | 60 | 4 | 7           | 0 | 5 | 0           | 0 | 0 | 0          | 66  | 7  | 149 |
| 17:45-17:50              | 0          | 70 | 7 | 5           | 0 | 4 | 0           | 0 | 0 | 1          | 64  | 3  | 154 |
| 17:50-17:55              | 0          | 65 | 7 | 4           | 0 | 6 | 0           | 0 | 0 | 0          | 62  | 10 | 154 |
| 17:55-18:00              | 0          | 65 | 2 | 4           | 0 | 2 | 0           | 0 | 0 | 1          | 73  | 3  | 150 |

|               |     |      |     |     |   |     |     |   |     |    |      |     |      |
|---------------|-----|------|-----|-----|---|-----|-----|---|-----|----|------|-----|------|
| Total Survey  | 9   | 1781 | 123 | 128 | 0 | 110 | 3   | 0 | 24  | 10 | 1755 | 125 | 4068 |
| PHF           | .38 | .92  | .68 | .73 | 0 | .8  | .25 | 0 | .75 | .5 | .88  | .82 | .917 |
| % Trucks      | 0   | 1.9  | 1.6 | 2.3 | 0 | 0   | 0   | 0 | 4.2 | 0  | 2.1  | .8  | 1.9  |
| Stopped Buses | 0   | 0    | 0   | 0   | 0 | 0   | 0   | 0 | 0   | 0  | 0    | 0   |      |
| Peds          | 0   | 0    | 0   | 0   | 0 | 0   | 0   | 0 | 0   | 0  | 0    | 0   |      |

|               |   |     |    |    |   |    |   |   |    |   |     |    |      |
|---------------|---|-----|----|----|---|----|---|---|----|---|-----|----|------|
| Hourly Totals |   |     |    |    |   |    |   |   |    |   |     |    |      |
| 16:00-17:00   | 8 | 931 | 64 | 66 | 0 | 55 | 3 | 0 | 18 | 3 | 886 | 55 | 2089 |
| 16:15-17:15   | 6 | 957 | 64 | 69 | 0 | 51 | 2 | 0 | 16 | 6 | 876 | 58 | 2105 |
| 16:30-17:30   | 5 | 931 | 62 | 66 | 0 | 54 | 2 | 0 | 11 | 5 | 908 | 62 | 2106 |
| 16:45-17:45   | 1 | 885 | 66 | 60 | 0 | 58 | 2 | 0 | 11 | 5 | 877 | 68 | 2033 |
| 17:00-18:00   | 1 | 850 | 59 | 62 | 0 | 55 | 0 | 0 | 6  | 7 | 869 | 70 | 1979 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## 17TH @ BROADWAY



DATE OF COUNT: 08/15/02  
 DAY OF WEEK: THU  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5BT

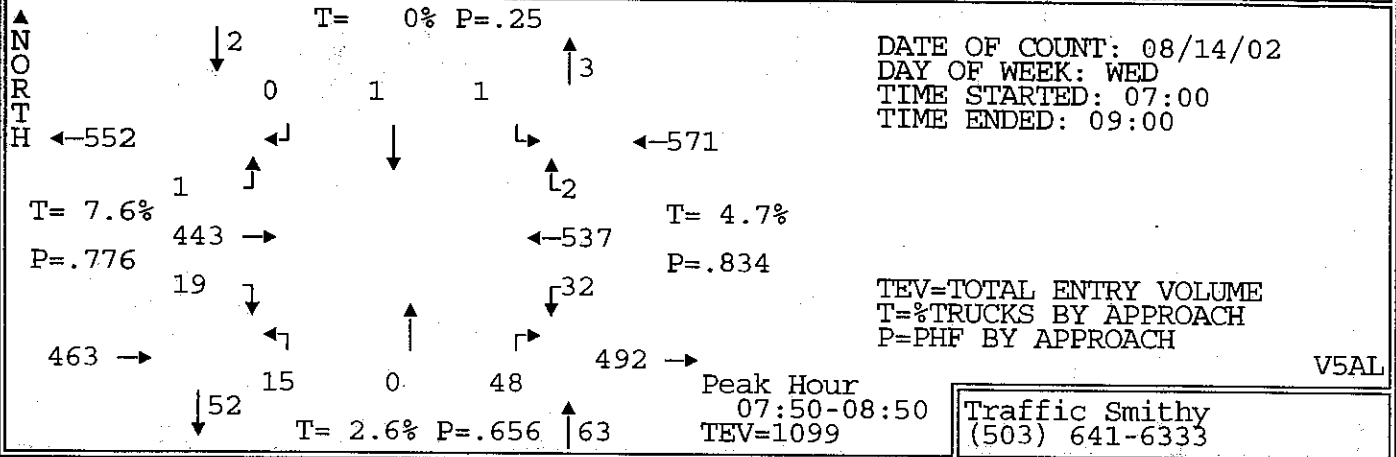
Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | → | ←           | ↑  | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 2          | 0 | 2 | 1           | 58 | 1 | 1           | 78 | 1 | 0          | 0 | 0 | 144 |
| 16:05-16:10              | 1          | 0 | 0 | 3           | 63 | 1 | 3           | 62 | 1 | 2          | 0 | 0 | 136 |
| 16:10-16:15              | 3          | 0 | 1 | 3           | 71 | 0 | 4           | 61 | 0 | 0          | 1 | 1 | 145 |
| 16:15-16:20              | 1          | 1 | 1 | 0           | 71 | 0 | 1           | 59 | 1 | 0          | 0 | 0 | 135 |
| 16:20-16:25              | 2          | 0 | 0 | 4           | 81 | 1 | 0           | 55 | 0 | 0          | 0 | 0 | 143 |
| 16:25-16:30              | 2          | 0 | 1 | 1           | 60 | 0 | 2           | 58 | 0 | 0          | 0 | 1 | 125 |
| 16:30-16:35              | 3          | 0 | 0 | 1           | 63 | 1 | 3           | 64 | 1 | 0          | 0 | 1 | 137 |
| 16:35-16:40              | 2          | 0 | 1 | 2           | 62 | 1 | 3           | 68 | 0 | 1          | 0 | 0 | 140 |
| 16:40-16:45              | 3          | 0 | 1 | 1           | 56 | 0 | 5           | 58 | 2 | 0          | 0 | 0 | 126 |
| 16:45-16:50              | 1          | 0 | 0 | 1           | 61 | 1 | 3           | 56 | 1 | 1          | 0 | 1 | 126 |
| 16:50-16:55              | 0          | 0 | 2 | 2           | 61 | 0 | 1           | 65 | 1 | 1          | 0 | 1 | 134 |
| 16:55-17:00              | 2          | 0 | 0 | 4           | 57 | 0 | 3           | 63 | 3 | 4          | 1 | 2 | 139 |
| 17:00-17:05              | 0          | 0 | 0 | 5           | 50 | 0 | 3           | 65 | 0 | 0          | 0 | 1 | 124 |
| 17:05-17:10              | 3          | 0 | 0 | 0           | 69 | 0 | 2           | 76 | 0 | 0          | 0 | 1 | 151 |
| 17:10-17:15              | 1          | 0 | 2 | 3           | 58 | 0 | 4           | 63 | 0 | 0          | 0 | 0 | 131 |
| 17:15-17:20              | 1          | 0 | 2 | 3           | 62 | 0 | 1           | 54 | 0 | 0          | 0 | 0 | 123 |
| 17:20-17:25              | 3          | 0 | 0 | 2           | 61 | 1 | 4           | 67 | 0 | 0          | 0 | 0 | 138 |
| 17:25-17:30              | 5          | 0 | 1 | 3           | 59 | 0 | 2           | 50 | 0 | 0          | 0 | 1 | 121 |
| 17:30-17:35              | 3          | 0 | 2 | 1           | 54 | 0 | 3           | 54 | 0 | 0          | 0 | 0 | 117 |
| 17:35-17:40              | 2          | 0 | 0 | 3           | 66 | 0 | 2           | 49 | 1 | 1          | 0 | 1 | 125 |
| 17:40-17:45              | 2          | 0 | 1 | 0           | 53 | 0 | 3           | 44 | 0 | 0          | 1 | 0 | 104 |
| 17:45-17:50              | 3          | 0 | 1 | 2           | 44 | 0 | 3           | 50 | 0 | 0          | 0 | 0 | 103 |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 47 | 0 | 3           | 48 | 0 | 0          | 0 | 0 | 98  |
| 17:55-18:00              | 1          | 0 | 0 | 1           | 39 | 0 | 1           | 53 | 0 | 0          | 0 | 1 | 96  |

|               |     |     |     |     |      |     |     |      |     |     |    |     |      |
|---------------|-----|-----|-----|-----|------|-----|-----|------|-----|-----|----|-----|------|
| Total Survey  | 46  | 1   | 18  | 46  | 1426 | 7   | 60  | 1420 | 12  | 10  | 3  | 12  | 3061 |
| PHF           | .69 | .25 | .75 | .82 | .86  | .75 | .66 | .93  | .55 | .38 | .5 | .44 | .958 |
| % Trucks      | 0   | 0   | 0   | 0   | 2.5  | 0   | 1.7 | 1.8  | 0   | 0   | 0  | 0   | 2    |
| Stopped Buses | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0   | 0  | 0   |      |
| Peds          | 0   | 0   | 0   | 0   | 2    | 0   | 0   | 10   | 0   | 0   | 0  | 0   |      |

|               |    |   |    |    |     |   |    |     |    |   |   |   |      |
|---------------|----|---|----|----|-----|---|----|-----|----|---|---|---|------|
| Hourly Totals |    |   |    |    |     |   |    |     |    |   |   |   |      |
| 16:00-17:00   | 22 | 1 | 9  | 23 | 764 | 6 | 29 | 747 | 11 | 9 | 2 | 7 | 1630 |
| 16:15-17:15   | 20 | 1 | 8  | 24 | 749 | 4 | 30 | 750 | 9  | 7 | 1 | 8 | 1611 |
| 16:30-17:30   | 24 | 0 | 9  | 27 | 719 | 4 | 34 | 749 | 8  | 7 | 1 | 8 | 1590 |
| 16:45-17:45   | 23 | 0 | 10 | 27 | 711 | 2 | 31 | 706 | 6  | 7 | 2 | 8 | 1533 |
| 17:00-18:00   | 24 | 0 | 9  | 23 | 662 | 1 | 31 | 673 | 1  | 1 | 1 | 5 | 1431 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT HARRISON @ VIRGINIA



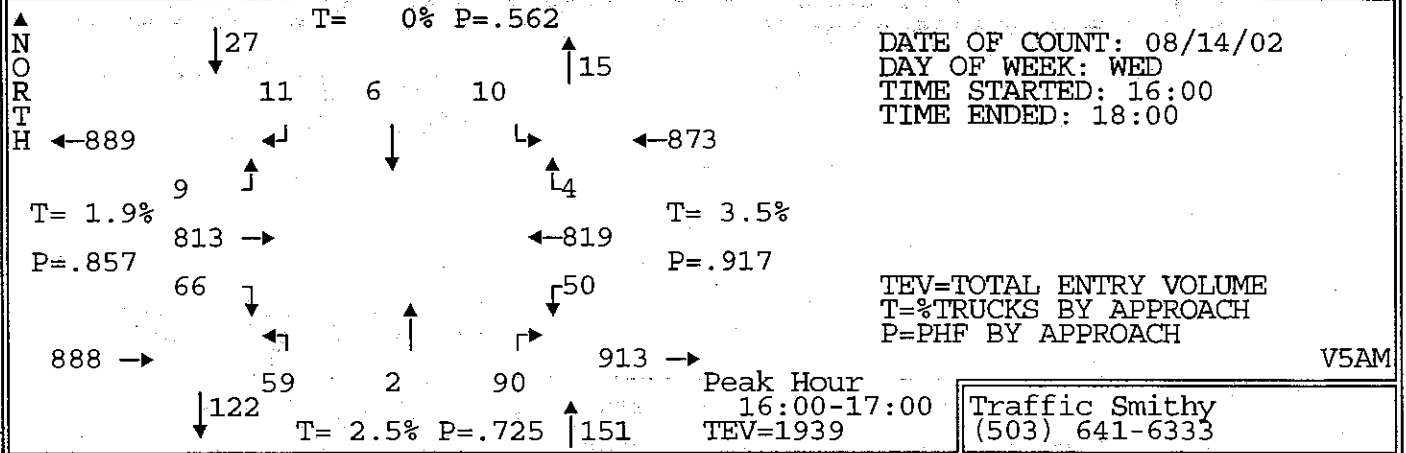
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | → | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 07:00-07:05              | 0          | 20 | 0 | 0           | 0 | 0 | 0           | 0 | 1 | 3          | 20 | 0 | 44  |
| 07:05-07:10              | 0          | 23 | 0 | 0           | 0 | 0 | 1           | 0 | 4 | 1          | 21 | 0 | 50  |
| 07:10-07:15              | 1          | 17 | 0 | 1           | 0 | 0 | 1           | 0 | 1 | 1          | 25 | 0 | 47  |
| 07:15-07:20              | 1          | 29 | 0 | 1           | 0 | 0 | 0           | 0 | 1 | 3          | 28 | 0 | 63  |
| 07:20-07:25              | 0          | 27 | 0 | 0           | 0 | 0 | 1           | 0 | 1 | 0          | 22 | 0 | 51  |
| 07:25-07:30              | 1          | 31 | 0 | 0           | 0 | 0 | 2           | 0 | 2 | 0          | 41 | 0 | 77  |
| 07:30-07:35              | 1          | 35 | 0 | 0           | 0 | 0 | 1           | 0 | 5 | 1          | 28 | 0 | 71  |
| 07:35-07:40              | 0          | 38 | 0 | 0           | 0 | 0 | 4           | 0 | 4 | 2          | 44 | 0 | 92  |
| 07:40-07:45              | 0          | 35 | 0 | 0           | 0 | 0 | 2           | 0 | 4 | 4          | 54 | 0 | 99  |
| 07:45-07:50              | 1          | 33 | 0 | 0           | 0 | 0 | 2           | 0 | 5 | 4          | 38 | 0 | 83  |
| 07:50-07:55              | 1          | 57 | 0 | 0           | 0 | 0 | 2           | 0 | 4 | 3          | 66 | 0 | 133 |
| 07:55-08:00              | 3          | 52 | 1 | 0           | 0 | 0 | 1           | 0 | 7 | 5          | 58 | 0 | 127 |
| 08:00-08:05              | 2          | 33 | 0 | 0           | 1 | 1 | 5           | 0 | 5 | 2          | 36 | 1 | 86  |
| 08:05-08:10              | 0          | 27 | 0 | 0           | 0 | 0 | 0           | 0 | 5 | 5          | 31 | 0 | 68  |
| 08:10-08:15              | 3          | 23 | 0 | 0           | 0 | 0 | 0           | 0 | 4 | 3          | 37 | 0 | 70  |
| 08:15-08:20              | 0          | 36 | 0 | 0           | 0 | 0 | 1           | 0 | 4 | 0          | 42 | 1 | 84  |
| 08:20-08:25              | 0          | 35 | 0 | 0           | 0 | 0 | 0           | 0 | 6 | 0          | 35 | 0 | 76  |
| 08:25-08:30              | 3          | 33 | 0 | 0           | 0 | 0 | 1           | 0 | 3 | 3          | 36 | 0 | 79  |
| 08:30-08:35              | 2          | 29 | 0 | 0           | 0 | 0 | 1           | 0 | 2 | 5          | 43 | 0 | 82  |
| 08:35-08:40              | 1          | 39 | 0 | 0           | 0 | 0 | 0           | 0 | 4 | 0          | 47 | 0 | 91  |
| 08:40-08:45              | 2          | 36 | 0 | 0           | 0 | 0 | 4           | 0 | 4 | 4          | 47 | 0 | 97  |
| 08:45-08:50              | 2          | 43 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 2          | 59 | 0 | 106 |
| 08:50-08:55              | 5          | 42 | 0 | 1           | 0 | 0 | 1           | 0 | 3 | 2          | 43 | 0 | 97  |
| 08:55-09:00              | 4          | 26 | 0 | 1           | 0 | 0 | 3           | 0 | 2 | 3          | 60 | 0 | 99  |

|               |     |     |     |   |     |     |     |   |     |     |     |    |      |
|---------------|-----|-----|-----|---|-----|-----|-----|---|-----|-----|-----|----|------|
| Total Survey  | 33  | 799 | 1   | 4 | 1   | 1   | 33  | 0 | 81  | 56  | 961 | 2  | 1972 |
| PHF           | .79 | .78 | .25 | 0 | .25 | .25 | .47 | 0 | .71 | .67 | .84 | .5 | .794 |
| % Trucks      | 3   | 7.8 | 0   | 0 | 0   | 0   | 3   | 0 | 2.5 | 5.4 | 4.7 | 0  | 5.8  |
| Stopped Buses | 0   | 0   | 0   | 0 | 0   | 0   | 0   | 0 | 0   | 0   | 0   | 0  | 0    |
| Peds          | 0   | 2   | 0   | 0 | 2   | 0   | 0   | 2 | 0   | 0   | 0   | 0  | 0    |

|               |    |     |   |   |   |   |    |   |    |    |     |   |      |
|---------------|----|-----|---|---|---|---|----|---|----|----|-----|---|------|
| Hourly Totals |    |     |   |   |   |   |    |   |    |    |     |   |      |
| 07:00-08:00   | 9  | 397 | 1 | 2 | 0 | 0 | 17 | 0 | 39 | 27 | 445 | 0 | 937  |
| 07:15-08:15   | 13 | 420 | 1 | 1 | 1 | 1 | 20 | 0 | 47 | 32 | 483 | 1 | 1020 |
| 07:30-08:30   | 14 | 437 | 1 | 0 | 1 | 1 | 19 | 0 | 56 | 32 | 505 | 2 | 1068 |
| 07:45-08:45   | 18 | 433 | 1 | 0 | 1 | 1 | 17 | 0 | 53 | 34 | 516 | 2 | 1076 |
| 08:00-09:00   | 24 | 402 | 0 | 2 | 1 | 1 | 16 | 0 | 42 | 29 | 516 | 2 | 1035 |

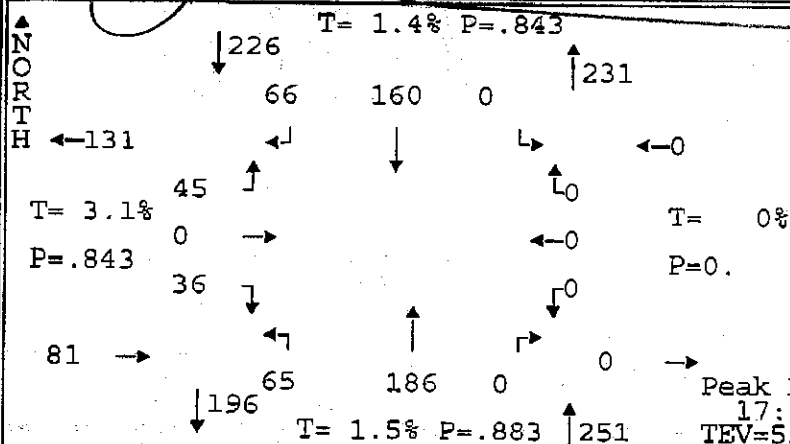


# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT HARRISON @ VIRGINIA



| TIME PERIOD<br>FROM - TO | EAST BOUND |      |     | SOUTH BOUND |    |     | NORTH BOUND |     |     | WEST BOUND |      |      | ALL  |
|--------------------------|------------|------|-----|-------------|----|-----|-------------|-----|-----|------------|------|------|------|
|                          | ↓          | →    | ↑   | ←           | ↓  | →   | ←           | ↑   | →   | ↓          | ←    | ↑    |      |
| 16:00-16:05              | 4          | 64   | 0   | 0           | 2  | 0   | 3           | 0   | 14  | 4          | 65   | 0    | 156  |
| 16:05-16:10              | 6          | 67   | 2   | 1           | 0  | 0   | 6           | 0   | 5   | 2          | 69   | 1    | 159  |
| 16:10-16:15              | 5          | 74   | 0   | 1           | 1  | 0   | 10          | 0   | 14  | 5          | 74   | 0    | 184  |
| 16:15-16:20              | 3          | 82   | 4   | 1           | 1  | 4   | 5           | 1   | 6   | 2          | 72   | 0    | 181  |
| 16:20-16:25              | 6          | 82   | 0   | 1           | 0  | 0   | 2           | 1   | 5   | 0          | 60   | 0    | 157  |
| 16:25-16:30              | 6          | 76   | 0   | 2           | 0  | 3   | 5           | 0   | 8   | 4          | 66   | 1    | 171  |
| 16:30-16:35              | 3          | 73   | 1   | 0           | 0  | 2   | 4           | 0   | 5   | 7          | 79   | 0    | 174  |
| 16:35-16:40              | 6          | 57   | 0   | 1           | 0  | 0   | 3           | 0   | 8   | 7          | 74   | 0    | 156  |
| 16:40-16:45              | 10         | 59   | 1   | 1           | 1  | 1   | 10          | 0   | 8   | 6          | 60   | 0    | 157  |
| 16:45-16:50              | 6          | 63   | 0   | 1           | 1  | 0   | 3           | 0   | 7   | 4          | 60   | 0    | 145  |
| 16:50-16:55              | 7          | 49   | 0   | 2           | 0  | 0   | 4           | 0   | 3   | 4          | 69   | 1    | 139  |
| 16:55-17:00              | 4          | 67   | 1   | 0           | 0  | 0   | 4           | 0   | 7   | 5          | 71   | 1    | 160  |
| 17:00-17:05              | 3          | 64   | 0   | 0           | 0  | 3   | 2           | 0   | 8   | 3          | 68   | 0    | 151  |
| 17:05-17:10              | 4          | 62   | 1   | 0           | 0  | 0   | 1           | 0   | 6   | 3          | 68   | 0    | 145  |
| 17:10-17:15              | 1          | 78   | 1   | 0           | 0  | 3   | 3           | 3   | 14  | 2          | 76   | 0    | 181  |
| 17:15-17:20              | 1          | 75   | 1   | 1           | 0  | 2   | 3           | 1   | 6   | 4          | 86   | 0    | 180  |
| 17:20-17:25              | 3          | 68   | 0   | 1           | 0  | 1   | 7           | 2   | 7   | 6          | 55   | 0    | 150  |
| 17:25-17:30              | 4          | 74   | 0   | 1           | 1  | 2   | 3           | 0   | 6   | 3          | 52   | 0    | 146  |
| 17:30-17:35              | 1          | 71   | 1   | 1           | 1  | 2   | 2           | 1   | 9   | 2          | 65   | 0    | 156  |
| 17:35-17:40              | 5          | 51   | 0   | 0           | 0  | 1   | 3           | 0   | 1   | 2          | 74   | 3    | 140  |
| 17:40-17:45              | 3          | 44   | 2   | 0           | 0  | 0   | 1           | 1   | 8   | 5          | 52   | 2    | 118  |
| 17:45-17:50              | 2          | 47   | 0   | 0           | 1  | 1   | 4           | 0   | 6   | 3          | 56   | 0    | 120  |
| 17:50-17:55              | 4          | 50   | 0   | 4           | 0  | 1   | 0           | 0   | 8   | 3          | 58   | 0    | 128  |
| 17:55-18:00              | 3          | 49   | 0   | 0           | 1  | 1   | 8           | 1   | 4   | 2          | 53   | 0    | 122  |
| <b>Total Survey</b>      |            |      |     |             |    |     |             |     |     |            |      |      |      |
| PHF                      | 100        | 1546 | 15  | 19          | 10 | 27  | 96          | 11  | 173 | 88         | 1582 | 9    | 3676 |
| % Trucks                 | .72        | .85  | .38 | .69         | .5 | .36 | .7          | .25 | .68 | .63        | .93  | .5   | .925 |
| Stopped Buses            | 0          | 2.1  | 0   | 0           | 0  | 0   | 2.1         | 0   | 2.9 | 1.1        | 3.5  | 11.1 | 2.6  |
| Peds                     | 0          | 0    | 0   | 0           | 0  | 0   | 0           | 0   | 0   | 0          | 0    | 0    | 0    |
| 0                        | 12         | 0    | 0   | 0           | 8  | 0   | 0           | 4   | 0   | 0          | 0    | 0    | 0    |
| <b>Hourly Totals</b>     |            |      |     |             |    |     |             |     |     |            |      |      |      |
| 16:00-17:00              | 66         | 813  | 9   | 11          | 6  | 10  | 59          | 2   | 90  | 50         | 819  | 4    | 1939 |
| 16:15-17:15              | 59         | 812  | 9   | 9           | 3  | 16  | 46          | 5   | 85  | 47         | 823  | 3    | 1917 |
| 16:30-17:30              | 52         | 789  | 6   | 8           | 3  | 14  | 47          | 6   | 85  | 54         | 818  | 2    | 1884 |
| 16:45-17:45              | 42         | 766  | 7   | 7           | 3  | 14  | 36          | 8   | 82  | 43         | 796  | 7    | 1811 |
| 17:00-18:00              | 34         | 733  | 6   | 8           | 4  | 17  | 37          | 9   | 83  | 38         | 763  | 5    | 1737 |

(39) INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT  
PONY CREEK ROAD AT CROWELL LANE



DATE OF COUNT: 09/17/02  
DAY OF WEEK: Tue  
TIME STARTED: 15:10  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

PMML

Peak Hour  
17:00-18:00  
TEV=558

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |     | SOUTH BOUND |     |   | NORTH BOUND |     |   | WEST BOUND |   |   | ALL  |
|--------------------------|------------|---|-----|-------------|-----|---|-------------|-----|---|------------|---|---|------|
|                          | ↓          | → | ↑   | ←           | ↓   | ↑ | ←           | ↑   | → | ↓          | ← | ↑ |      |
| 15:10-15:15              | 8          | 0 | 10  | 9           | 11  | 0 | 2           | 13  | 0 | 0          | 0 | 0 | 53   |
| 15:15-15:20              | 16         | 0 | 20  | 8           | 14  | 0 | 5           | 14  | 0 | 0          | 0 | 0 | 77   |
| 15:20-15:25              | 13         | 0 | 16  | 10          | 20  | 0 | 4           | 15  | 0 | 0          | 0 | 0 | 78   |
| 15:25-15:30              | 4          | 0 | 14  | 4           | 11  | 0 | 0           | 20  | 0 | 0          | 0 | 0 | 53   |
| 15:30-15:35              | 9          | 0 | 1   | 2           | 16  | 0 | 2           | 12  | 0 | 0          | 0 | 0 | 42   |
| 15:35-15:40              | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| 15:40-15:45              | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| 15:45-15:50              | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| 15:50-15:55              | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| 15:55-16:00              | 4          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| 16:00-16:05              | 3          | 0 | 6   | 3           | 17  | 0 | 4           | 9   | 0 | 0          | 0 | 0 | 41   |
| 16:05-16:10              | 5          | 0 | 5   | 5           | 15  | 0 | 4           | 16  | 0 | 0          | 0 | 0 | 47   |
| 16:10-16:15              | 6          | 0 | 6   | 5           | 24  | 0 | 4           | 22  | 0 | 0          | 0 | 0 | 65   |
| 16:15-16:20              | 3          | 0 | 6   | 5           | 15  | 0 | 4           | 21  | 0 | 0          | 0 | 0 | 57   |
| 16:20-16:25              | 2          | 0 | 4   | 2           | 9   | 0 | 4           | 28  | 0 | 0          | 0 | 0 | 50   |
| 16:25-16:30              | 5          | 0 | 3   | 8           | 16  | 0 | 1           | 13  | 0 | 0          | 0 | 0 | 47   |
| 16:30-16:35              | 2          | 0 | 9   | 4           | 15  | 0 | 1           | 10  | 0 | 0          | 0 | 0 | 43   |
| 16:35-16:40              | 4          | 0 | 4   | 4           | 11  | 0 | 4           | 13  | 0 | 0          | 0 | 0 | 44   |
| 16:40-16:45              | 3          | 0 | 4   | 8           | 15  | 0 | 4           | 8   | 0 | 0          | 0 | 0 | 35   |
| 16:45-16:50              | 2          | 0 | 1   | 3           | 11  | 0 | 2           | 16  | 0 | 0          | 0 | 0 | 50   |
| 16:50-16:55              | 4          | 0 | 2   | 7           | 12  | 0 | 3           | 13  | 0 | 0          | 0 | 0 | 32   |
| 16:55-17:00              | 2          | 0 | 5   | 5           | 11  | 0 | 4           | 13  | 0 | 0          | 0 | 0 | 41   |
| 17:00-17:05              | 2          | 0 | 5   | 5           | 18  | 0 | 5           | 20  | 0 | 0          | 0 | 0 | 44   |
| 17:05-17:10              | 3          | 0 | 6   | 6           | 12  | 0 | 7           | 13  | 0 | 0          | 0 | 0 | 48   |
| 17:10-17:15              | 4          | 0 | 6   | 6           | 14  | 0 | 5           | 13  | 0 | 0          | 0 | 0 | 42   |
| 17:15-17:20              | 1          | 0 | 5   | 4           | 8   | 0 | 5           | 17  | 0 | 0          | 0 | 0 | 40   |
| 17:20-17:25              | 5          | 0 | 3   | 8           | 18  | 0 | 1           | 15  | 0 | 0          | 0 | 0 | 60   |
| 17:25-17:30              | 2          | 0 | 4   | 8           | 8   | 0 | 4           | 19  | 0 | 0          | 0 | 0 | 45   |
| 17:30-17:35              | 0          | 0 | 8   | 8           | 17  | 0 | 3           | 17  | 0 | 0          | 0 | 0 | 53   |
| 17:35-17:40              | 2          | 0 | 8   | 4           | 12  | 0 | 5           | 16  | 0 | 0          | 0 | 0 | 45   |
| 17:40-17:45              | 3          | 0 | 3   | 7           | 10  | 0 | 3           | 20  | 0 | 0          | 0 | 0 | 46   |
| 17:45-17:50              | 1          | 0 | 0   | 5           | 13  | 0 | 5           | 15  | 0 | 0          | 0 | 0 | 39   |
| 17:50-17:55              | 3          | 0 | 3   | 4           | 14  | 0 | 6           | 13  | 0 | 0          | 0 | 0 | 43   |
| 17:55-18:00              | 10         | 0 | 7   | 1           | 16  | 0 | 6           | 15  | 0 | 0          | 0 | 0 | 55   |
| Total Survey             | 131        | 0 | 156 | 161         | 421 | 0 | 126         | 462 | 0 | 0          | 0 | 0 | 1457 |
| PHF                      | .64        | 0 | .63 | .69         | .91 | 0 | .77         | .88 | 0 | 0          | 0 | 0 | .882 |
| % Trucks                 | 1.5        | 0 | 4.5 | 1.9         | 1.2 | 0 | 1.6         | 1.5 | 0 | 0          | 0 | 0 | 1.8  |
| Stopped Buses            | 0          | 0 | 0   | 0           | 0   | 0 | 0           | 0   | 0 | 0          | 0 | 0 | 0    |
| Peds                     | 0          | 2 | 0   | 0           | 5   | 0 | 0           | 2   | 0 | 0          | 0 | 0 | 0    |
| Hourly Totals            |            |   |     |             |     |   |             |     |   |            |   |   |      |
| 15:10-16:10              | 62         | 0 | 74  | 46          | 128 | 0 | 25          | 121 | 0 | 0          | 0 | 0 | 456  |
| 15:25-16:25              | 36         | 0 | 40  | 29          | 125 | 0 | 31          | 141 | 0 | 0          | 0 | 0 | 402  |
| 15:40-16:40              | 34         | 0 | 41  | 39          | 140 | 0 | 35          | 140 | 0 | 0          | 0 | 0 | 429  |
| 15:55-16:55              | 43         | 0 | 48  | 57          | 178 | 0 | 44          | 182 | 0 | 0          | 0 | 0 | 552  |
| 16:10-17:10              | 38         | 0 | 43  | 60          | 163 | 0 | 48          | 181 | 0 | 0          | 0 | 0 | 533  |
| 16:25-17:25              | 37         | 0 | 39  | 68          | 161 | 0 | 52          | 164 | 0 | 0          | 0 | 0 | 521  |
| 16:40-17:40              | 30         | 0 | 41  | 72          | 156 | 0 | 58          | 185 | 0 | 0          | 0 | 0 | 542  |
| 16:55-17:55              | 28         | 0 | 40  | 70          | 155 | 0 | 63          | 191 | 0 | 0          | 0 | 0 | 547  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## CROWELL LANE @ PACIFIC

DATE OF COUNT: 08/15/02  
DAY OF WEEK: THU  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BR

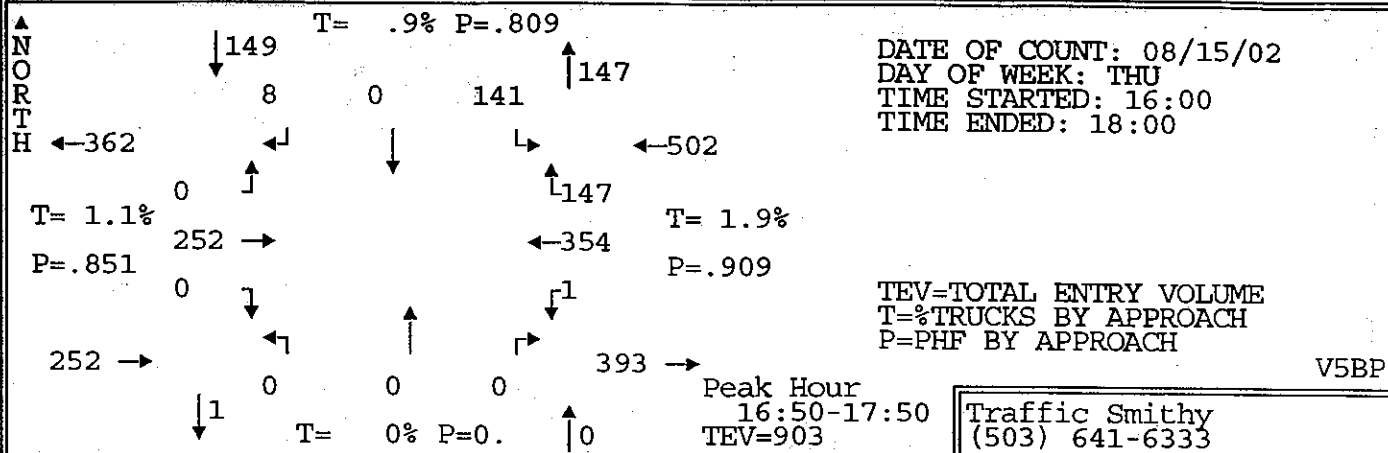
Peak Hour  
17:00-18:00  
TEV=108

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |     | NORTH BOUND |     |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|---|-----|-------------|-----|-----|------------|---|-----|------|
|                          | ↓          | → | ↑ | ↙           | ↓ | ↘   | ↙           | ↑   | ↘   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 7   | 1          | 0 | 0   | 8    |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 1   | 2          | 0 | 0   | 3    |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 4   | 3          | 0 | 0   | 7    |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 4   | 4          | 0 | 0   | 8    |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 3   | 6          | 0 | 0   | 9    |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 1   | 5          | 0 | 0   | 6    |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 3   | 5          | 0 | 0   | 8    |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 4   | 6          | 0 | 0   | 10   |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 3   | 7          | 0 | 0   | 10   |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 4   | 0          | 0 | 0   | 4    |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 0   | 2   | 1          | 0 | 0   | 4    |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 2   | 5          | 0 | 0   | 7    |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 8   | 6          | 0 | 0   | 14   |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 5   | 3          | 0 | 0   | 8    |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 1   | 5          | 0 | 2   | 8    |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 1   | 6          | 0 | 0   | 7    |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 1   | 6          | 0 | 0   | 7    |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 2   | 3          | 0 | 0   | 5    |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 3   | 2          | 0 | 0   | 5    |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 3   | 7          | 0 | 0   | 10   |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 1   | 4   | 5          | 0 | 0   | 11   |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 5   | 5          | 0 | 0   | 10   |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 4   | 7          | 0 | 1   | 12   |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 6   | 5          | 0 | 0   | 11   |
| Total Survey             | 0          | 0 | 0 | 0           | 0 | 2   | 0           | 1   | 81  | 105        | 0 | 3   | 192  |
| PHF                      | 0          | 0 | 0 | 0           | 0 | .25 | 0           | .25 | .72 | .88        | 0 | .38 | .818 |
| % Trucks                 | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 0   | 0          | 0 | 0   | 0    |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 0   | 0   | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0 | 0   | 0           | 7   | 0   | 0          | 0 | 0   | 0    |
| Hourly Totals            |            |   |   |             |   |     |             |     |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 0   | 38  | 45         | 0 | 0   | 84   |
| 16:15-17:15              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 0   | 40  | 53         | 0 | 2   | 96   |
| 16:30-17:30              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 0   | 36  | 53         | 0 | 2   | 92   |
| 16:45-17:45              | 0          | 0 | 0 | 0           | 0 | 2   | 0           | 1   | 36  | 49         | 0 | 2   | 90   |
| 17:00-18:00              | 0          | 0 | 0 | 0           | 0 | 1   | 0           | 1   | 43  | 60         | 0 | 3   | 108  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## MAPLE @ VIRGINIA



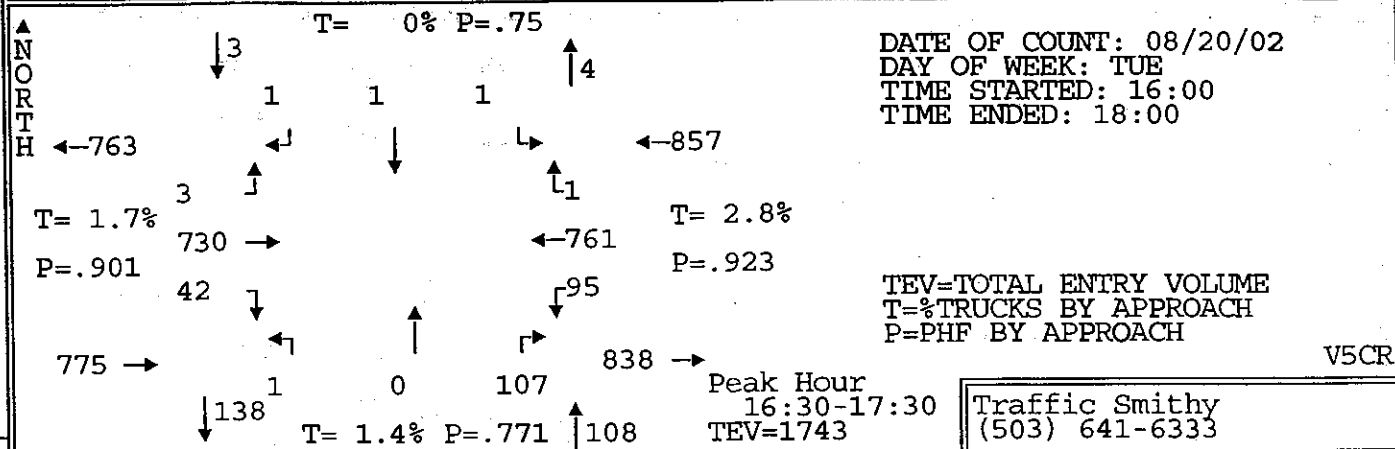
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |    | NORTH BOUND |   |   | WEST BOUND |    |    | ALL |
|--------------------------|------------|----|---|-------------|---|----|-------------|---|---|------------|----|----|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | →  | ←           | ↑ | → | ↓          | ←  | ↑  |     |
| 16:00-16:05              | 0          | 20 | 0 | 1           | 0 | 15 | 0           | 0 | 0 | 0          | 19 | 4  | 59  |
| 16:05-16:10              | 0          | 15 | 0 | 0           | 0 | 20 | 0           | 0 | 0 | 0          | 27 | 19 | 81  |
| 16:10-16:15              | 0          | 14 | 0 | 0           | 0 | 16 | 0           | 0 | 0 | 0          | 26 | 17 | 73  |
| 16:15-16:20              | 0          | 19 | 0 | 0           | 0 | 18 | 0           | 0 | 0 | 0          | 25 | 8  | 70  |
| 16:20-16:25              | 0          | 18 | 0 | 1           | 0 | 14 | 0           | 0 | 0 | 0          | 22 | 12 | 67  |
| 16:25-16:30              | 0          | 13 | 0 | 1           | 0 | 11 | 0           | 0 | 0 | 0          | 22 | 14 | 61  |
| 16:30-16:35              | 0          | 24 | 0 | 0           | 0 | 10 | 0           | 0 | 0 | 0          | 21 | 7  | 62  |
| 16:35-16:40              | 0          | 23 | 0 | 2           | 0 | 21 | 0           | 0 | 0 | 0          | 16 | 6  | 68  |
| 16:40-16:45              | 6          | 15 | 0 | 1           | 0 | 6  | 0           | 0 | 0 | 0          | 20 | 14 | 62  |
| 16:45-16:50              | 0          | 20 | 0 | 2           | 0 | 13 | 0           | 0 | 0 | 0          | 18 | 9  | 62  |
| 16:50-16:55              | 0          | 20 | 0 | 2           | 0 | 8  | 0           | 0 | 0 | 0          | 26 | 14 | 70  |
| 16:55-17:00              | 0          | 29 | 0 | 1           | 0 | 9  | 0           | 0 | 0 | 0          | 28 | 12 | 79  |
| 17:00-17:05              | 0          | 25 | 0 | 0           | 0 | 14 | 0           | 0 | 0 | 0          | 35 | 12 | 86  |
| 17:05-17:10              | 0          | 17 | 0 | 2           | 0 | 14 | 0           | 0 | 0 | 0          | 31 | 7  | 71  |
| 17:10-17:15              | 0          | 14 | 0 | 1           | 0 | 15 | 0           | 0 | 0 | 0          | 27 | 10 | 67  |
| 17:15-17:20              | 0          | 26 | 0 | 0           | 0 | 7  | 0           | 0 | 0 | 1          | 30 | 19 | 83  |
| 17:20-17:25              | 0          | 17 | 0 | 0           | 0 | 19 | 0           | 0 | 0 | 0          | 30 | 13 | 79  |
| 17:25-17:30              | 0          | 20 | 0 | 0           | 0 | 6  | 0           | 0 | 0 | 0          | 31 | 14 | 71  |
| 17:30-17:35              | 0          | 25 | 0 | 0           | 0 | 16 | 0           | 0 | 0 | 0          | 29 | 10 | 80  |
| 17:35-17:40              | 0          | 15 | 0 | 1           | 0 | 10 | 0           | 0 | 0 | 0          | 32 | 12 | 70  |
| 17:40-17:45              | 0          | 22 | 0 | 0           | 0 | 14 | 0           | 0 | 0 | 0          | 27 | 12 | 75  |
| 17:45-17:50              | 0          | 22 | 0 | 1           | 0 | 9  | 0           | 0 | 0 | 0          | 28 | 12 | 72  |
| 17:50-17:55              | 0          | 21 | 0 | 0           | 0 | 6  | 0           | 0 | 0 | 0          | 22 | 16 | 65  |
| 17:55-18:00              | 0          | 15 | 0 | 1           | 0 | 12 | 0           | 0 | 0 | 0          | 28 | 10 | 66  |

|               |   |     |   |     |   |     |   |   |   |     |     |     |      |
|---------------|---|-----|---|-----|---|-----|---|---|---|-----|-----|-----|------|
| Total Survey  | 6 | 469 | 0 | 17  | 0 | 303 | 0 | 0 | 0 | 1   | 620 | 283 | 1699 |
| PHF           | 0 | .85 | 0 | .67 | 0 | .82 | 0 | 0 | 0 | .25 | .94 | .8  | .956 |
| % Trucks      | 0 | 1.1 | 0 | 0   | 0 | 1   | 0 | 0 | 0 | 0   | 1   | 3.9 | 1.5  |
| Stopped Buses | 0 | 0   | 0 | 0   | 0 | 0   | 0 | 0 | 0 | 0   | 0   | 0   | 0    |
| Peds          | 0 | 0   | 0 | 0   | 0 | 0   | 0 | 0 | 0 | 0   | 3   | 0   | 0    |

|               |   |     |   |    |   |     |   |   |   |   |     |     |     |
|---------------|---|-----|---|----|---|-----|---|---|---|---|-----|-----|-----|
| Hourly Totals |   |     |   |    |   |     |   |   |   |   |     |     |     |
| 16:00-17:00   | 6 | 230 | 0 | 11 | 0 | 161 | 0 | 0 | 0 | 0 | 270 | 136 | 814 |
| 16:15-17:15   | 6 | 237 | 0 | 13 | 0 | 153 | 0 | 0 | 0 | 0 | 291 | 125 | 825 |
| 16:30-17:30   | 6 | 250 | 0 | 11 | 0 | 142 | 0 | 0 | 0 | 1 | 313 | 137 | 860 |
| 16:45-17:45   | 0 | 250 | 0 | 9  | 0 | 145 | 0 | 0 | 0 | 1 | 344 | 144 | 893 |
| 17:00-18:00   | 0 | 239 | 0 | 6  | 0 | 142 | 0 | 0 | 0 | 1 | 350 | 147 | 885 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## VIRGINIA @ SAFEWAY DRIVEWAY

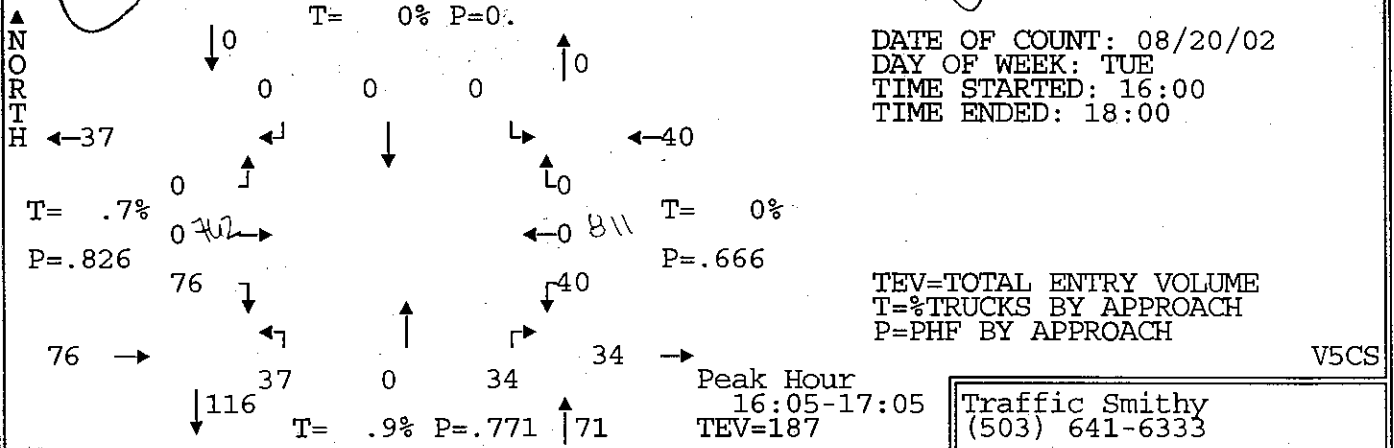


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|----|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | → | ←           | ↑ | →  | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 1          | 62 | 0 | 0           | 0 | 0 | 0           | 0 | 11 | 7          | 64 | 0 | 145 |
| 16:05-16:10              | 3          | 86 | 0 | 0           | 0 | 0 | 0           | 0 | 15 | 7          | 55 | 1 | 167 |
| 16:10-16:15              | 1          | 58 | 0 | 0           | 0 | 0 | 0           | 0 | 3  | 7          | 68 | 0 | 137 |
| 16:15-16:20              | 3          | 60 | 1 | 0           | 0 | 2 | 1           | 0 | 4  | 5          | 68 | 2 | 146 |
| 16:20-16:25              | 1          | 58 | 0 | 0           | 0 | 1 | 2           | 0 | 8  | 8          | 57 | 0 | 135 |
| 16:25-16:30              | 2          | 59 | 0 | 0           | 0 | 1 | 0           | 0 | 7  | 5          | 52 | 0 | 126 |
| 16:30-16:35              | 1          | 70 | 1 | 0           | 0 | 0 | 1           | 0 | 11 | 9          | 61 | 0 | 154 |
| 16:35-16:40              | 3          | 65 | 0 | 0           | 0 | 0 | 0           | 0 | 1  | 5          | 58 | 1 | 133 |
| 16:40-16:45              | 3          | 55 | 0 | 0           | 0 | 1 | 0           | 0 | 9  | 6          | 53 | 0 | 127 |
| 16:45-16:50              | 6          | 52 | 1 | 0           | 0 | 0 | 0           | 0 | 8  | 6          | 64 | 0 | 137 |
| 16:50-16:55              | 2          | 58 | 0 | 0           | 0 | 0 | 0           | 0 | 11 | 8          | 74 | 0 | 153 |
| 16:55-17:00              | 5          | 57 | 0 | 0           | 0 | 0 | 0           | 0 | 11 | 10         | 58 | 0 | 141 |
| 17:00-17:05              | 1          | 52 | 0 | 0           | 0 | 0 | 0           | 0 | 11 | 7          | 69 | 0 | 140 |
| 17:05-17:10              | 5          | 62 | 0 | 1           | 0 | 0 | 0           | 0 | 13 | 7          | 63 | 0 | 151 |
| 17:10-17:15              | 2          | 59 | 0 | 0           | 0 | 0 | 0           | 0 | 6  | 8          | 60 | 0 | 135 |
| 17:15-17:20              | 3          | 82 | 0 | 0           | 0 | 0 | 0           | 0 | 7  | 9          | 76 | 0 | 177 |
| 17:20-17:25              | 7          | 60 | 0 | 0           | 0 | 0 | 0           | 0 | 12 | 10         | 69 | 0 | 158 |
| 17:25-17:30              | 4          | 58 | 1 | 0           | 1 | 0 | 0           | 0 | 7  | 10         | 56 | 0 | 137 |
| 17:30-17:35              | 4          | 47 | 0 | 0           | 0 | 0 | 0           | 0 | 14 | 4          | 52 | 0 | 121 |
| 17:35-17:40              | 6          | 64 | 0 | 0           | 0 | 0 | 0           | 0 | 5  | 7          | 61 | 0 | 143 |
| 17:40-17:45              | 1          | 52 | 0 | 0           | 0 | 0 | 0           | 0 | 12 | 6          | 68 | 0 | 139 |
| 17:45-17:50              | 1          | 57 | 0 | 1           | 0 | 1 | 0           | 0 | 6  | 6          | 44 | 1 | 117 |
| 17:50-17:55              | 1          | 62 | 1 | 0           | 0 | 3 | 0           | 0 | 7  | 7          | 52 | 0 | 133 |
| 17:55-18:00              | 4          | 46 | 1 | 0           | 0 | 1 | 0           | 0 | 6  | 8          | 40 | 0 | 106 |

|               |     |      |     |     |     |     |     |   |     |     |      |     |      |
|---------------|-----|------|-----|-----|-----|-----|-----|---|-----|-----|------|-----|------|
| Total Survey  | 70  | 1441 | 6   | 2   | 1   | 10  | 4   | 0 | 205 | 172 | 1442 | 5   | 3358 |
| PHF           | .75 | .9   | .75 | .25 | .25 | .25 | .25 | 0 | .76 | .82 | .93  | .25 | .923 |
| % Trucks      | 4.3 | 1.6  | 0   | 0   | 0   | 0   | 0   | 0 | 1.5 | .6  | 3.1  | 0   | 2.2  |
| Stopped Buses | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0 | 0   | 0   | 0    | 0   | 0    |
| Peds          | 0   | 5    | 0   | 0   | 0   | 0   | 0   | 0 | 0   | 0   | 0    | 0   | 0    |

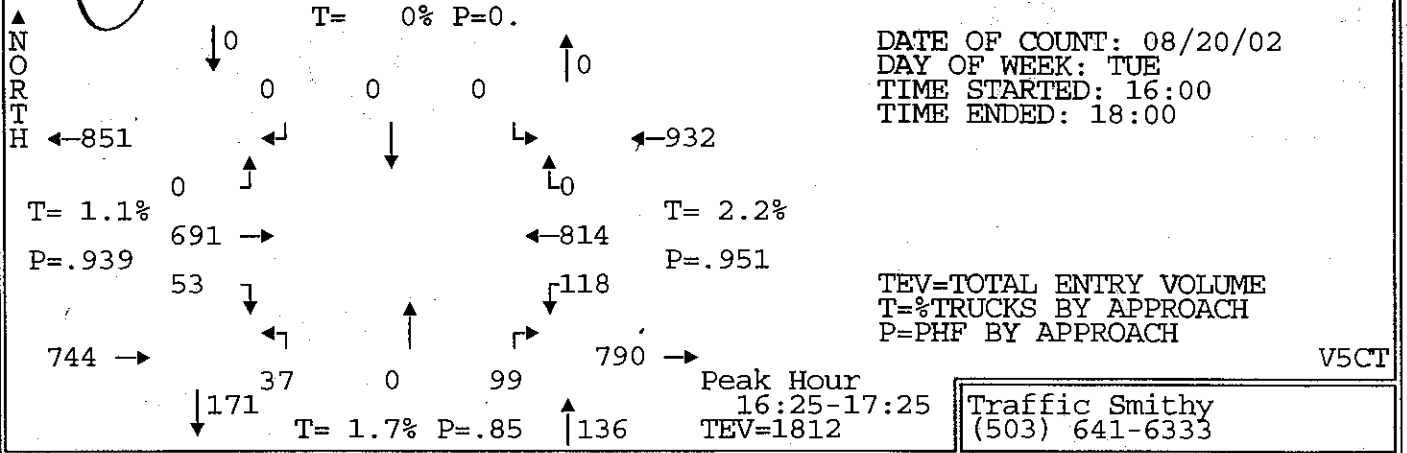
|               |    |     |   |   |   |   |   |   |     |    |     |   |      |
|---------------|----|-----|---|---|---|---|---|---|-----|----|-----|---|------|
| Hourly Totals |    |     |   |   |   |   |   |   |     |    |     |   |      |
| 16:00-17:00   | 31 | 740 | 3 | 0 | 0 | 5 | 4 | 0 | 99  | 83 | 732 | 4 | 1701 |
| 16:15-17:15   | 34 | 707 | 3 | 1 | 0 | 5 | 4 | 0 | 100 | 84 | 737 | 3 | 1678 |
| 16:30-17:30   | 42 | 730 | 3 | 1 | 1 | 1 | 1 | 0 | 107 | 95 | 761 | 1 | 1743 |
| 16:45-17:45   | 46 | 703 | 2 | 1 | 1 | 0 | 0 | 0 | 117 | 92 | 770 | 0 | 1732 |
| 17:00-18:00   | 39 | 701 | 3 | 2 | 1 | 5 | 0 | 0 | 106 | 89 | 710 | 1 | 1657 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**VIRGINIA @ PONY VILLAGE DRIVEWAY (A)**



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |   |   | NORTH BOUND |   |     | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|---|---|-------------|---|-----|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓ | → | ←           | ↑ | →   | ↓          | ← | ↑ |     |
| 16:00-16:05              | 7          | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 1   | 0          | 0 | 0 | 11  |
| 16:05-16:10              | 10         | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 1   | 5          | 0 | 0 | 19  |
| 16:10-16:15              | 8          | 0 | 0 | 0           | 0 | 0 | 6           | 0 | 2   | 2          | 0 | 0 | 18  |
| 16:15-16:20              | 5          | 0 | 0 | 0           | 0 | 0 | 5           | 0 | 2   | 6          | 0 | 0 | 18  |
| 16:20-16:25              | 6          | 0 | 0 | 0           | 0 | 0 | 1           | 0 | 3   | 5          | 0 | 0 | 15  |
| 16:25-16:30              | 8          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 1   | 4          | 0 | 0 | 15  |
| 16:30-16:35              | 4          | 0 | 0 | 0           | 0 | 0 | 1           | 0 | 5   | 1          | 0 | 0 | 11  |
| 16:35-16:40              | 6          | 0 | 0 | 0           | 0 | 0 | 4           | 0 | 3   | 2          | 0 | 0 | 15  |
| 16:40-16:45              | 11         | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 7   | 5          | 0 | 0 | 26  |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 1   | 4          | 0 | 0 | 7   |
| 16:50-16:55              | 10         | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 1   | 2          | 0 | 0 | 16  |
| 16:55-17:00              | 4          | 0 | 0 | 0           | 0 | 0 | 4           | 0 | 4   | 2          | 0 | 0 | 14  |
| 17:00-17:05              | 4          | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 4   | 2          | 0 | 0 | 13  |
| 17:05-17:10              | 5          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 2   | 1          | 0 | 0 | 10  |
| 17:10-17:15              | 7          | 0 | 0 | 0           | 0 | 0 | 1           | 0 | 2   | 4          | 0 | 0 | 14  |
| 17:15-17:20              | 8          | 0 | 0 | 0           | 0 | 0 | 3           | 0 | 3   | 1          | 0 | 0 | 15  |
| 17:20-17:25              | 6          | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 3          | 0 | 0 | 11  |
| 17:25-17:30              | 7          | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 3          | 0 | 0 | 12  |
| 17:30-17:35              | 1          | 0 | 0 | 0           | 0 | 0 | 1           | 0 | 1   | 1          | 0 | 0 | 4   |
| 17:35-17:40              | 7          | 0 | 0 | 0           | 0 | 0 | 6           | 0 | 1   | 2          | 0 | 0 | 16  |
| 17:40-17:45              | 6          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 0   | 5          | 0 | 0 | 13  |
| 17:45-17:50              | 6          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 1   | 1          | 0 | 0 | 10  |
| 17:50-17:55              | 3          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 1   | 2          | 0 | 0 | 8   |
| 17:55-18:00              | 4          | 0 | 0 | 0           | 0 | 0 | 2           | 0 | 0   | 3          | 0 | 0 | 9   |
|                          |            |   |   |             |   |   |             |   |     |            |   |   |     |
| Total Survey             | 143        | 0 | 0 | 0           | 0 | 0 | 61          | 0 | 50  | 66         | 0 | 0 | 320 |
| PHF                      | .83        | 0 | 0 | 0           | 0 | 0 | .66         | 0 | .57 | .67        | 0 | 0 | .85 |
| % Trucks                 | .7         | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 2   | 0          | 0 | 0 | .6  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 0 | 0 | 0   |
| Peds                     | 0          | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0   | 0          | 0 | 0 | 0   |
|                          |            |   |   |             |   |   |             |   |     |            |   |   |     |
| Hourly Totals            |            |   |   |             |   |   |             |   |     |            |   |   |     |
| 16:00-17:00              | 79         | 0 | 0 | 0           | 0 | 0 | 37          | 0 | 31  | 38         | 0 | 0 | 185 |
| 16:15-17:15              | 70         | 0 | 0 | 0           | 0 | 0 | 31          | 0 | 35  | 38         | 0 | 0 | 174 |
| 16:30-17:30              | 72         | 0 | 0 | 0           | 0 | 0 | 26          | 0 | 36  | 30         | 0 | 0 | 164 |
| 16:45-17:45              | 65         | 0 | 0 | 0           | 0 | 0 | 27          | 0 | 23  | 30         | 0 | 0 | 145 |
| 17:00-18:00              | 64         | 0 | 0 | 0           | 0 | 0 | 24          | 0 | 19  | 28         | 0 | 0 | 135 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**VIRGINIA @ PONY VILLAGE DRIVEWAY B**

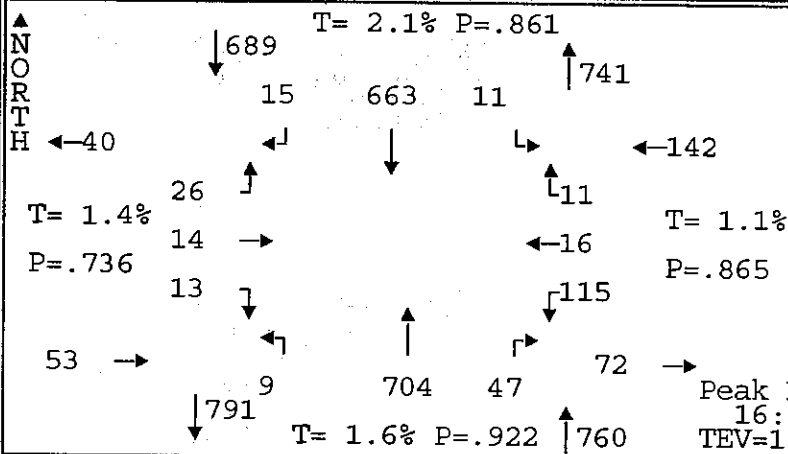


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|----|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↑ | ←           | ↑ | ↓  | →          | ←  | ↑ |     |
| 16:00-16:05              | 1          | 61 | 0 | 0           | 0 | 0 | 6           | 0 | 7  | 10         | 61 | 0 | 146 |
| 16:05-16:10              | 3          | 79 | 0 | 0           | 0 | 0 | 3           | 0 | 6  | 16         | 73 | 0 | 180 |
| 16:10-16:15              | 6          | 52 | 0 | 0           | 0 | 0 | 6           | 0 | 9  | 4          | 65 | 0 | 142 |
| 16:15-16:20              | 3          | 52 | 0 | 0           | 0 | 0 | 5           | 0 | 14 | 3          | 68 | 0 | 145 |
| 16:20-16:25              | 1          | 57 | 0 | 0           | 0 | 0 | 2           | 0 | 10 | 6          | 56 | 0 | 132 |
| 16:25-16:30              | 2          | 54 | 0 | 0           | 0 | 0 | 4           | 0 | 9  | 11         | 63 | 0 | 143 |
| 16:30-16:35              | 1          | 73 | 0 | 0           | 0 | 0 | 3           | 0 | 7  | 9          | 61 | 0 | 154 |
| 16:35-16:40              | 5          | 50 | 0 | 0           | 0 | 0 | 5           | 0 | 5  | 12         | 63 | 0 | 140 |
| 16:40-16:45              | 4          | 54 | 0 | 0           | 0 | 0 | 4           | 0 | 9  | 10         | 56 | 0 | 137 |
| 16:45-16:50              | 6          | 53 | 0 | 0           | 0 | 0 | 3           | 0 | 6  | 10         | 70 | 0 | 148 |
| 16:50-16:55              | 3          | 57 | 0 | 0           | 0 | 0 | 5           | 0 | 11 | 12         | 74 | 0 | 162 |
| 16:55-17:00              | 8          | 52 | 0 | 0           | 0 | 0 | 1           | 0 | 10 | 9          | 63 | 0 | 143 |
| 17:00-17:05              | 2          | 58 | 0 | 0           | 0 | 0 | 1           | 0 | 12 | 10         | 74 | 0 | 157 |
| 17:05-17:10              | 8          | 65 | 0 | 0           | 0 | 0 | 0           | 0 | 11 | 8          | 72 | 0 | 164 |
| 17:10-17:15              | 2          | 49 | 0 | 0           | 0 | 0 | 3           | 0 | 7  | 9          | 69 | 0 | 139 |
| 17:15-17:20              | 7          | 67 | 0 | 0           | 0 | 0 | 6           | 0 | 7  | 7          | 72 | 0 | 166 |
| 17:20-17:25              | 5          | 59 | 0 | 0           | 0 | 0 | 2           | 0 | 5  | 11         | 77 | 0 | 159 |
| 17:25-17:30              | 6          | 53 | 0 | 0           | 0 | 0 | 4           | 0 | 13 | 6          | 57 | 0 | 139 |
| 17:30-17:35              | 0          | 48 | 1 | 0           | 0 | 0 | 5           | 0 | 4  | 13         | 60 | 0 | 131 |
| 17:35-17:40              | 3          | 58 | 0 | 0           | 0 | 0 | 4           | 0 | 11 | 1          | 57 | 0 | 134 |
| 17:40-17:45              | 1          | 56 | 0 | 0           | 0 | 0 | 6           | 0 | 12 | 8          | 65 | 0 | 148 |
| 17:45-17:50              | 5          | 48 | 0 | 0           | 0 | 0 | 3           | 0 | 6  | 7          | 59 | 0 | 128 |
| 17:50-17:55              | 5          | 59 | 0 | 0           | 0 | 0 | 2           | 0 | 8  | 9          | 52 | 0 | 135 |
| 17:55-18:00              | 2          | 44 | 0 | 0           | 0 | 0 | 3           | 0 | 10 | 7          | 47 | 0 | 113 |

|               |     |      |   |   |   |   |     |   |     |     |      |   |      |
|---------------|-----|------|---|---|---|---|-----|---|-----|-----|------|---|------|
| Total Survey  | 89  | 1358 | 1 | 0 | 0 | 0 | 86  | 0 | 209 | 208 | 1534 | 0 | 3485 |
| PHF           | .74 | .95  | 0 | 0 | 0 | 0 | .77 | 0 | .75 | .92 | .93  | 0 | .965 |
| % Trucks      | 1.1 | 1.1  | 0 | 0 | 0 | 0 | 1.2 | 0 | 1.9 | 1.4 | 2.3  | 0 | 1.7  |
| Stopped Buses | 0   | 0    | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0   | 0    | 0 | 0    |
| Peds          | 0   | 0    | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0   | 0    | 0 | 0    |

|               |    |     |   |   |   |   |    |   |     |     |     |   |      |
|---------------|----|-----|---|---|---|---|----|---|-----|-----|-----|---|------|
| Hourly Totals |    |     |   |   |   |   |    |   |     |     |     |   |      |
| 16:00-17:00   | 43 | 694 | 0 | 0 | 0 | 0 | 47 | 0 | 103 | 112 | 773 | 0 | 1772 |
| 16:15-17:15   | 45 | 674 | 0 | 0 | 0 | 0 | 36 | 0 | 111 | 109 | 789 | 0 | 1764 |
| 16:30-17:30   | 57 | 690 | 0 | 0 | 0 | 0 | 37 | 0 | 103 | 113 | 808 | 0 | 1808 |
| 16:45-17:45   | 51 | 675 | 1 | 0 | 0 | 0 | 40 | 0 | 109 | 104 | 810 | 0 | 1790 |
| 17:00-18:00   | 46 | 664 | 1 | 0 | 0 | 0 | 39 | 0 | 106 | 96  | 761 | 0 | 1713 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT 16TH @ BROADWAY



DATE OF COUNT: 08/15/02  
DAY OF WEEK: THU  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BS

Peak Hour  
16:05-17:05  
TEV=1644

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ←           | ↑  | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 2 | 3           | 57 | 1 | 1           | 62 | 1 | 13         | 0 | 0 | 140 |
| 16:05-16:10              | 2          | 0 | 3 | 2           | 50 | 0 | 2           | 81 | 1 | 9          | 3 | 1 | 154 |
| 16:10-16:15              | 0          | 0 | 2 | 1           | 59 | 0 | 0           | 58 | 5 | 12         | 1 | 1 | 139 |
| 16:15-16:20              | 1          | 0 | 2 | 2           | 54 | 0 | 1           | 55 | 3 | 12         | 1 | 1 | 132 |
| 16:20-16:25              | 0          | 0 | 2 | 1           | 71 | 1 | 1           | 56 | 2 | 11         | 1 | 0 | 146 |
| 16:25-16:30              | 1          | 0 | 2 | 0           | 70 | 1 | 0           | 41 | 3 | 12         | 0 | 3 | 133 |
| 16:30-16:35              | 2          | 2 | 1 | 2           | 43 | 0 | 2           | 63 | 5 | 8          | 3 | 1 | 132 |
| 16:35-16:40              | 2          | 2 | 5 | 1           | 60 | 1 | 1           | 60 | 6 | 10         | 0 | 0 | 148 |
| 16:40-16:45              | 1          | 2 | 1 | 0           | 53 | 1 | 0           | 65 | 4 | 6          | 1 | 0 | 134 |
| 16:45-16:50              | 1          | 1 | 1 | 0           | 54 | 3 | 0           | 53 | 7 | 3          | 1 | 0 | 124 |
| 16:50-16:55              | 1          | 4 | 3 | 1           | 56 | 0 | 1           | 57 | 1 | 10         | 0 | 0 | 134 |
| 16:55-17:00              | 2          | 2 | 2 | 3           | 43 | 1 | 0           | 52 | 5 | 12         | 3 | 1 | 126 |
| 17:00-17:05              | 0          | 1 | 2 | 2           | 50 | 3 | 1           | 63 | 5 | 10         | 2 | 3 | 142 |
| 17:05-17:10              | 1          | 0 | 2 | 2           | 58 | 1 | 0           | 69 | 4 | 5          | 2 | 2 | 146 |
| 17:10-17:15              | 0          | 1 | 1 | 0           | 44 | 1 | 0           | 66 | 5 | 12         | 1 | 1 | 132 |
| 17:15-17:20              | 0          | 0 | 0 | 1           | 64 | 0 | 1           | 64 | 3 | 5          | 0 | 0 | 138 |
| 17:20-17:25              | 1          | 0 | 0 | 1           | 43 | 0 | 0           | 46 | 5 | 7          | 0 | 2 | 105 |
| 17:25-17:30              | 0          | 0 | 1 | 0           | 64 | 0 | 0           | 68 | 4 | 8          | 0 | 0 | 146 |
| 17:30-17:35              | 0          | 1 | 0 | 2           | 46 | 1 | 0           | 47 | 7 | 3          | 0 | 0 | 107 |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 58 | 0 | 0           | 50 | 3 | 7          | 1 | 0 | 119 |
| 17:40-17:45              | 0          | 0 | 1 | 1           | 49 | 0 | 1           | 38 | 7 | 13         | 1 | 0 | 111 |
| 17:45-17:50              | 0          | 0 | 1 | 0           | 46 | 0 | 2           | 42 | 6 | 9          | 1 | 1 | 108 |
| 17:50-17:55              | 1          | 0 | 1 | 2           | 38 | 1 | 2           | 46 | 4 | 8          | 2 | 1 | 106 |
| 17:55-18:00              | 0          | 1 | 1 | 4           | 36 | 0 | 0           | 40 | 5 | 11         | 1 | 1 | 100 |

|               |     |    |     |     |      |     |     |      |     |     |    |     |      |
|---------------|-----|----|-----|-----|------|-----|-----|------|-----|-----|----|-----|------|
| Total Survey  | 16  | 17 | 36  | 31  | 1266 | 16  | 16  | 1342 | 101 | 216 | 25 | 20  | 3102 |
| PHF           | .65 | .5 | .81 | .63 | .85  | .55 | .75 | .91  | .69 | .82 | .8 | .69 | .967 |
| % Trucks      | 6.3 | 0  | 0   | 0   | 2.1  | 6.3 | 0   | 1.7  | 0   | .9  | 0  | 5   | 1.8  |
| Stopped Buses | 0   | 0  | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0   | 0  | 0   |      |
| Peds          | 0   | 0  | 0   | 0   | 6    | 0   | 0   | 8    | 0   | 0   | 3  | 0   |      |

|               |    |    |    |    |     |    |   |     |    |     |    |    |      |
|---------------|----|----|----|----|-----|----|---|-----|----|-----|----|----|------|
| Hourly Totals |    |    |    |    |     |    |   |     |    |     |    |    |      |
| 16:00-17:00   | 13 | 13 | 26 | 16 | 670 | 9  | 9 | 703 | 43 | 118 | 14 | 8  | 1642 |
| 16:15-17:15   | 12 | 15 | 24 | 14 | 656 | 13 | 7 | 700 | 50 | 111 | 15 | 12 | 1629 |
| 16:30-17:30   | 11 | 15 | 19 | 13 | 632 | 11 | 6 | 726 | 54 | 96  | 13 | 11 | 1607 |
| 16:45-17:45   | 6  | 10 | 13 | 13 | 629 | 10 | 4 | 673 | 56 | 95  | 11 | 10 | 1530 |
| 17:00-18:00   | 3  | 4  | 10 | 15 | 596 | 7  | 7 | 639 | 58 | 98  | 11 | 12 | 1460 |



## MEADE @ VIRGINIA

DATE OF COUNT: 08/14/02

DAY OF WEEK: WED

TIME STARTED: 07:00

TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME

T=%TRUCKS BY APPROACH

## P=PHF BY APPROACH

V5AH

Peak Hour

07:50-08:50

Traffic Smithy

(503) 641-6333

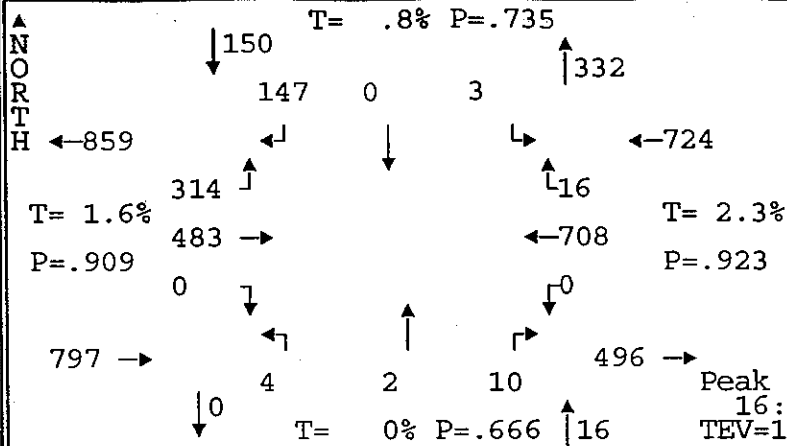
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|----|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑  | ↖           | ↓ | ↗ | ↖           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 07:00-07:05              | 0          | 15 | 6  | 3           | 0 | 0 | 1           | 0 | 0 | 0          | 25 | 1 | 51  |
| 07:05-07:10              | 0          | 11 | 14 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 18 | 1 | 44  |
| 07:10-07:15              | 0          | 17 | 3  | 3           | 0 | 2 | 0           | 0 | 0 | 0          | 31 | 2 | 58  |
| 07:15-07:20              | 0          | 14 | 15 | 5           | 0 | 0 | 0           | 1 | 0 | 0          | 20 | 0 | 55  |
| 07:20-07:25              | 0          | 23 | 11 | 4           | 0 | 0 | 0           | 0 | 1 | 0          | 23 | 0 | 62  |
| 07:25-07:30              | 0          | 18 | 9  | 0           | 0 | 1 | 1           | 0 | 0 | 0          | 33 | 1 | 63  |
| 07:30-07:35              | 0          | 21 | 11 | 3           | 0 | 0 | 3           | 0 | 1 | 0          | 31 | 0 | 70  |
| 07:35-07:40              | 1          | 28 | 17 | 7           | 0 | 1 | 0           | 0 | 5 | 0          | 34 | 1 | 94  |
| 07:40-07:45              | 0          | 25 | 12 | 3           | 0 | 0 | 0           | 0 | 2 | 0          | 41 | 2 | 85  |
| 07:45-07:50              | 0          | 25 | 14 | 6           | 0 | 0 | 1           | 0 | 0 | 0          | 51 | 0 | 97  |
| 07:50-07:55              | 0          | 42 | 12 | 13          | 0 | 0 | 1           | 0 | 2 | 0          | 58 | 1 | 129 |
| 07:55-08:00              | 0          | 34 | 17 | 11          | 0 | 2 | 2           | 0 | 2 | 0          | 34 | 1 | 103 |
| 08:00-08:05              | 0          | 23 | 15 | 5           | 0 | 0 | 1           | 0 | 1 | 0          | 35 | 2 | 82  |
| 08:05-08:10              | 0          | 22 | 10 | 6           | 0 | 1 | 1           | 0 | 0 | 0          | 32 | 2 | 74  |
| 08:10-08:15              | 0          | 18 | 14 | 9           | 0 | 1 | 1           | 0 | 0 | 0          | 24 | 0 | 67  |
| 08:15-08:20              | 0          | 25 | 11 | 8           | 0 | 0 | 1           | 0 | 0 | 0          | 30 | 0 | 75  |
| 08:20-08:25              | 0          | 27 | 13 | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 32 | 1 | 79  |
| 08:25-08:30              | 0          | 27 | 7  | 10          | 0 | 0 | 0           | 0 | 1 | 0          | 28 | 1 | 74  |
| 08:30-08:35              | 0          | 22 | 15 | 10          | 0 | 0 | 0           | 0 | 2 | 0          | 32 | 0 | 81  |
| 08:35-08:40              | 0          | 25 | 12 | 12          | 0 | 0 | 0           | 0 | 1 | 0          | 39 | 1 | 90  |
| 08:40-08:45              | 0          | 32 | 15 | 12          | 0 | 0 | 1           | 0 | 0 | 0          | 46 | 0 | 106 |
| 08:45-08:50              | 0          | 24 | 18 | 5           | 0 | 0 | 1           | 0 | 0 | 0          | 49 | 2 | 99  |
| 08:50-08:55              | 0          | 29 | 11 | 7           | 0 | 0 | 0           | 0 | 1 | 0          | 38 | 0 | 86  |
| 08:55-09:00              | 0          | 17 | 14 | 9           | 0 | 0 | 1           | 1 | 0 | 0          | 48 | 1 | 91  |

|               |   |     |     |     |   |     |     |   |     |   |     |     |      |
|---------------|---|-----|-----|-----|---|-----|-----|---|-----|---|-----|-----|------|
| Total Survey  | 1 | 564 | 296 | 157 | 0 | 8   | 16  | 2 | 19  | 0 | 832 | 20  | 1915 |
| PHF           | 0 | .81 | .88 | .79 | 0 | .33 | .56 | 0 | .45 | 0 | .82 | .55 | .843 |
| % Trucks      | 0 | 8.7 | 3.4 | 1.3 | 0 | 0   | 0   | 0 | 5.3 | 0 | 4.4 | 0   | 5.2  |
| Stopped Buses | 0 | 0   | 0   | 0   | 0 | 0   | 0   | 0 | 0   | 0 | 0   | 0   | 0    |
| Peds          | 0 | 4   | 0   | 0   | 1 | 0   | 0   | 0 | 0   | 0 | 0   | 0   | 0    |

| Hourly Totals |   |     |     |     |   |   |    |   |    |   |     |    |      |
|---------------|---|-----|-----|-----|---|---|----|---|----|---|-----|----|------|
| 07:00-08:00   | 1 | 273 | 141 | 58  | 0 | 6 | 9  | 1 | 13 | 0 | 399 | 10 | 911  |
| 07:15-08:15   | 1 | 293 | 157 | 72  | 0 | 6 | 11 | 1 | 14 | 0 | 416 | 10 | 981  |
| 07:30-08:30   | 1 | 317 | 153 | 87  | 0 | 5 | 11 | 0 | 14 | 0 | 430 | 11 | 1029 |
| 07:45-08:45   | 0 | 322 | 155 | 108 | 0 | 4 | 9  | 0 | 9  | 0 | 441 | 9  | 1057 |
| 08:00-09:00   | 0 | 291 | 155 | 99  | 0 | 2 | 7  | 1 | 6  | 0 | 433 | 10 | 1004 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## MEADE @ VIRGINIA



DATE OF COUNT: 08/14/02  
 DAY OF WEEK: WED  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5AI

Peak Hour  
 16:05-17:05  
 TEV=1687

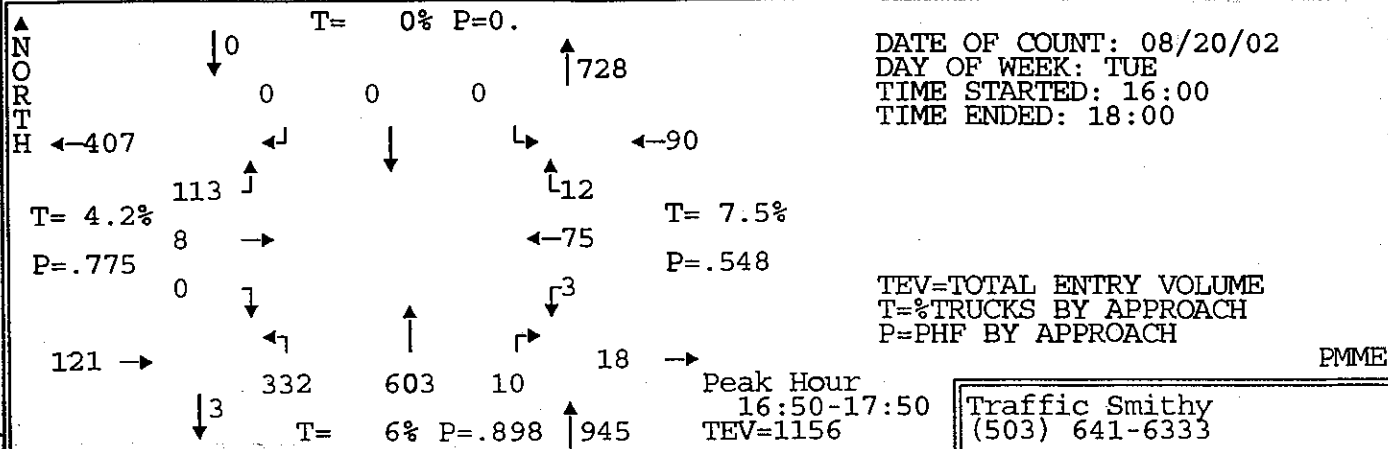
Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|----|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑  | ←           | ↓ | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 43 | 20 | 7           | 0 | 2 | 1           | 0 | 1 | 0          | 57 | 2 | 133 |
| 16:05-16:10              | 0          | 61 | 20 | 11          | 0 | 0 | 1           | 0 | 1 | 0          | 53 | 1 | 148 |
| 16:10-16:15              | 0          | 44 | 25 | 16          | 0 | 0 | 0           | 0 | 3 | 0          | 70 | 0 | 158 |
| 16:15-16:20              | 0          | 46 | 23 | 7           | 0 | 1 | 0           | 0 | 0 | 0          | 71 | 1 | 149 |
| 16:20-16:25              | 0          | 46 | 29 | 8           | 0 | 0 | 0           | 1 | 1 | 0          | 44 | 1 | 130 |
| 16:25-16:30              | 0          | 37 | 29 | 17          | 0 | 0 | 0           | 0 | 1 | 0          | 55 | 1 | 140 |
| 16:30-16:35              | 0          | 39 | 33 | 21          | 0 | 0 | 1           | 0 | 0 | 0          | 64 | 2 | 160 |
| 16:35-16:40              | 0          | 30 | 27 | 12          | 0 | 1 | 0           | 0 | 1 | 0          | 65 | 1 | 137 |
| 16:40-16:45              | 0          | 39 | 28 | 7           | 0 | 0 | 1           | 0 | 1 | 0          | 47 | 5 | 128 |
| 16:45-16:50              | 0          | 32 | 25 | 14          | 0 | 1 | 1           | 1 | 1 | 0          | 57 | 0 | 132 |
| 16:50-16:55              | 0          | 35 | 17 | 13          | 0 | 0 | 0           | 0 | 0 | 0          | 56 | 2 | 123 |
| 16:55-17:00              | 0          | 38 | 30 | 9           | 0 | 0 | 0           | 0 | 0 | 0          | 64 | 1 | 142 |
| 17:00-17:05              | 0          | 36 | 28 | 12          | 0 | 0 | 0           | 0 | 1 | 0          | 62 | 1 | 140 |
| 17:05-17:10              | 1          | 41 | 21 | 9           | 0 | 1 | 1           | 0 | 0 | 0          | 57 | 0 | 131 |
| 17:10-17:15              | 0          | 48 | 33 | 11          | 0 | 0 | 0           | 0 | 1 | 0          | 70 | 1 | 164 |
| 17:15-17:20              | 1          | 41 | 22 | 17          | 0 | 0 | 0           | 0 | 0 | 0          | 63 | 0 | 144 |
| 17:20-17:25              | 0          | 38 | 28 | 5           | 0 | 0 | 4           | 0 | 2 | 0          | 41 | 1 | 119 |
| 17:25-17:30              | 0          | 33 | 36 | 10          | 0 | 0 | 1           | 0 | 0 | 0          | 43 | 3 | 126 |
| 17:30-17:35              | 0          | 36 | 30 | 14          | 0 | 0 | 0           | 0 | 0 | 0          | 56 | 0 | 136 |
| 17:35-17:40              | 0          | 31 | 24 | 11          | 0 | 0 | 1           | 0 | 0 | 0          | 52 | 0 | 119 |
| 17:40-17:45              | 0          | 26 | 19 | 7           | 0 | 1 | 1           | 0 | 0 | 0          | 42 | 1 | 97  |
| 17:45-17:50              | 0          | 21 | 25 | 5           | 0 | 0 | 0           | 0 | 0 | 0          | 64 | 0 | 115 |
| 17:50-17:55              | 0          | 32 | 23 | 6           | 0 | 1 | 0           | 0 | 0 | 0          | 53 | 1 | 116 |
| 17:55-18:00              | 0          | 32 | 25 | 7           | 0 | 0 | 2           | 0 | 0 | 0          | 44 | 1 | 111 |

|               |   |     |     |     |   |     |    |    |     |   |      |    |      |
|---------------|---|-----|-----|-----|---|-----|----|----|-----|---|------|----|------|
| Total Survey  | 2 | 905 | 620 | 256 | 0 | 8   | 15 | 2  | 14  | 0 | 1350 | 26 | 3198 |
| PHF           | 0 | .8  | .86 | .74 | 0 | .38 | .5 | .5 | .63 | 0 | .91  | .5 | .926 |
| % Trucks      | 0 | 2.2 | .8  | .8  | 0 | 0   | 0  | 0  | 0   | 0 | 2.4  | 0  | 1.8  |
| Stopped Buses | 0 | 0   | 0   | 0   | 0 | 0   | 0  | 0  | 0   | 0 | 0    | 0  |      |
| Peds          | 0 | 3   | 0   | 0   | 0 | 0   | 0  | 0  | 0   | 0 | 0    | 0  |      |

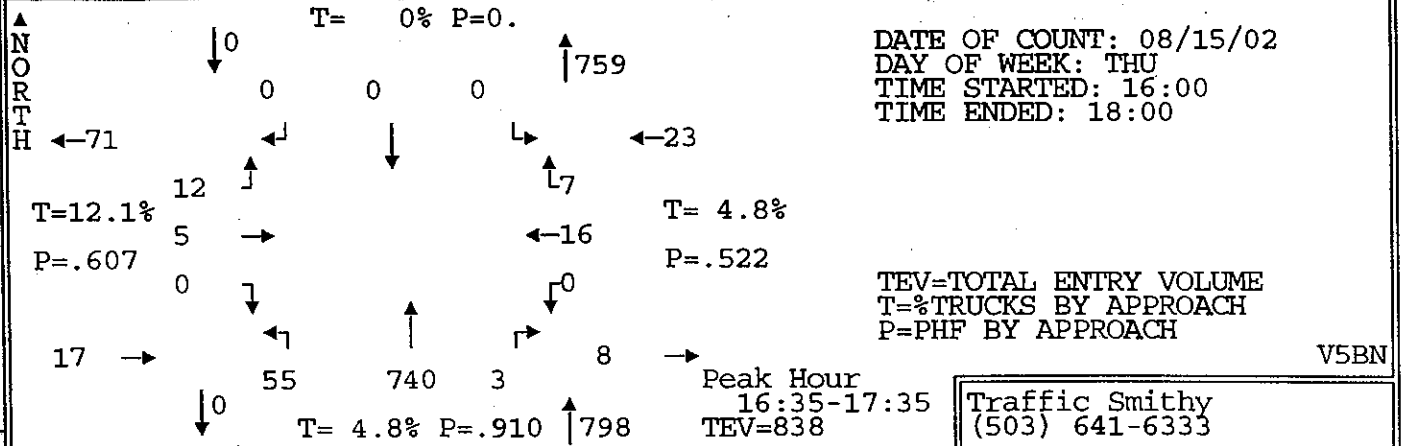
|               |   |     |     |     |   |   |    |   |    |   |     |    |      |
|---------------|---|-----|-----|-----|---|---|----|---|----|---|-----|----|------|
| Hourly Totals |   |     |     |     |   |   |    |   |    |   |     |    |      |
| 16:00-17:00   | 0 | 490 | 306 | 142 | 0 | 5 | 5  | 2 | 10 | 0 | 703 | 17 | 1680 |
| 16:15-17:15   | 1 | 467 | 323 | 140 | 0 | 4 | 4  | 2 | 7  | 0 | 712 | 16 | 1676 |
| 16:30-17:30   | 2 | 450 | 328 | 140 | 0 | 3 | 9  | 1 | 7  | 0 | 689 | 17 | 1646 |
| 16:45-17:45   | 2 | 435 | 313 | 132 | 0 | 3 | 9  | 1 | 5  | 0 | 663 | 10 | 1573 |
| 17:00-18:00   | 2 | 415 | 314 | 114 | 0 | 3 | 10 | 0 | 4  | 0 | 647 | 9  | 1518 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**SHERIDAN AVENUE @ VIRGINIA AVENUE**



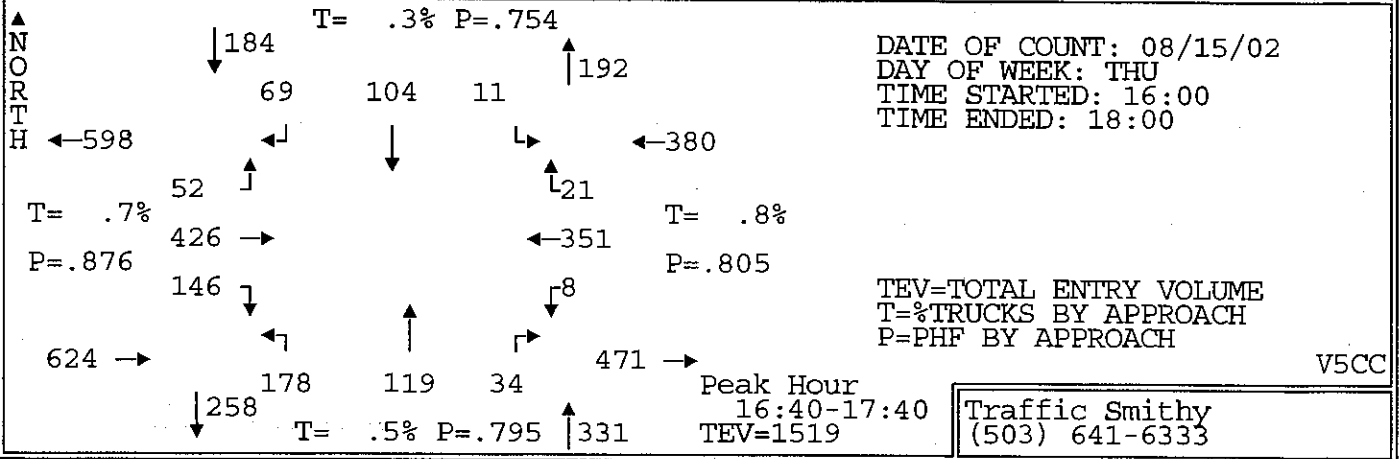
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |     | SOUTH BOUND |   |   | NORTH BOUND |     |      | WEST BOUND |     |      | ALL  |
|--------------------------|------------|----|-----|-------------|---|---|-------------|-----|------|------------|-----|------|------|
|                          | ↓          | →  | ↑   | ←           | ↓ | → | ←           | ↑   | →    | ↓          | ←   | ↑    |      |
| 16:00-16:05              | 0          | 3  | 7   | 0           | 0 | 0 | 32          | 57  | 3    | 0          | 5   | 1    | 108  |
| 16:05-16:10              | 0          | 4  | 11  | 0           | 0 | 0 | 20          | 37  | 3    | 0          | 1   | 2    | 78   |
| 16:10-16:15              | 0          | 0  | 11  | 0           | 0 | 0 | 34          | 51  | 2    | 0          | 2   | 0    | 100  |
| 16:15-16:20              | 0          | 3  | 6   | 0           | 0 | 0 | 18          | 43  | 5    | 0          | 6   | 3    | 84   |
| 16:20-16:25              | 0          | 4  | 13  | 0           | 0 | 0 | 21          | 53  | 2    | 0          | 4   | 1    | 98   |
| 16:25-16:30              | 0          | 1  | 14  | 0           | 0 | 0 | 18          | 54  | 2    | 0          | 5   | 3    | 97   |
| 16:30-16:35              | 0          | 1  | 5   | 0           | 0 | 0 | 20          | 47  | 1    | 0          | 5   | 0    | 79   |
| 16:35-16:40              | 0          | 0  | 11  | 0           | 0 | 0 | 24          | 52  | 2    | 0          | 3   | 0    | 92   |
| 16:40-16:45              | 0          | 3  | 12  | 0           | 0 | 0 | 19          | 49  | 1    | 0          | 4   | 1    | 89   |
| 16:45-16:50              | 0          | 0  | 5   | 0           | 0 | 0 | 23          | 50  | 2    | 0          | 5   | 1    | 86   |
| 16:50-16:55              | 0          | 3  | 9   | 0           | 0 | 0 | 17          | 50  | 2    | 3          | 13  | 1    | 98   |
| 16:55-17:00              | 0          | 1  | 9   | 0           | 0 | 0 | 28          | 49  | 2    | 0          | 7   | 0    | 96   |
| 17:00-17:05              | 0          | 1  | 16  | 0           | 0 | 0 | 23          | 34  | 1    | 0          | 5   | 2    | 82   |
| 17:05-17:10              | 0          | 1  | 10  | 0           | 0 | 0 | 22          | 47  | 0    | 0          | 19  | 1    | 100  |
| 17:10-17:15              | 0          | 1  | 8   | 0           | 0 | 0 | 30          | 53  | 0    | 0          | 6   | 2    | 100  |
| 17:15-17:20              | 0          | 0  | 9   | 0           | 0 | 0 | 38          | 57  | 1    | 0          | 10  | 3    | 118  |
| 17:20-17:25              | 0          | 0  | 9   | 0           | 0 | 0 | 25          | 52  | 1    | 0          | 8   | 3    | 98   |
| 17:25-17:30              | 0          | 0  | 8   | 0           | 0 | 0 | 29          | 60  | 0    | 0          | 2   | 0    | 99   |
| 17:30-17:35              | 0          | 0  | 7   | 0           | 0 | 0 | 31          | 38  | 0    | 0          | 2   | 0    | 78   |
| 17:35-17:40              | 0          | 0  | 13  | 0           | 0 | 0 | 28          | 61  | 2    | 0          | 1   | 0    | 105  |
| 17:40-17:45              | 0          | 0  | 10  | 0           | 0 | 0 | 32          | 48  | 1    | 0          | 2   | 0    | 93   |
| 17:45-17:50              | 0          | 1  | 5   | 0           | 0 | 0 | 29          | 54  | 0    | 0          | 0   | 0    | 89   |
| 17:50-17:55              | 0          | 2  | 8   | 0           | 0 | 0 | 17          | 31  | 1    | 0          | 3   | 0    | 62   |
| 17:55-18:00              | 0          | 1  | 14  | 0           | 0 | 0 | 24          | 43  | 0    | 0          | 2   | 0    | 84   |
| <b>Total Survey</b>      |            |    |     |             |   |   |             |     |      |            |     |      |      |
| PHF                      | 0          | .4 | .81 | 0           | 0 | 0 | .602        | .89 | .5   | .25        | .54 | .38  | .908 |
| % Trucks                 | 0          | 0  | 4.8 | 0           | 0 | 0 | 3.8         | 6.8 | 14.7 | 0          | 5.8 | 16.7 | 5.9  |
| Stopped Buses            | 0          | 0  | 0   | 0           | 0 | 0 | 0           | 0   | 0    | 0          | 0   | 0    | 0    |
| Peds                     | 0          | 1  | 0   | 0           | 0 | 0 | 0           | 0   | 0    | 0          | 0   | 0    | 0    |
| <b>Hourly Totals</b>     |            |    |     |             |   |   |             |     |      |            |     |      |      |
| 16:00-17:00              | 0          | 23 | 113 | 0           | 0 | 0 | 274         | 592 | 27   | 3          | 60  | 13   | 1105 |
| 16:15-17:15              | 0          | 19 | 118 | 0           | 0 | 0 | 263         | 581 | 20   | 3          | 82  | 15   | 1101 |
| 16:30-17:30              | 0          | 11 | 111 | 0           | 0 | 0 | 298         | 600 | 13   | 3          | 87  | 14   | 1137 |
| 16:45-17:45              | 0          | 7  | 113 | 0           | 0 | 0 | 326         | 599 | 12   | 3          | 80  | 13   | 1153 |
| 17:00-18:00              | 0          | 7  | 117 | 0           | 0 | 0 | 328         | 578 | 7    | 0          | 60  | 11   | 1108 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT CALIFORNIA @ SHERIDAN



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |   |   | NORTH BOUND |      |     | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|---|---|-------------|------|-----|------------|-----|-----|------|
|                          | ↓          | →   | ↑   | ←           | ↓ | → | ←           | ↑    | →   | ↓          | ←   | ↑   |      |
| 16:00-16:05              | 0          | 0   | 3   | 0           | 0 | 0 | 5           | 48   | 1   | 0          | 1   | 0   | 58   |
| 16:05-16:10              | 0          | 1   | 0   | 0           | 0 | 0 | 6           | 50   | 2   | 0          | 0   | 0   | 59   |
| 16:10-16:15              | 0          | 0   | 0   | 0           | 0 | 0 | 7           | 61   | 1   | 0          | 2   | 0   | 71   |
| 16:15-16:20              | 0          | 1   | 1   | 0           | 0 | 0 | 2           | 64   | 0   | 0          | 2   | 0   | 70   |
| 16:20-16:25              | 0          | 0   | 2   | 0           | 0 | 0 | 4           | 54   | 0   | 0          | 1   | 0   | 61   |
| 16:25-16:30              | 0          | 0   | 0   | 0           | 0 | 0 | 4           | 43   | 0   | 0          | 4   | 1   | 52   |
| 16:30-16:35              | 0          | 0   | 3   | 0           | 0 | 0 | 3           | 57   | 0   | 0          | 0   | 0   | 63   |
| 16:35-16:40              | 0          | 0   | 1   | 0           | 0 | 0 | 1           | 64   | 0   | 0          | 1   | 0   | 67   |
| 16:40-16:45              | 0          | 1   | 1   | 0           | 0 | 0 | 6           | 65   | 0   | 0          | 2   | 0   | 75   |
| 16:45-16:50              | 0          | 3   | 0   | 0           | 0 | 0 | 4           | 46   | 1   | 0          | 0   | 0   | 54   |
| 16:50-16:55              | 0          | 0   | 2   | 0           | 0 | 0 | 6           | 59   | 0   | 0          | 0   | 0   | 67   |
| 16:55-17:00              | 0          | 0   | 1   | 0           | 0 | 0 | 4           | 56   | 0   | 0          | 2   | 1   | 64   |
| 17:00-17:05              | 0          | 0   | 1   | 0           | 0 | 0 | 5           | 61   | 0   | 0          | 3   | 1   | 71   |
| 17:05-17:10              | 0          | 0   | 1   | 0           | 0 | 0 | 5           | 60   | 0   | 0          | 2   | 2   | 70   |
| 17:10-17:15              | 0          | 1   | 1   | 0           | 0 | 0 | 6           | 64   | 0   | 0          | 1   | 2   | 75   |
| 17:15-17:20              | 0          | 0   | 1   | 0           | 0 | 0 | 6           | 68   | 0   | 0          | 0   | 1   | 76   |
| 17:20-17:25              | 0          | 0   | 1   | 0           | 0 | 0 | 6           | 69   | 0   | 0          | 0   | 0   | 76   |
| 17:25-17:30              | 0          | 0   | 1   | 0           | 0 | 0 | 2           | 52   | 1   | 0          | 3   | 0   | 59   |
| 17:30-17:35              | 0          | 0   | 1   | 0           | 0 | 0 | 4           | 76   | 1   | 0          | 2   | 0   | 84   |
| 17:35-17:40              | 0          | 0   | 1   | 0           | 0 | 0 | 2           | 58   | 1   | 0          | 0   | 0   | 62   |
| 17:40-17:45              | 0          | 1   | 0   | 0           | 0 | 0 | 4           | 40   | 2   | 0          | 3   | 1   | 51   |
| 17:45-17:50              | 0          | 0   | 0   | 0           | 0 | 0 | 5           | 57   | 0   | 0          | 2   | 0   | 64   |
| 17:50-17:55              | 0          | 0   | 1   | 0           | 0 | 0 | 5           | 61   | 0   | 0          | 0   | 1   | 68   |
| 17:55-18:00              | 0          | 0   | 2   | 0           | 0 | 0 | 6           | 59   | 0   | 0          | 1   | 0   | 68   |
| <hr/>                    |            |     |     |             |   |   |             |      |     |            |     |     |      |
| Total Survey             | 0          | 8   | 25  | 0           | 0 | 0 | 108         | 1392 | 10  | 0          | 32  | 10  | 1585 |
| PHF                      | 0          | .31 | .75 | 0           | 0 | 0 | .76         | .92  | .38 | 0          | .57 | .35 | .922 |
| % Trucks                 | 0          | 25  | 8   | 0           | 0 | 0 | 1.9         | 5.1  | 0   | 0          | 0   | 20  | 5    |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0 | 0 | 0           | 0    | 0   | 0          | 0   | 0   |      |
| Peds                     | 0          | 0   | 0   | 0           | 1 | 0 | 0           | 2    | 0   | 0          | 0   | 0   |      |
| <hr/>                    |            |     |     |             |   |   |             |      |     |            |     |     |      |
| Hourly Totals            |            |     |     |             |   |   |             |      |     |            |     |     |      |
| 16:00-17:00              | 0          | 6   | 14  | 0           | 0 | 0 | 52          | 667  | 5   | 0          | 15  | 2   | 761  |
| 16:15-17:15              | 0          | 6   | 14  | 0           | 0 | 0 | 50          | 693  | 1   | 0          | 18  | 7   | 789  |
| 16:30-17:30              | 0          | 5   | 14  | 0           | 0 | 0 | 54          | 721  | 2   | 0          | 14  | 7   | 817  |
| 16:45-17:45              | 0          | 5   | 11  | 0           | 0 | 0 | 54          | 709  | 6   | 0          | 16  | 8   | 809  |
| 17:00-18:00              | 0          | 2   | 11  | 0           | 0 | 0 | 56          | 725  | 5   | 0          | 17  | 8   | 824  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT SHERMAN @ NEWMARK

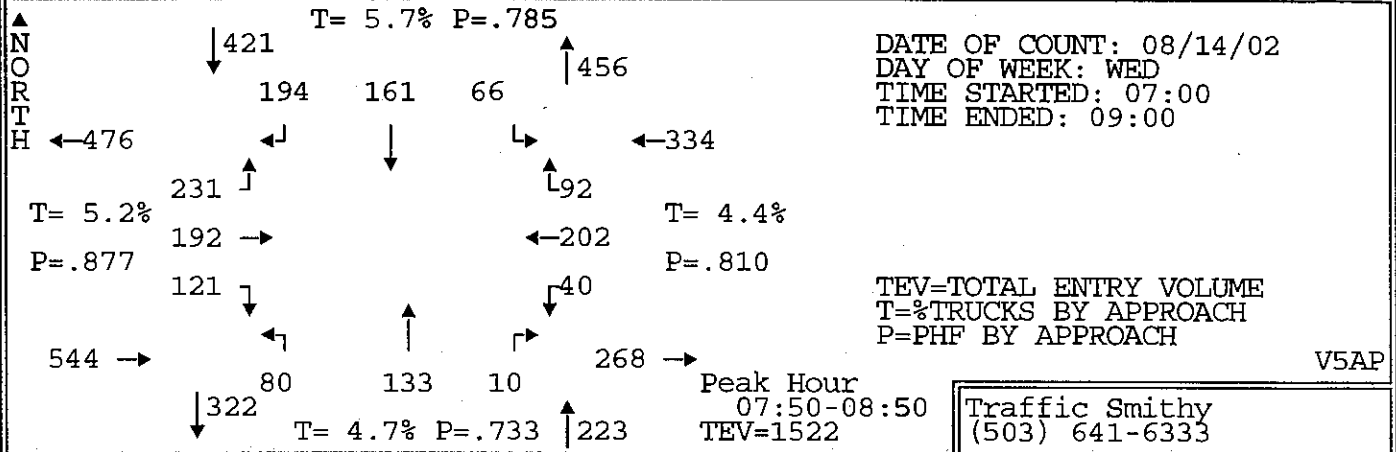


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |    | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|----|-------------|----|---|-------------|----|---|------------|----|---|-----|
|                          | ↓          | →  | ↑  | ←           | ↓  | ↘ | ←           | ↑  | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 12         | 30 | 5  | 2           | 5  | 0 | 17          | 11 | 4 | 2          | 29 | 3 | 120 |
| 16:05-16:10              | 15         | 32 | 7  | 8           | 11 | 2 | 7           | 9  | 4 | 2          | 23 | 1 | 121 |
| 16:10-16:15              | 11         | 40 | 7  | 6           | 6  | 1 | 8           | 1  | 7 | 0          | 40 | 3 | 130 |
| 16:15-16:20              | 17         | 38 | 3  | 5           | 9  | 1 | 15          | 5  | 5 | 0          | 18 | 0 | 116 |
| 16:20-16:25              | 6          | 34 | 2  | 6           | 10 | 2 | 6           | 10 | 1 | 2          | 36 | 2 | 117 |
| 16:25-16:30              | 15         | 40 | 10 | 2           | 12 | 2 | 4           | 4  | 1 | 1          | 21 | 0 | 112 |
| 16:30-16:35              | 11         | 30 | 3  | 8           | 6  | 1 | 13          | 11 | 1 | 2          | 25 | 1 | 112 |
| 16:35-16:40              | 12         | 24 | 3  | 6           | 15 | 1 | 18          | 5  | 1 | 0          | 29 | 0 | 114 |
| 16:40-16:45              | 9          | 45 | 7  | 6           | 8  | 1 | 9           | 9  | 2 | 0          | 32 | 1 | 129 |
| 16:45-16:50              | 9          | 33 | 2  | 4           | 6  | 2 | 9           | 8  | 1 | 1          | 34 | 2 | 111 |
| 16:50-16:55              | 9          | 29 | 2  | 5           | 8  | 0 | 10          | 12 | 3 | 1          | 38 | 5 | 122 |
| 16:55-17:00              | 16         | 25 | 5  | 5           | 7  | 1 | 17          | 10 | 3 | 0          | 33 | 4 | 126 |
| 17:00-17:05              | 13         | 28 | 3  | 12          | 12 | 2 | 21          | 8  | 2 | 1          | 16 | 1 | 119 |
| 17:05-17:10              | 16         | 39 | 6  | 8           | 10 | 0 | 21          | 12 | 1 | 1          | 35 | 0 | 149 |
| 17:10-17:15              | 12         | 39 | 6  | 5           | 10 | 2 | 22          | 15 | 2 | 1          | 25 | 1 | 140 |
| 17:15-17:20              | 19         | 37 | 4  | 3           | 7  | 1 | 13          | 7  | 4 | 0          | 44 | 0 | 139 |
| 17:20-17:25              | 14         | 40 | 5  | 2           | 11 | 2 | 18          | 10 | 2 | 0          | 27 | 2 | 133 |
| 17:25-17:30              | 4          | 39 | 2  | 8           | 11 | 0 | 7           | 4  | 6 | 2          | 26 | 1 | 110 |
| 17:30-17:35              | 13         | 36 | 1  | 4           | 7  | 0 | 16          | 12 | 2 | 0          | 22 | 3 | 116 |
| 17:35-17:40              | 12         | 36 | 9  | 7           | 7  | 0 | 15          | 12 | 6 | 1          | 19 | 1 | 125 |
| 17:40-17:45              | 13         | 34 | 3  | 5           | 6  | 2 | 17          | 4  | 0 | 1          | 28 | 1 | 114 |
| 17:45-17:50              | 6          | 25 | 9  | 2           | 7  | 0 | 15          | 8  | 0 | 1          | 28 | 0 | 101 |
| 17:50-17:55              | 18         | 33 | 2  | 1           | 9  | 1 | 16          | 10 | 1 | 0          | 30 | 1 | 122 |
| 17:55-18:00              | 6          | 29 | 2  | 10          | 11 | 2 | 10          | 8  | 1 | 3          | 18 | 0 | 100 |

|               |     |     |     |     |     |     |     |     |     |     |     |     |      |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Total Survey  | 288 | 815 | 108 | 130 | 211 | 26  | 324 | 205 | 60  | 22  | 676 | 33  | 2898 |
| PHF           | .78 | .92 | .81 | .69 | .81 | .55 | .7  | .85 | .61 | .67 | .84 | .48 | .887 |
| % Trucks      | 1   | .7  | 0   | 0   | .5  | 0   | .6  | .5  | 0   | 0   | .9  | 0   | .7   |
| Stopped Buses | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | .    |
| Peds          | 0   | 2   | 0   | 0   | 4   | 0   | 0   | 2   | 0   | 0   | 0   | 0   |      |

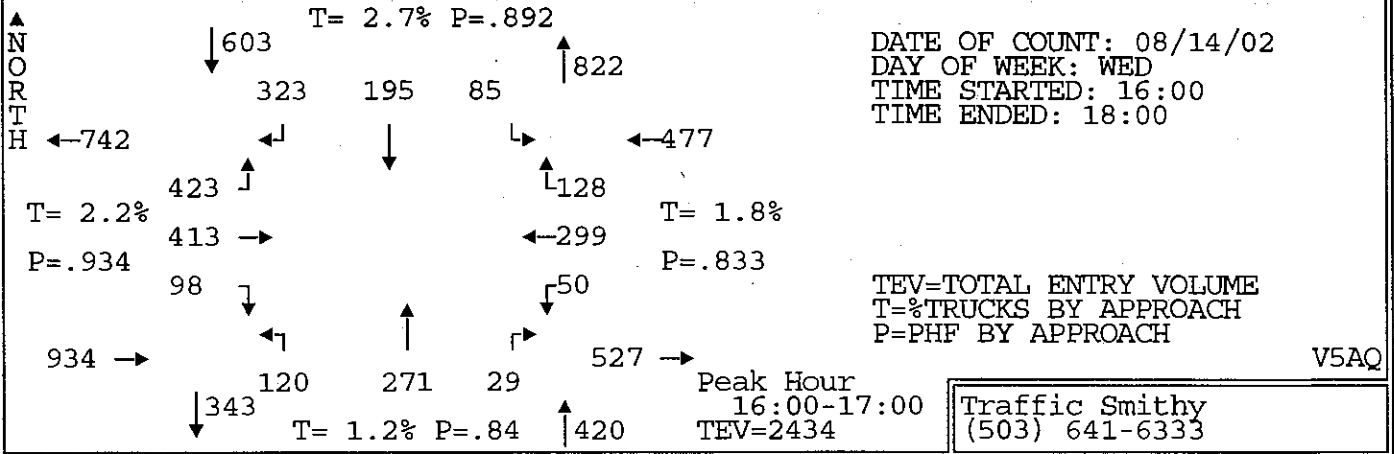
|               |     |     |    |    |     |    |     |     |    |    |     |    |      |
|---------------|-----|-----|----|----|-----|----|-----|-----|----|----|-----|----|------|
| Hourly Totals |     |     |    |    |     |    |     |     |    |    |     |    |      |
| 16:00-17:00   | 142 | 400 | 56 | 63 | 103 | 14 | 133 | 95  | 33 | 11 | 358 | 22 | 1430 |
| 16:15-17:15   | 145 | 404 | 52 | 72 | 113 | 15 | 165 | 109 | 23 | 10 | 342 | 17 | 1467 |
| 16:30-17:30   | 144 | 408 | 48 | 72 | 111 | 13 | 178 | 111 | 28 | 9  | 364 | 18 | 1504 |
| 16:45-17:45   | 150 | 415 | 48 | 68 | 102 | 12 | 186 | 114 | 32 | 9  | 347 | 21 | 1504 |
| 17:00-18:00   | 146 | 415 | 52 | 67 | 108 | 12 | 191 | 110 | 27 | 11 | 318 | 11 | 1468 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT NEWMARK @ BROADWAY



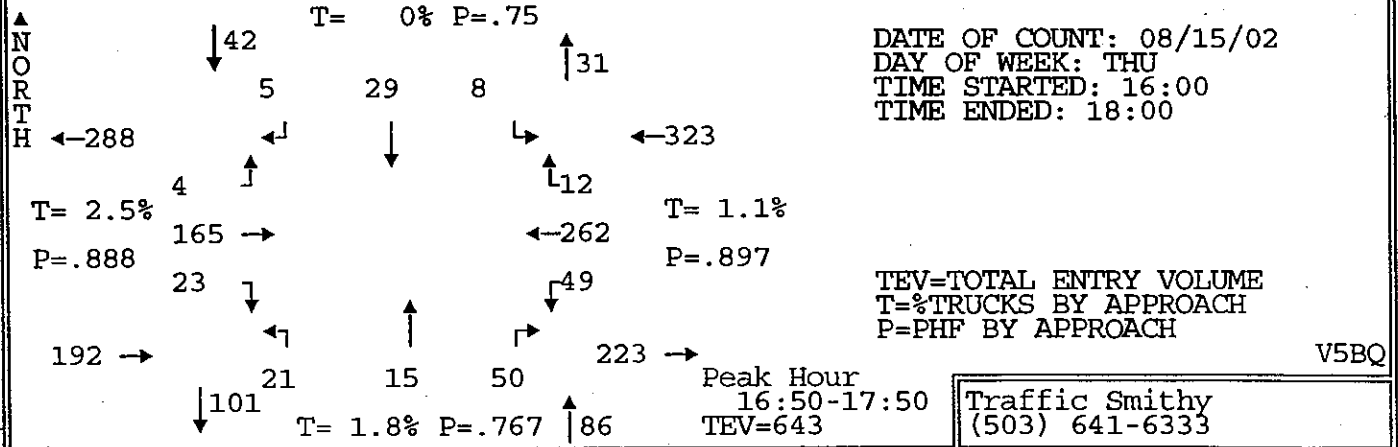
| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------|
|                          | ↓          | →   | ↑   | ←           | ↓   | ↘   | ←           | ↑   | ↗   | ↓          | ←   | ↑   |      |
| 07:00-07:05              | 7          | 9   | 7   | 10          | 4   | 2   | 0           | 8   | 1   | 0          | 12  | 5   | 65   |
| 07:05-07:10              | 1          | 5   | 8   | 6           | 4   | 5   | 3           | 3   | 1   | 2          | 10  | 5   | 53   |
| 07:10-07:15              | 5          | 10  | 7   | 3           | 8   | 2   | 3           | 8   | 0   | 2          | 2   | 1   | 51   |
| 07:15-07:20              | 8          | 5   | 10  | 3           | 9   | 4   | 0           | 5   | 1   | 0          | 10  | 5   | 60   |
| 07:20-07:25              | 10         | 13  | 17  | 7           | 6   | 3   | 0           | 9   | 1   | 2          | 13  | 3   | 84   |
| 07:25-07:30              | 6          | 11  | 13  | 4           | 8   | 13  | 3           | 5   | 0   | 2          | 8   | 2   | 75   |
| 07:30-07:35              | 6          | 14  | 21  | 7           | 11  | 4   | 3           | 11  | 1   | 1          | 14  | 6   | 99   |
| 07:35-07:40              | 9          | 13  | 14  | 7           | 9   | 4   | 4           | 12  | 0   | 2          | 5   | 2   | 81   |
| 07:40-07:45              | 10         | 21  | 18  | 10          | 12  | 4   | 6           | 10  | 0   | 2          | 15  | 3   | 111  |
| 07:45-07:50              | 7          | 17  | 14  | 19          | 12  | 7   | 6           | 15  | 2   | 2          | 15  | 5   | 121  |
| 07:50-07:55              | 13         | 24  | 19  | 13          | 23  | 5   | 7           | 11  | 2   | 4          | 22  | 7   | 150  |
| 07:55-08:00              | 11         | 16  | 19  | 22          | 24  | 7   | 9           | 10  | 1   | 3          | 12  | 13  | 147  |
| 08:00-08:05              | 14         | 17  | 22  | 8           | 13  | 6   | 5           | 9   | 1   | 6          | 23  | 11  | 135  |
| 08:05-08:10              | 9          | 16  | 16  | 8           | 11  | 3   | 6           | 8   | 0   | 1          | 25  | 8   | 111  |
| 08:10-08:15              | 11         | 14  | 27  | 13          | 7   | 5   | 2           | 5   | 1   | 6          | 17  | 6   | 114  |
| 08:15-08:20              | 8          | 17  | 13  | 18          | 9   | 5   | 6           | 7   | 0   | 2          | 11  | 7   | 103  |
| 08:20-08:25              | 8          | 16  | 17  | 10          | 10  | 1   | 9           | 12  | 0   | 1          | 18  | 8   | 110  |
| 08:25-08:30              | 9          | 10  | 17  | 14          | 11  | 5   | 9           | 9   | 0   | 3          | 16  | 6   | 109  |
| 08:30-08:35              | 10         | 15  | 18  | 23          | 7   | 6   | 6           | 9   | 3   | 3          | 17  | 4   | 121  |
| 08:35-08:40              | 9          | 10  | 24  | 21          | 10  | 7   | 5           | 12  | 1   | 2          | 12  | 5   | 118  |
| 08:40-08:45              | 6          | 13  | 16  | 26          | 20  | 8   | 10          | 23  | 0   | 5          | 14  | 8   | 149  |
| 08:45-08:50              | 13         | 24  | 23  | 18          | 16  | 8   | 6           | 18  | 1   | 4          | 15  | 9   | 155  |
| 08:50-08:55              | 7          | 16  | 17  | 14          | 14  | 9   | 9           | 14  | 0   | 4          | 15  | 7   | 126  |
| 08:55-09:00              | 6          | 16  | 34  | 20          | 14  | 7   | 7           | 7   | 2   | 4          | 20  | 7   | 144  |
| <b>Total Survey</b>      |            |     |     |             |     |     |             |     |     |            |     |     |      |
| PHF                      | 203        | 342 | 411 | 304         | 272 | 130 | 124         | 240 | 19  | 63         | 341 | 143 | 2592 |
| % Trucks                 | .8         | .84 | .89 | .69         | .67 | .72 | .83         | .63 | .63 | .77        | .78 | .72 | .880 |
| Stopped Buses            | 5.4        | 3.2 | 6.8 | 6.9         | 4.4 | 5.4 | 2.4         | 5.8 | 5.3 | 3.2        | 4.1 | 5.6 | 5.1  |
| Peds                     | 0          | 0   | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   | 0    |
| <b>Hourly Totals</b>     |            |     |     |             |     |     |             |     |     |            |     |     |      |
| 07:00-08:00              | 93         | 158 | 167 | 111         | 130 | 60  | 44          | 107 | 10  | 22         | 138 | 57  | 1097 |
| 07:15-08:15              | 114        | 181 | 210 | 121         | 145 | 65  | 51          | 110 | 10  | 31         | 179 | 71  | 1288 |
| 07:30-08:30              | 115        | 195 | 217 | 149         | 152 | 56  | 72          | 119 | 8   | 33         | 193 | 82  | 1391 |
| 07:45-08:45              | 115        | 185 | 222 | 195         | 157 | 65  | 80          | 130 | 11  | 38         | 202 | 88  | 1488 |
| 08:00-09:00              | 110        | 184 | 244 | 193         | 142 | 70  | 80          | 133 | 9   | 41         | 203 | 86  | 1495 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT NEWMARK @ BROADWAY



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|-----|-----|-------------|-----|-----|------------|-----|-----|------|
|                          | ↓          | →   | ↗   | ↖           | ↓   | ↘   | ↖           | ↑   | ↗   | ↓          | ←   | ↖   |      |
| 16:00-16:05              | 13         | 41  | 37  | 27          | 12  | 4   | 7           | 23  | 3   | 5          | 26  | 15  | 213  |
| 16:05-16:10              | 14         | 32  | 32  | 32          | 15  | 9   | 15          | 28  | 0   | 3          | 30  | 7   | 217  |
| 16:10-16:15              | 6          | 32  | 39  | 30          | 33  | 5   | 11          | 31  | 4   | 1          | 23  | 10  | 225  |
| 16:15-16:20              | 10         | 39  | 46  | 29          | 6   | 10  | 12          | 19  | 4   | 5          | 17  | 11  | 208  |
| 16:20-16:25              | 4          | 41  | 30  | 28          | 18  | 9   | 12          | 17  | 0   | 7          | 26  | 9   | 201  |
| 16:25-16:30              | 11         | 37  | 29  | 25          | 13  | 4   | 9           | 17  | 3   | 4          | 22  | 12  | 186  |
| 16:30-16:35              | 10         | 34  | 36  | 29          | 25  | 8   | 7           | 26  | 2   | 7          | 18  | 10  | 212  |
| 16:35-16:40              | 8          | 39  | 31  | 30          | 13  | 6   | 10          | 15  | 2   | 6          | 43  | 18  | 221  |
| 16:40-16:45              | 10         | 24  | 29  | 19          | 23  | 9   | 17          | 41  | 5   | 3          | 21  | 9   | 210  |
| 16:45-16:50              | 4          | 34  | 37  | 21          | 2   | 10  | 8           | 14  | 0   | 6          | 26  | 11  | 173  |
| 16:50-16:55              | 3          | 33  | 31  | 31          | 20  | 5   | 4           | 24  | 5   | 2          | 20  | 9   | 187  |
| 16:55-17:00              | 5          | 27  | 46  | 22          | 15  | 6   | 8           | 16  | 1   | 1          | 27  | 7   | 181  |
| 17:00-17:05              | 5          | 22  | 31  | 22          | 22  | 5   | 16          | 28  | 2   | 4          | 27  | 8   | 192  |
| 17:05-17:10              | 6          | 30  | 38  | 19          | 19  | 19  | 14          | 27  | 0   | 4          | 29  | 11  | 216  |
| 17:10-17:15              | 7          | 36  | 36  | 20          | 6   | 12  | 11          | 21  | 5   | 4          | 30  | 11  | 199  |
| 17:15-17:20              | 8          | 43  | 43  | 24          | 10  | 2   | 4           | 24  | 2   | 6          | 38  | 19  | 223  |
| 17:20-17:25              | 7          | 19  | 31  | 21          | 9   | 5   | 17          | 22  | 3   | 3          | 24  | 11  | 172  |
| 17:25-17:30              | 7          | 28  | 33  | 18          | 19  | 6   | 3           | 20  | 1   | 5          | 14  | 7   | 161  |
| 17:30-17:35              | 17         | 33  | 27  | 20          | 5   | 8   | 13          | 7   | 3   | 3          | 33  | 12  | 181  |
| 17:35-17:40              | 7          | 35  | 41  | 26          | 9   | 9   | 10          | 14  | 2   | 2          | 33  | 8   | 196  |
| 17:40-17:45              | 10         | 30  | 22  | 28          | 14  | 4   | 17          | 15  | 2   | 2          | 29  | 7   | 180  |
| 17:45-17:50              | 10         | 37  | 28  | 21          | 10  | 6   | 9           | 11  | 1   | 8          | 25  | 14  | 180  |
| 17:50-17:55              | 7          | 24  | 15  | 26          | 12  | 9   | 9           | 15  | 5   | 1          | 19  | 8   | 150  |
| 17:55-18:00              | 4          | 25  | 51  | 22          | 13  | 3   | 8           | 19  | 2   | 3          | 16  | 6   | 172  |
|                          |            |     |     |             |     |     |             |     |     |            |     |     |      |
| Total Survey             | 193        | 775 | 819 | 590         | 343 | 173 | 251         | 494 | 57  | 95         | 616 | 250 | 4656 |
| PHF                      | .74        | .88 | .9  | .89         | .8  | .85 | .79         | .83 | .73 | .69        | .83 | .8  | .929 |
| % Trucks                 | 3.1        | 2.8 | 1.5 | 3.4         | 2   | 1.7 | 1.6         | 1   | 1.8 | 3.2        | 1.9 | .8  | 2.1  |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   |      |
| Peds                     | 0          | 0   | 0   | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0   | 0   |      |
|                          |            |     |     |             |     |     |             |     |     |            |     |     |      |
| Hourly Totals            |            |     |     |             |     |     |             |     |     |            |     |     |      |
| 16:00-17:00              | 98         | 413 | 423 | 323         | 195 | 85  | 120         | 271 | 29  | 50         | 299 | 128 | 2434 |
| 16:15-17:15              | 83         | 396 | 420 | 295         | 182 | 103 | 128         | 265 | 29  | 53         | 306 | 126 | 2386 |
| 16:30-17:30              | 80         | 369 | 422 | 276         | 183 | 93  | 119         | 278 | 28  | 51         | 317 | 131 | 2347 |
| 16:45-17:45              | 86         | 370 | 416 | 272         | 150 | 91  | 125         | 232 | 26  | 42         | 330 | 121 | 2261 |
| 17:00-18:00              | 95         | 362 | 396 | 267         | 148 | 88  | 131         | 223 | 28  | 45         | 317 | 122 | 2222 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT VIRGINIA @ OAK

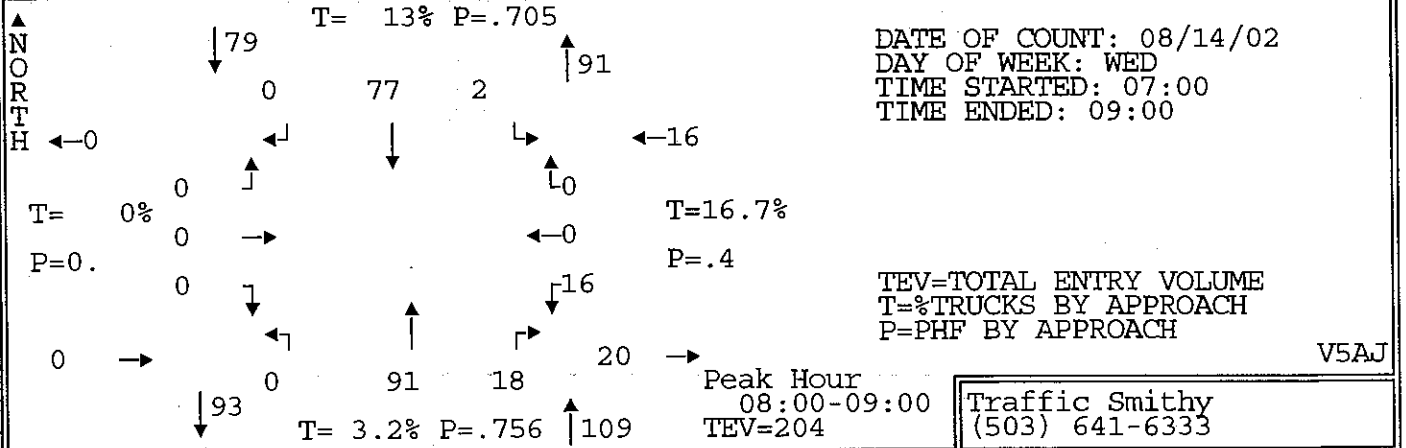


| TIME PERIOD<br>FROM - TO | EAST BOUND |     |    | SOUTH BOUND |     |    | NORTH BOUND |     |     | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|----|-------------|-----|----|-------------|-----|-----|------------|-----|-----|------|
|                          | ↓          | →   | ↑  | ←           | ↓   | ↘  | ←           | ↑   | ↗   | ↓          | ←   | ↑   |      |
| 16:00-16:05              | 2          | 15  | 1  | 0           | 2   | 1  | 1           | 2   | 1   | 1          | 14  | 1   | 41   |
| 16:05-16:10              | 3          | 9   | 1  | 0           | 4   | 1  | 4           | 1   | 1   | 7          | 17  | 0   | 48   |
| 16:10-16:15              | 3          | 10  | 0  | 0           | 5   | 1  | 2           | 3   | 1   | 5          | 12  | 2   | 45   |
| 16:15-16:20              | 2          | 11  | 0  | 0           | 5   | 3  | 4           | 0   | 6   | 3          | 18  | 1   | 53   |
| 16:20-16:25              | 3          | 10  | 0  | 0           | 3   | 1  | 4           | 3   | 3   | 4          | 17  | 0   | 48   |
| 16:25-16:30              | 0          | 10  | 0  | 0           | 3   | 1  | 1           | 1   | 1   | 4          | 14  | 1   | 36   |
| 16:30-16:35              | 2          | 17  | 1  | 0           | 3   | 1  | 2           | 2   | 3   | 5          | 14  | 0   | 50   |
| 16:35-16:40              | 2          | 15  | 0  | 0           | 3   | 1  | 2           | 1   | 4   | 4          | 11  | 0   | 43   |
| 16:40-16:45              | 1          | 14  | 0  | 0           | 1   | 0  | 3           | 1   | 2   | 4          | 16  | 3   | 45   |
| 16:45-16:50              | 0          | 10  | 1  | 0           | 1   | 1  | 3           | 1   | 5   | 3          | 10  | 1   | 36   |
| 16:50-16:55              | 4          | 12  | 0  | 1           | 4   | 1  | 2           | 2   | 5   | 2          | 22  | 0   | 55   |
| 16:55-17:00              | 1          | 18  | 0  | 0           | 1   | 1  | 0           | 2   | 7   | 3          | 24  | 2   | 59   |
| 17:00-17:05              | 1          | 13  | 1  | 0           | 2   | 2  | 0           | 1   | 4   | 6          | 17  | 2   | 49   |
| 17:05-17:10              | 3          | 14  | 0  | 2           | 4   | 1  | 1           | 1   | 2   | 9          | 22  | 1   | 60   |
| 17:10-17:15              | 1          | 9   | 0  | 0           | 2   | 1  | 3           | 0   | 7   | 4          | 21  | 1   | 49   |
| 17:15-17:20              | 1          | 17  | 1  | 0           | 2   | 0  | 3           | 0   | 4   | 6          | 20  | 0   | 54   |
| 17:20-17:25              | 2          | 13  | 0  | 1           | 2   | 0  | 1           | 5   | 5   | 2          | 23  | 1   | 55   |
| 17:25-17:30              | 4          | 8   | 1  | 0           | 4   | 2  | 2           | 1   | 5   | 3          | 19  | 2   | 51   |
| 17:30-17:35              | 0          | 14  | 0  | 1           | 1   | 0  | 3           | 0   | 6   | 6          | 27  | 1   | 59   |
| 17:35-17:40              | 1          | 11  | 0  | 0           | 0   | 0  | 1           | 2   | 2   | 3          | 24  | 0   | 44   |
| 17:40-17:45              | 2          | 19  | 0  | 0           | 2   | 0  | 3           | 0   | 1   | 2          | 27  | 0   | 56   |
| 17:45-17:50              | 3          | 17  | 1  | 0           | 5   | 0  | 2           | 1   | 2   | 3          | 16  | 2   | 52   |
| 17:50-17:55              | 1          | 17  | 0  | 0           | 1   | 0  | 3           | 0   | 4   | 4          | 18  | 0   | 48   |
| 17:55-18:00              | 4          | 8   | 1  | 0           | 1   | 2  | 5           | 2   | 2   | 4          | 17  | 0   | 46   |
|                          |            |     |    |             |     |    |             |     |     |            |     |     |      |
| Total Survey             | 46         | 311 | 9  | 6           | 61  | 21 | 55          | 32  | 83  | 97         | 440 | 21  | 1182 |
| PHF                      | .82        | .88 | .5 | .63         | .91 | .5 | .75         | .63 | .78 | .64        | .84 | .6  | .956 |
| % Trucks                 | 2.2        | 2.6 | 0  | 0           | 0   | 0  | 1.8         | 0   | 2.4 | 0          | 1.1 | 4.8 | 1.5  |
| Stopped Buses            | 0          | 0   | 0  | 0           | 0   | 0  | 0           | 0   | 0   | 0          | 0   | 0   |      |
| Peds                     | 0          | 6   | 0  | 0           | 1   | 0  | 0           | 0   | 0   | 0          | 3   | 0   |      |
|                          |            |     |    |             |     |    |             |     |     |            |     |     |      |
| Hourly Totals            |            |     |    |             |     |    |             |     |     |            |     |     |      |
| 16:00-17:00              | 23         | 151 | 4  | 2           | 35  | 13 | 28          | 19  | 39  | 45         | 189 | 11  | 559  |
| 16:15-17:15              | 20         | 153 | 3  | 3           | 32  | 14 | 25          | 15  | 49  | 51         | 206 | 12  | 583  |
| 16:30-17:30              | 22         | 160 | 5  | 4           | 29  | 11 | 22          | 17  | 53  | 51         | 219 | 13  | 606  |
| 16:45-17:45              | 20         | 158 | 4  | 5           | 25  | 9  | 22          | 15  | 53  | 49         | 256 | 11  | 627  |
| 17:00-18:00              | 23         | 160 | 5  | 4           | 26  | 8  | 27          | 13  | 44  | 52         | 251 | 10  | 623  |



# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

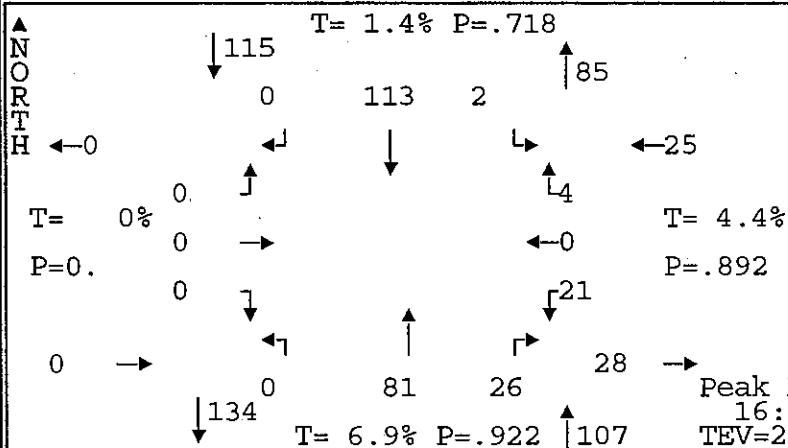
## MAPLE LEAF @ AIRPORT WAY



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |      | NORTH BOUND |     |     | WEST BOUND |   |   | ALL  |
|--------------------------|------------|---|---|-------------|------|------|-------------|-----|-----|------------|---|---|------|
|                          | ↓          | → | ↑ | ←           | ↓    | ↘    | ←           | ↑   | ↗   | ↓          | ← | ↑ |      |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 1    | 0    | 0           | 10  | 1   | 0          | 0 | 0 | 12   |
| 07:05-07:10              | 0          | 0 | 0 | 0           | 1    | 1    | 0           | 5   | 0   | 1          | 0 | 0 | 8    |
| 07:10-07:15              | 0          | 0 | 0 | 0           | 4    | 0    | 0           | 5   | 0   | 0          | 0 | 0 | 9    |
| 07:15-07:20              | 0          | 0 | 0 | 0           | 2    | 1    | 0           | 3   | 0   | 0          | 0 | 0 | 6    |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 0    | 1    | 0           | 6   | 0   | 0          | 0 | 0 | 7    |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 1    | 0    | 0           | 9   | 3   | 1          | 0 | 0 | 14   |
| 07:30-07:35              | 0          | 0 | 0 | 0           | 5    | 1    | 0           | 3   | 0   | 1          | 0 | 1 | 11   |
| 07:35-07:40              | 0          | 0 | 0 | 0           | 8    | 0    | 0           | 14  | 4   | 1          | 0 | 1 | 28   |
| 07:40-07:45              | 0          | 0 | 0 | 0           | 1    | 0    | 0           | 12  | 0   | 2          | 0 | 0 | 15   |
| 07:45-07:50              | 0          | 0 | 0 | 0           | 2    | 0    | 0           | 11  | 1   | 1          | 0 | 0 | 15   |
| 07:50-07:55              | 0          | 0 | 0 | 0           | 5    | 0    | 0           | 10  | 2   | 0          | 0 | 0 | 17   |
| 07:55-08:00              | 0          | 0 | 0 | 0           | 2    | 0    | 0           | 8   | 3   | 3          | 0 | 2 | 18   |
| 08:00-08:05              | 0          | 0 | 0 | 0           | 3    | 0    | 0           | 5   | 1   | 0          | 0 | 0 | 9    |
| 08:05-08:10              | 0          | 0 | 0 | 0           | 7    | 0    | 0           | 7   | 1   | 0          | 0 | 0 | 15   |
| 08:10-08:15              | 0          | 0 | 0 | 0           | 6    | 0    | 0           | 8   | 2   | 0          | 0 | 0 | 16   |
| 08:15-08:20              | 0          | 0 | 0 | 0           | 3    | 0    | 0           | 8   | 1   | 2          | 0 | 0 | 14   |
| 08:20-08:25              | 0          | 0 | 0 | 0           | 4    | 0    | 0           | 13  | 1   | 0          | 0 | 0 | 18   |
| 08:25-08:30              | 0          | 0 | 0 | 0           | 4    | 0    | 0           | 12  | 1   | 2          | 0 | 0 | 19   |
| 08:30-08:35              | 0          | 0 | 0 | 0           | 9    | 0    | 0           | 4   | 0   | 1          | 0 | 0 | 14   |
| 08:35-08:40              | 0          | 0 | 0 | 0           | 12   | 0    | 0           | 2   | 3   | 1          | 0 | 0 | 18   |
| 08:40-08:45              | 0          | 0 | 0 | 0           | 6    | 0    | 0           | 14  | 2   | 0          | 0 | 0 | 22   |
| 08:45-08:50              | 0          | 0 | 0 | 0           | 10   | 0    | 0           | 11  | 2   | 0          | 0 | 0 | 23   |
| 08:50-08:55              | 0          | 0 | 0 | 0           | 9    | 1    | 0           | 4   | 2   | 1          | 0 | 0 | 17   |
| 08:55-09:00              | 0          | 0 | 0 | 0           | 4    | 1    | 0           | 3   | 2   | 9          | 0 | 0 | 19   |
|                          |            |   |   |             |      |      |             |     |     |            |   |   |      |
| Total Survey             | 0          | 0 | 0 | 0           | 109  | 6    | 0           | 187 | 32  | 26         | 0 | 4 | 364  |
| PHF                      | 0          | 0 | 0 | 0           | .69  | .25  | 0           | .69 | .64 | .4         | 0 | 0 | .809 |
| % Trucks                 | 0          | 0 | 0 | 0           | 12.8 | 16.7 | 0           | 3.2 | 3.1 | 19.2       | 0 | 0 | 7.4  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0    | 0           | 0   | 0   | 0          | 0 | 0 | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0    | 0           | 1   | 0   | 0          | 0 | 0 | 0    |
|                          |            |   |   |             |      |      |             |     |     |            |   |   |      |
| Hourly Totals            | 0          | 0 | 0 | 0           | 32   | 4    | 0           | 96  | 14  | 10         | 0 | 4 | 160  |
| 07:00-08:00              | 0          | 0 | 0 | 0           | 42   | 3    | 0           | 96  | 17  | 9          | 0 | 4 | 171  |
| 07:15-08:15              | 0          | 0 | 0 | 0           | 50   | 1    | 0           | 111 | 17  | 12         | 0 | 4 | 195  |
| 07:30-08:30              | 0          | 0 | 0 | 0           | 63   | 0    | 0           | 102 | 18  | 10         | 0 | 2 | 195  |
| 07:45-08:45              | 0          | 0 | 0 | 0           | 77   | 2    | 0           | 91  | 18  | 16         | 0 | 0 | 204  |
| 08:00-09:00              | 0          | 0 | 0 | 0           |      |      | 0           |     |     |            | 0 | 0 |      |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## MAPLE LEAF @ AIRPORT WAY



DATE OF COUNT: 08/14/02  
 DAY OF WEEK: WED  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5AK

Peak Hour  
 16:15-17:15  
 TEV=247

Traffic Smithy  
 (503) 641-6333

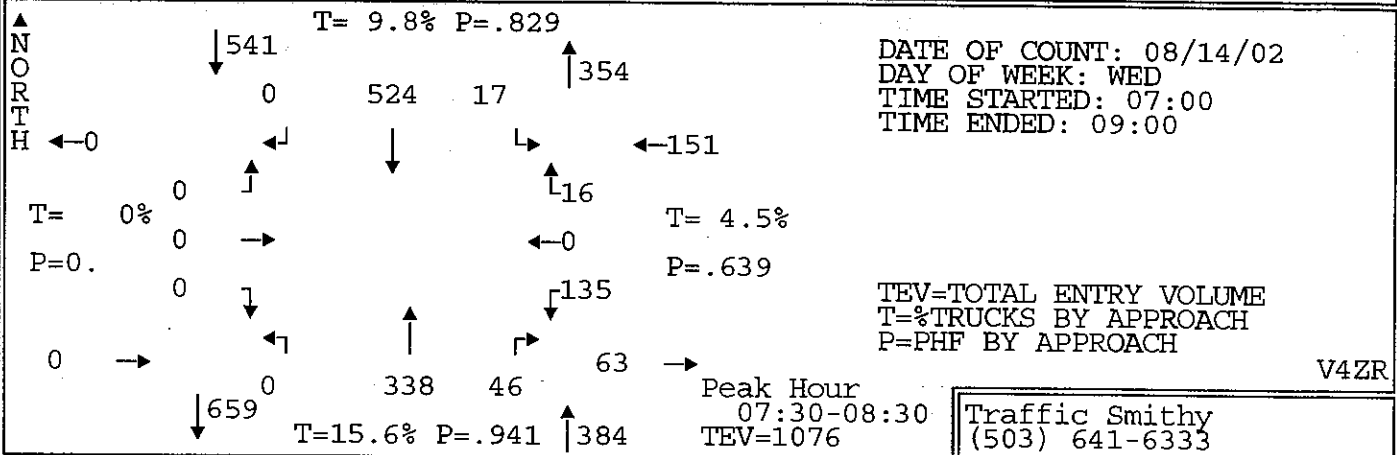
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ←           | ↑  | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 12 | 0 | 0           | 5  | 3 | 1          | 0 | 0 | 21  |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 13 | 0 | 0           | 6  | 0 | 4          | 0 | 0 | 23  |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 5  | 0 | 0           | 9  | 4 | 0          | 0 | 1 | 19  |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 15 | 0 | 0           | 10 | 1 | 1          | 0 | 0 | 27  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 7  | 0 | 0           | 7  | 2 | 3          | 0 | 1 | 20  |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 10 | 0 | 0           | 8  | 1 | 2          | 0 | 0 | 21  |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 5  | 0 | 0           | 7  | 1 | 1          | 0 | 0 | 14  |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 12 | 1 | 0           | 9  | 2 | 4          | 0 | 0 | 28  |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 3  | 0 | 0           | 8  | 0 | 1          | 0 | 0 | 12  |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 10 | 0 | 0           | 4  | 2 | 1          | 0 | 1 | 18  |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 5  | 0 | 0           | 4  | 5 | 2          | 0 | 0 | 16  |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 13 | 0 | 0           | 3  | 6 | 1          | 0 | 0 | 23  |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 14 | 0 | 0           | 6  | 1 | 2          | 0 | 0 | 23  |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 12 | 1 | 0           | 5  | 1 | 2          | 0 | 0 | 21  |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 7  | 0 | 0           | 10 | 4 | 1          | 0 | 2 | 24  |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 9  | 0 | 0           | 12 | 3 | 0          | 0 | 0 | 24  |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 8  | 0 | 0           | 7  | 1 | 2          | 0 | 1 | 19  |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 13 | 0 | 0           | 7  | 3 | 1          | 0 | 0 | 24  |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 9  | 0 | 0           | 2  | 1 | 1          | 0 | 0 | 13  |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 6  | 0 | 0           | 7  | 2 | 4          | 0 | 1 | 20  |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 3  | 0 | 0           | 3  | 3 | 0          | 0 | 0 | 9   |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 6  | 0 | 0           | 5  | 3 | 1          | 0 | 1 | 16  |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 8  | 1 | 0           | 3  | 4 | 0          | 0 | 1 | 17  |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 3  | 0 | 0           | 4  | 0 | 1          | 0 | 0 | 8   |

|               |   |   |   |   |     |      |   |     |     |     |   |      |      |
|---------------|---|---|---|---|-----|------|---|-----|-----|-----|---|------|------|
| Total Survey  | 0 | 0 | 0 | 0 | 208 | 3    | 0 | 151 | 53  | 36  | 0 | 9    | 460  |
| PHF           | 0 | 0 | 0 | 0 | .72 | .5   | 0 | .81 | .5  | .75 | 0 | .5   | .908 |
| % Trucks      | 0 | 0 | 0 | 0 | 1   | 33.3 | 0 | 6   | 9.4 | 2.8 | 0 | 11.1 | 4.1  |
| Stopped Buses | 0 | 0 | 0 | 0 | 0   | 0    | 0 | 0   | 0   | 0   | 0 | 0    | 0    |
| Peds          | 0 | 0 | 0 | 0 | 0   | 0    | 0 | 0   | 0   | 0   | 0 | 0    | 0    |

|               |   |   |   |   |     |   |   |    |    |    |   |   |     |
|---------------|---|---|---|---|-----|---|---|----|----|----|---|---|-----|
| Hourly Totals |   |   |   |   |     |   |   |    |    |    |   |   |     |
| 16:00-17:00   | 0 | 0 | 0 | 0 | 110 | 1 | 0 | 80 | 27 | 21 | 0 | 3 | 242 |
| 16:15-17:15   | 0 | 0 | 0 | 0 | 113 | 2 | 0 | 81 | 26 | 21 | 0 | 4 | 247 |
| 16:30-17:30   | 0 | 0 | 0 | 0 | 111 | 2 | 0 | 82 | 29 | 18 | 0 | 4 | 246 |
| 16:45-17:45   | 0 | 0 | 0 | 0 | 109 | 1 | 0 | 70 | 32 | 17 | 0 | 5 | 234 |
| 17:00-18:00   | 0 | 0 | 0 | 0 | 98  | 2 | 0 | 71 | 26 | 15 | 0 | 6 | 218 |

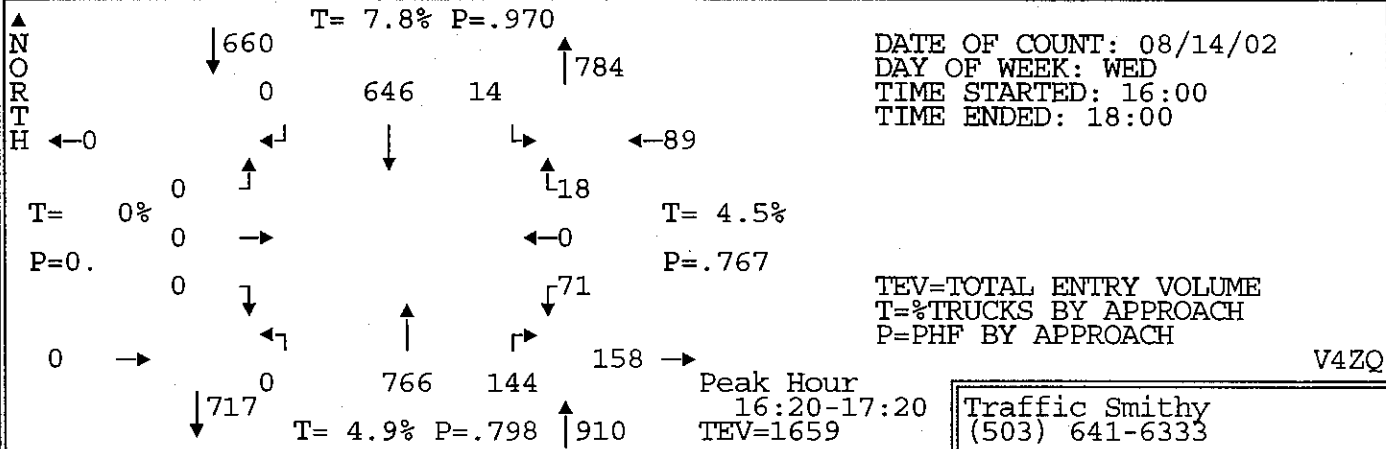
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## HIGHWAY 101 @ BAY DRIVE



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |     |      | NORTH BOUND |     |      | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|-----|------|-------------|-----|------|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓   | →    | ←           | ↑   | →    | ↓          | ← | ↑   |      |
| 07:00-07:05              | 0          | 0 | 0 | 0           | 26  | 0    | 0           | 35  | 3    | 7          | 0 | 0   | 71   |
| 07:05-07:10              | 0          | 0 | 0 | 0           | 32  | 3    | 0           | 32  | 3    | 7          | 0 | 1   | 78   |
| 07:10-07:15              | 0          | 0 | 0 | 0           | 24  | 3    | 0           | 19  | 6    | 8          | 0 | 2   | 62   |
| 07:15-07:20              | 0          | 0 | 0 | 0           | 31  | 1    | 0           | 28  | 4    | 9          | 0 | 4   | 77   |
| 07:20-07:25              | 0          | 0 | 0 | 0           | 29  | 0    | 0           | 36  | 2    | 11         | 0 | 4   | 82   |
| 07:25-07:30              | 0          | 0 | 0 | 0           | 37  | 1    | 0           | 28  | 0    | 13         | 0 | 0   | 79   |
| 07:30-07:35              | 0          | 0 | 0 | 0           | 39  | 4    | 0           | 31  | 4    | 9          | 0 | 0   | 87   |
| 07:35-07:40              | 0          | 0 | 0 | 0           | 48  | 0    | 0           | 34  | 2    | 11         | 0 | 1   | 96   |
| 07:40-07:45              | 0          | 0 | 0 | 0           | 61  | 2    | 0           | 24  | 2    | 13         | 0 | 2   | 104  |
| 07:45-07:50              | 0          | 0 | 0 | 0           | 45  | 1    | 0           | 26  | 3    | 18         | 0 | 2   | 95   |
| 07:50-07:55              | 0          | 0 | 0 | 0           | 54  | 0    | 0           | 37  | 2    | 22         | 0 | 2   | 117  |
| 07:55-08:00              | 0          | 0 | 0 | 0           | 41  | 1    | 0           | 19  | 4    | 10         | 0 | 0   | 75   |
| 08:00-08:05              | 0          | 0 | 0 | 0           | 47  | 0    | 0           | 31  | 5    | 11         | 0 | 1   | 95   |
| 08:05-08:10              | 0          | 0 | 0 | 0           | 33  | 0    | 0           | 29  | 4    | 3          | 0 | 0   | 69   |
| 08:10-08:15              | 0          | 0 | 0 | 0           | 34  | 0    | 0           | 29  | 3    | 8          | 0 | 2   | 76   |
| 08:15-08:20              | 0          | 0 | 0 | 0           | 37  | 0    | 0           | 28  | 9    | 14         | 0 | 4   | 92   |
| 08:20-08:25              | 0          | 0 | 0 | 0           | 48  | 1    | 0           | 27  | 4    | 7          | 0 | 2   | 89   |
| 08:25-08:30              | 0          | 0 | 0 | 0           | 37  | 8    | 0           | 23  | 4    | 9          | 0 | 0   | 81   |
| 08:30-08:35              | 0          | 0 | 0 | 0           | 32  | 1    | 0           | 28  | 3    | 8          | 0 | 0   | 72   |
| 08:35-08:40              | 0          | 0 | 0 | 0           | 43  | 0    | 0           | 25  | 4    | 6          | 0 | 2   | 80   |
| 08:40-08:45              | 0          | 0 | 0 | 0           | 34  | 1    | 0           | 23  | 6    | 11         | 0 | 0   | 75   |
| 08:45-08:50              | 0          | 0 | 0 | 1           | 41  | 2    | 0           | 29  | 6    | 7          | 0 | 1   | 87   |
| 08:50-08:55              | 0          | 0 | 0 | 0           | 45  | 4    | 0           | 44  | 4    | 8          | 0 | 0   | 105  |
| 08:55-09:00              | 0          | 0 | 0 | 0           | 48  | 0    | 0           | 30  | 11   | 8          | 0 | 1   | 98   |
| <hr/>                    |            |   |   |             |     |      |             |     |      |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 1           | 946 | 33   | 0           | 695 | 98   | 238        | 0 | 31  | 2042 |
| PHF                      | 0          | 0 | 0 | 0           | .82 | .47  | 0           | .95 | .68  | .64        | 0 | .5  | .851 |
| % Trucks                 | 0          | 0 | 0 | 100         | 9.5 | 15.2 | 0           | 16  | 13.3 | 4.2        | 0 | 6.5 | 11.4 |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0   | 0    | 0           | 0   | 0    | 0          | 0 | 0   |      |
| Peds                     | 0          | 0 | 0 | 0           | 0   | 0    | 0           | 0   | 0    | 0          | 0 | 0   |      |
| <hr/>                    |            |   |   |             |     |      |             |     |      |            |   |     |      |
| Hourly Totals            |            |   |   |             |     |      |             |     |      |            |   |     |      |
| 07:00-08:00              | 0          | 0 | 0 | 0           | 467 | 16   | 0           | 349 | 35   | 138        | 0 | 18  | 1023 |
| 07:15-08:15              | 0          | 0 | 0 | 0           | 499 | 10   | 0           | 352 | 35   | 138        | 0 | 18  | 1052 |
| 07:30-08:30              | 0          | 0 | 0 | 0           | 524 | 17   | 0           | 338 | 46   | 135        | 0 | 16  | 1076 |
| 07:45-08:45              | 0          | 0 | 0 | 0           | 485 | 13   | 0           | 325 | 51   | 127        | 0 | 15  | 1016 |
| 08:00-09:00              | 0          | 0 | 0 | 1           | 479 | 17   | 0           | 346 | 63   | 100        | 0 | 13  | 1019 |

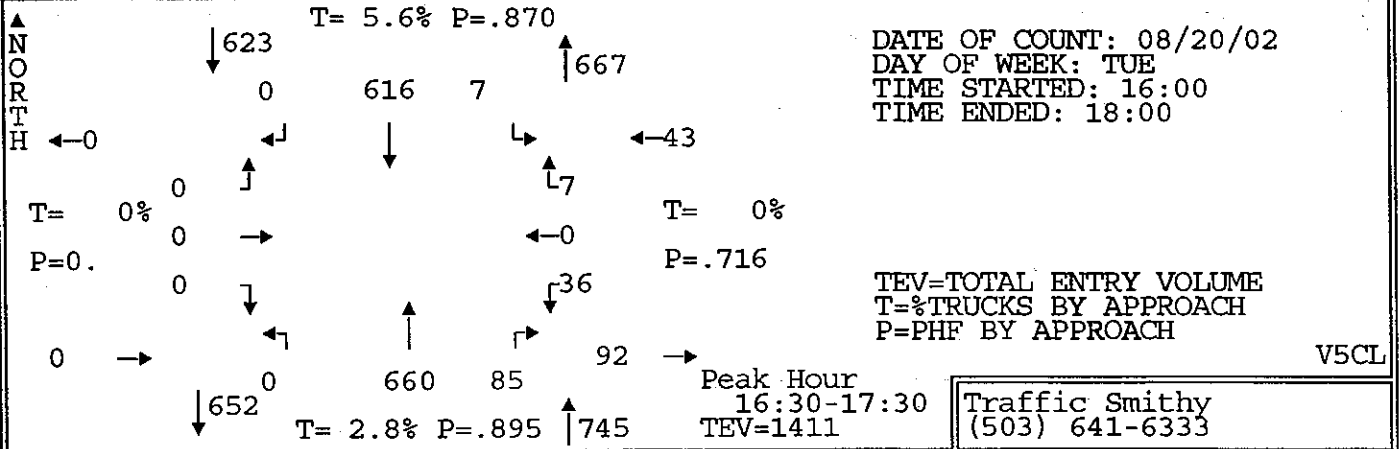
**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**HIGHWAY 101 @ BAY DRIVE**



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |     | NORTH BOUND |      |     | WEST BOUND |   |      | ALL  |
|--------------------------|------------|---|---|-------------|------|-----|-------------|------|-----|------------|---|------|------|
|                          | ↓          | → | ↑ | ←           | ↓    | ↘   | ↙           | ↑    | ↘   | ↓          | ← | ↑    |      |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 51   | 1   | 0           | 60   | 12  | 5          | 0 | 0    | 129  |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 70   | 3   | 0           | 59   | 12  | 7          | 0 | 3    | 154  |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 70   | 3   | 0           | 72   | 14  | 2          | 0 | 2    | 163  |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 46   | 4   | 0           | 64   | 11  | 6          | 0 | 1    | 132  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 61   | 2   | 0           | 70   | 18  | 3          | 0 | 0    | 154  |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 59   | 1   | 0           | 52   | 9   | 11         | 0 | 4    | 136  |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 45   | 0   | 0           | 70   | 10  | 6          | 0 | 0    | 131  |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 55   | 2   | 0           | 70   | 9   | 5          | 0 | 3    | 144  |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 48   | 1   | 0           | 52   | 10  | 6          | 0 | 2    | 119  |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 51   | 0   | 0           | 73   | 7   | 12         | 0 | 0    | 143  |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 57   | 1   | 0           | 57   | 12  | 5          | 0 | 2    | 134  |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 59   | 0   | 0           | 43   | 9   | 2          | 0 | 1    | 114  |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 48   | 0   | 0           | 45   | 9   | 8          | 0 | 3    | 113  |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 48   | 4   | 0           | 66   | 16  | 7          | 0 | 1    | 142  |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 64   | 0   | 0           | 79   | 14  | 6          | 0 | 0    | 163  |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 51   | 3   | 0           | 89   | 21  | 0          | 0 | 2    | 166  |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 50   | 1   | 0           | 71   | 17  | 2          | 0 | 1    | 142  |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 37   | 2   | 0           | 61   | 14  | 8          | 0 | 3    | 125  |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 49   | 2   | 0           | 68   | 19  | 5          | 0 | 1    | 144  |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 42   | 2   | 0           | 52   | 23  | 8          | 0 | 3    | 130  |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 49   | 0   | 0           | 60   | 13  | 12         | 0 | 3    | 137  |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 35   | 1   | 0           | 55   | 9   | 11         | 0 | 4    | 115  |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 45   | 2   | 0           | 55   | 12  | 11         | 0 | 1    | 126  |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 34   | 1   | 0           | 46   | 10  | 9          | 0 | 1    | 101  |
|                          |            |   |   |             |      |     |             |      |     |            |   |      |      |
| Total Survey             | 0          | 0 | 0 | 0           | 1224 | 36  | 0           | 1489 | 310 | 157        | 0 | 41   | 3257 |
| PHF                      | 0          | 0 | 0 | 0           | .97  | .5  | 0           | .82  | .71 | .77        | 0 | .64  | .880 |
| % Trucks                 | 0          | 0 | 0 | 0           | 7.8  | 8.3 | 0           | 5.3  | 2.9 | 2.5        | 0 | 12.2 | 6    |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 0    | 0   | 0          | 0 | 0    | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 0    | 0   | 0          | 0 | 0    | 0    |
|                          |            |   |   |             |      |     |             |      |     |            |   |      |      |
| Hourly Totals            |            |   |   |             |      |     |             |      |     |            |   |      |      |
| 16:00-17:00              | 0          | 0 | 0 | 0           | 672  | 18  | 0           | 742  | 133 | 70         | 0 | 18   | 1653 |
| 16:15-17:15              | 0          | 0 | 0 | 0           | 641  | 15  | 0           | 741  | 134 | 77         | 0 | 17   | 1625 |
| 16:30-17:30              | 0          | 0 | 0 | 0           | 613  | 14  | 0           | 776  | 148 | 67         | 0 | 18   | 1636 |
| 16:45-17:45              | 0          | 0 | 0 | 0           | 605  | 15  | 0           | 764  | 174 | 75         | 0 | 20   | 1653 |
| 17:00-18:00              | 0          | 0 | 0 | 0           | 552  | 18  | 0           | 747  | 177 | 87         | 0 | 23   | 1604 |

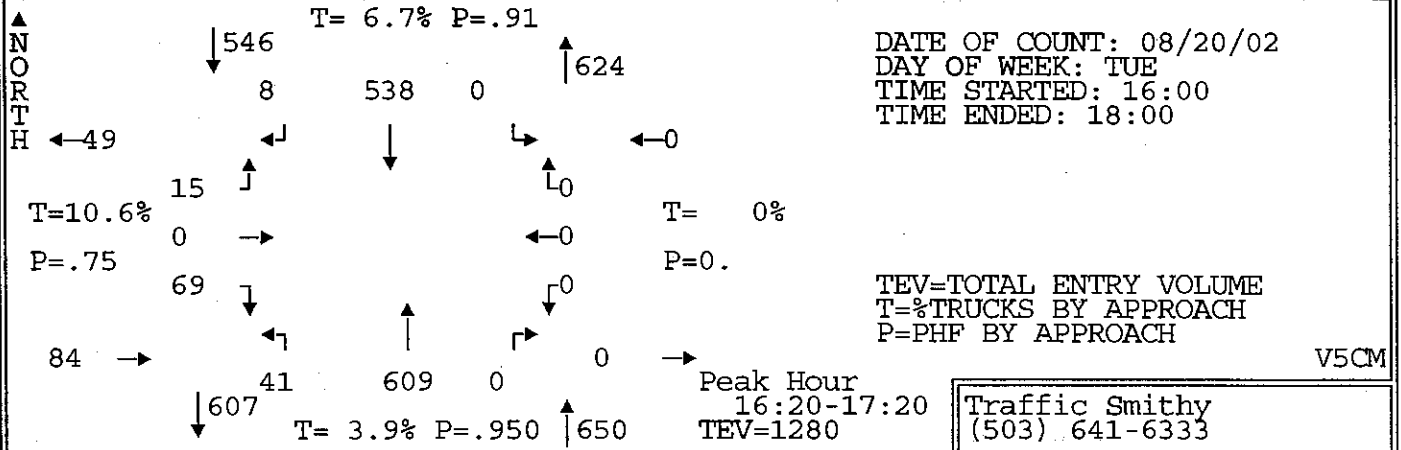
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## HIGHWAY 101 @ NORTH BAY DRIVE



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |      |     | NORTH BOUND |      |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|---|-------------|------|-----|-------------|------|-----|------------|---|-----|------|
|                          | ↓          | → | ↑ | ←           | ↓    | ↘   | ←           | ↑    | ↗   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0 | 0           | 62   | 2   | 0           | 37   | 5   | 6          | 0 | 1   | 113  |
| 16:05-16:10              | 0          | 0 | 0 | 0           | 45   | 2   | 0           | 45   | 6   | 3          | 0 | 3   | 104  |
| 16:10-16:15              | 0          | 0 | 0 | 0           | 44   | 0   | 0           | 50   | 8   | 7          | 0 | 1   | 110  |
| 16:15-16:20              | 0          | 0 | 0 | 0           | 49   | 0   | 0           | 61   | 11  | 5          | 0 | 1   | 127  |
| 16:20-16:25              | 0          | 0 | 0 | 0           | 49   | 0   | 0           | 51   | 3   | 2          | 0 | 1   | 106  |
| 16:25-16:30              | 0          | 0 | 0 | 0           | 48   | 0   | 0           | 44   | 9   | 5          | 0 | 0   | 106  |
| 16:30-16:35              | 0          | 0 | 0 | 0           | 50   | 2   | 0           | 45   | 3   | 2          | 0 | 0   | 102  |
| 16:35-16:40              | 0          | 0 | 0 | 0           | 58   | 1   | 0           | 66   | 7   | 2          | 0 | 4   | 138  |
| 16:40-16:45              | 0          | 0 | 0 | 0           | 46   | 0   | 0           | 57   | 4   | 3          | 0 | 1   | 111  |
| 16:45-16:50              | 0          | 0 | 0 | 0           | 56   | 2   | 0           | 52   | 9   | 4          | 0 | 1   | 124  |
| 16:50-16:55              | 0          | 0 | 0 | 0           | 43   | 0   | 0           | 45   | 6   | 3          | 0 | 1   | 98   |
| 16:55-17:00              | 0          | 0 | 0 | 0           | 50   | 0   | 0           | 54   | 4   | 4          | 0 | 0   | 112  |
| 17:00-17:05              | 0          | 0 | 0 | 0           | 46   | 1   | 0           | 56   | 7   | 3          | 0 | 0   | 113  |
| 17:05-17:10              | 0          | 0 | 0 | 0           | 70   | 1   | 0           | 61   | 4   | 4          | 0 | 0   | 140  |
| 17:10-17:15              | 0          | 0 | 0 | 0           | 49   | 0   | 0           | 52   | 18  | 1          | 0 | 0   | 120  |
| 17:15-17:20              | 0          | 0 | 0 | 0           | 59   | 0   | 0           | 62   | 11  | 4          | 0 | 0   | 136  |
| 17:20-17:25              | 0          | 0 | 0 | 0           | 40   | 0   | 0           | 56   | 2   | 4          | 0 | 0   | 102  |
| 17:25-17:30              | 0          | 0 | 0 | 0           | 49   | 0   | 0           | 54   | 10  | 2          | 0 | 0   | 115  |
| 17:30-17:35              | 0          | 0 | 0 | 0           | 31   | 0   | 0           | 46   | 13  | 3          | 0 | 0   | 93   |
| 17:35-17:40              | 0          | 0 | 0 | 0           | 37   | 4   | 0           | 56   | 8   | 5          | 0 | 1   | 111  |
| 17:40-17:45              | 0          | 0 | 0 | 0           | 40   | 1   | 0           | 55   | 7   | 1          | 0 | 1   | 105  |
| 17:45-17:50              | 0          | 0 | 0 | 0           | 50   | 0   | 0           | 44   | 9   | 3          | 0 | 0   | 106  |
| 17:50-17:55              | 0          | 0 | 0 | 0           | 31   | 1   | 0           | 44   | 3   | 3          | 0 | 0   | 82   |
| 17:55-18:00              | 0          | 0 | 0 | 0           | 46   | 1   | 0           | 47   | 6   | 7          | 0 | 1   | 108  |
|                          |            |   |   |             |      |     |             |      |     |            |   |     |      |
| Total Survey             | 0          | 0 | 0 | 0           | 1148 | 18  | 0           | 1240 | 173 | 86         | 0 | 17  | 2682 |
| PHF                      | 0          | 0 | 0 | 0           | .87  | .58 | 0           | .94  | .64 | .82        | 0 | .29 | .890 |
| % Trucks                 | 0          | 0 | 0 | 0           | 5.7  | 0   | 0           | 3.1  | 0   | 0          | 0 | 0   | 3.9  |
| Stopped Buses            | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 0    | 0   | 0          | 0 | 0   | 0    |
| Peds                     | 0          | 0 | 0 | 0           | 0    | 0   | 0           | 0    | 0   | 0          | 0 | 0   | 0    |
|                          |            |   |   |             |      |     |             |      |     |            |   |     |      |
| Hourly Totals            |            |   |   |             |      |     |             |      |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 0 | 0           | 600  | 9   | 0           | 607  | 75  | 46         | 0 | 14  | 1351 |
| 16:15-17:15              | 0          | 0 | 0 | 0           | 614  | 7   | 0           | 644  | 85  | 38         | 0 | 9   | 1397 |
| 16:30-17:30              | 0          | 0 | 0 | 0           | 616  | 7   | 0           | 660  | 85  | 36         | 0 | 7   | 1411 |
| 16:45-17:45              | 0          | 0 | 0 | 0           | 570  | 9   | 0           | 649  | 99  | 38         | 0 | 4   | 1369 |
| 17:00-18:00              | 0          | 0 | 0 | 0           | 548  | 9   | 0           | 633  | 98  | 40         | 0 | 3   | 1331 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT HIGHWAY 101 @ TRANS PACIFIC PARKWAY

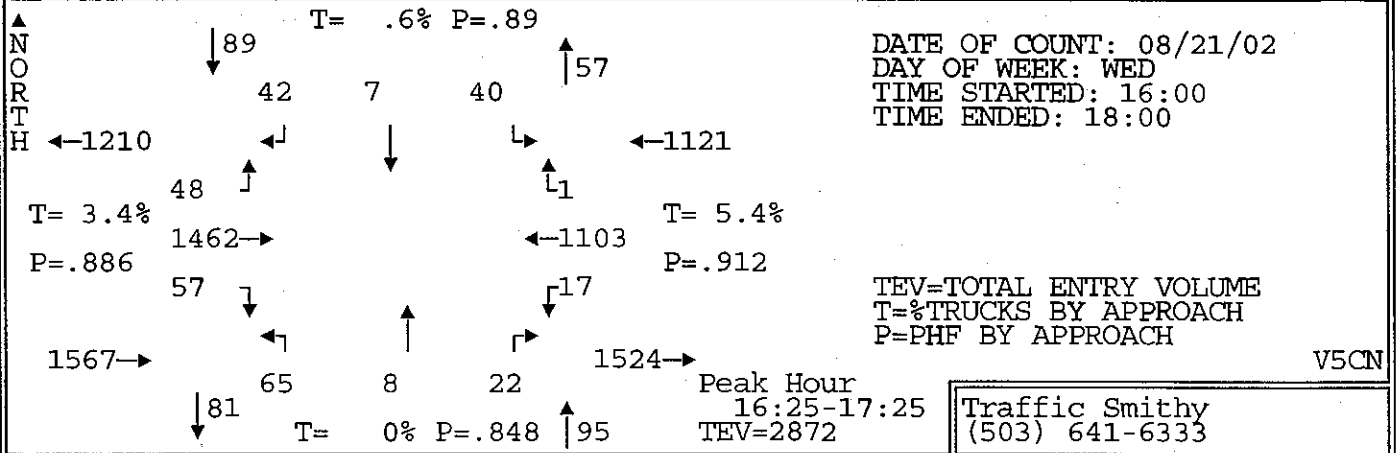


| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↘ | ↙           | ↑  | ↘ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 13         | 0 | 2 | 0           | 52 | 0 | 3           | 42 | 0 | 0          | 0 | 0 | 112 |
| 16:05-16:10              | 14         | 0 | 1 | 0           | 44 | 0 | 7           | 45 | 0 | 0          | 0 | 0 | 111 |
| 16:10-16:15              | 12         | 0 | 3 | 4           | 33 | 0 | 3           | 43 | 0 | 0          | 0 | 0 | 98  |
| 16:15-16:20              | 6          | 0 | 1 | 0           | 35 | 0 | 4           | 49 | 0 | 0          | 0 | 0 | 95  |
| 16:20-16:25              | 5          | 0 | 1 | 1           | 50 | 0 | 2           | 46 | 0 | 0          | 0 | 0 | 105 |
| 16:25-16:30              | 3          | 0 | 1 | 1           | 42 | 0 | 7           | 55 | 0 | 0          | 0 | 0 | 109 |
| 16:30-16:35              | 6          | 0 | 0 | 2           | 44 | 0 | 2           | 45 | 0 | 0          | 0 | 0 | 99  |
| 16:35-16:40              | 3          | 0 | 0 | 0           | 61 | 0 | 4           | 50 | 0 | 0          | 0 | 0 | 118 |
| 16:40-16:45              | 4          | 0 | 1 | 0           | 37 | 0 | 5           | 65 | 0 | 0          | 0 | 0 | 112 |
| 16:45-16:50              | 6          | 0 | 1 | 0           | 44 | 0 | 5           | 34 | 0 | 0          | 0 | 0 | 90  |
| 16:50-16:55              | 10         | 0 | 4 | 3           | 29 | 0 | 4           | 49 | 0 | 0          | 0 | 0 | 99  |
| 16:55-17:00              | 5          | 0 | 1 | 1           | 51 | 0 | 1           | 49 | 0 | 0          | 0 | 0 | 108 |
| 17:00-17:05              | 5          | 0 | 3 | 0           | 36 | 0 | 3           | 56 | 0 | 0          | 0 | 0 | 103 |
| 17:05-17:10              | 6          | 0 | 2 | 0           | 55 | 0 | 0           | 43 | 0 | 0          | 0 | 0 | 106 |
| 17:10-17:15              | 5          | 0 | 1 | 0           | 56 | 0 | 2           | 56 | 0 | 0          | 0 | 0 | 120 |
| 17:15-17:20              | 11         | 0 | 0 | 0           | 33 | 0 | 6           | 61 | 0 | 0          | 0 | 0 | 111 |
| 17:20-17:25              | 5          | 0 | 1 | 0           | 41 | 0 | 6           | 49 | 0 | 0          | 0 | 0 | 102 |
| 17:25-17:30              | 8          | 0 | 0 | 1           | 42 | 0 | 4           | 45 | 0 | 0          | 0 | 0 | 100 |
| 17:30-17:35              | 3          | 0 | 2 | 1           | 27 | 0 | 1           | 56 | 0 | 0          | 0 | 0 | 90  |
| 17:35-17:40              | 3          | 0 | 1 | 3           | 40 | 0 | 2           | 50 | 0 | 0          | 0 | 0 | 99  |
| 17:40-17:45              | 3          | 0 | 1 | 1           | 25 | 0 | 3           | 49 | 0 | 0          | 0 | 0 | 82  |
| 17:45-17:50              | 4          | 0 | 0 | 2           | 44 | 0 | 4           | 41 | 0 | 0          | 0 | 0 | 95  |
| 17:50-17:55              | 6          | 0 | 2 | 0           | 30 | 0 | 3           | 41 | 0 | 0          | 0 | 0 | 82  |
| 17:55-18:00              | 4          | 0 | 1 | 1           | 31 | 0 | 1           | 38 | 0 | 0          | 0 | 0 | 76  |

|               |     |   |     |      |     |   |     |      |   |   |   |   |      |
|---------------|-----|---|-----|------|-----|---|-----|------|---|---|---|---|------|
| Total Survey  | 150 | 0 | 30  | 21   | 982 | 0 | 82  | 1157 | 0 | 0 | 0 | 0 | 2422 |
| PHF           | .78 | 0 | .47 | .5   | .91 | 0 | .73 | .95  | 0 | 0 | 0 | 0 | .949 |
| % Trucks      | 8.7 | 0 | 20  | 33.3 | 6.1 | 0 | 11  | 3.4  | 0 | 0 | 0 | 0 | 5.5  |
| Stopped Buses | 0   | 0 | 0   | 0    | 0   | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |
| Peds          | 0   | 0 | 0   | 0    | 0   | 0 | 0   | 0    | 0 | 0 | 0 | 0 | 0    |

|               |    |   |    |    |     |   |    |     |   |   |   |   |      |
|---------------|----|---|----|----|-----|---|----|-----|---|---|---|---|------|
| Hourly Totals |    |   |    |    |     |   |    |     |   |   |   |   |      |
| 16:00-17:00   | 87 | 0 | 16 | 12 | 522 | 0 | 47 | 572 | 0 | 0 | 0 | 0 | 1256 |
| 16:15-17:15   | 64 | 0 | 16 | 8  | 540 | 0 | 39 | 597 | 0 | 0 | 0 | 0 | 1264 |
| 16:30-17:30   | 74 | 0 | 14 | 7  | 529 | 0 | 42 | 602 | 0 | 0 | 0 | 0 | 1268 |
| 16:45-17:45   | 70 | 0 | 17 | 10 | 479 | 0 | 37 | 597 | 0 | 0 | 0 | 0 | 1210 |
| 17:00-18:00   | 63 | 0 | 14 | 9  | 460 | 0 | 35 | 585 | 0 | 0 | 0 | 0 | 1166 |

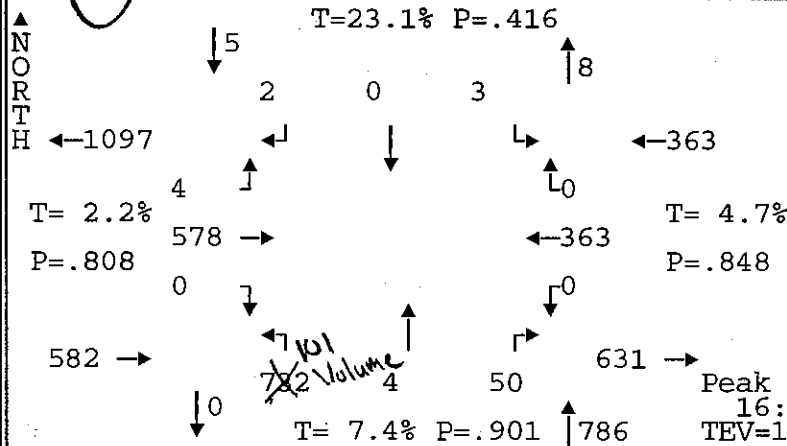
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT HIGHWAY 101 @ FLANAGAN



| TIME PERIOD<br>FROM - TO | EAST BOUND |      |     | SOUTH BOUND |     |     | NORTH BOUND |    |     | WEST BOUND |      |     | ALL  |
|--------------------------|------------|------|-----|-------------|-----|-----|-------------|----|-----|------------|------|-----|------|
|                          | ↓          | →    | ↑   | ←           | ↓   | →   | ←           | ↑  | →   | ↓          | ←    | ↑   |      |
| 16:00-16:05              | 5          | 103  | 1   | 5           | 0   | 1   | 5           | 1  | 2   | 4          | 81   | 1   | 209  |
| 16:05-16:10              | 6          | 122  | 6   | 4           | 2   | 0   | 5           | 3  | 2   | 1          | 88   | 1   | 240  |
| 16:10-16:15              | 7          | 129  | 4   | 6           | 1   | 5   | 8           | 0  | 1   | 3          | 79   | 0   | 243  |
| 16:15-16:20              | 3          | 123  | 3   | 4           | 0   | 2   | 10          | 0  | 2   | 2          | 82   | 0   | 231  |
| 16:20-16:25              | 4          | 106  | 5   | 4           | 0   | 1   | 6           | 0  | 1   | 0          | 90   | 1   | 218  |
| 16:25-16:30              | 2          | 116  | 4   | 2           | 1   | 4   | 4           | 1  | 3   | 4          | 108  | 0   | 249  |
| 16:30-16:35              | 8          | 130  | 3   | 6           | 2   | 4   | 6           | 1  | 3   | 1          | 93   | 0   | 257  |
| 16:35-16:40              | 10         | 137  | 1   | 2           | 0   | 1   | 7           | 0  | 2   | 1          | 99   | 1   | 261  |
| 16:40-16:45              | 2          | 117  | 3   | 3           | 1   | 6   | 8           | 1  | 0   | 2          | 90   | 0   | 233  |
| 16:45-16:50              | 4          | 99   | 10  | 2           | 0   | 3   | 6           | 0  | 2   | 1          | 106  | 0   | 233  |
| 16:50-16:55              | 3          | 105  | 3   | 3           | 0   | 5   | 6           | 3  | 1   | 1          | 75   | 0   | 205  |
| 16:55-17:00              | 3          | 97   | 4   | 4           | 3   | 3   | 4           | 1  | 2   | 2          | 82   | 0   | 205  |
| 17:00-17:05              | 4          | 126  | 3   | 5           | 0   | 0   | 3           | 0  | 1   | 0          | 98   | 0   | 240  |
| 17:05-17:10              | 2          | 122  | 7   | 6           | 0   | 2   | 8           | 0  | 6   | 3          | 88   | 0   | 244  |
| 17:10-17:15              | 7          | 128  | 3   | 3           | 0   | 5   | 8           | 0  | 1   | 0          | 96   | 0   | 251  |
| 17:15-17:20              | 4          | 154  | 2   | 3           | 0   | 4   | 3           | 0  | 0   | 0          | 74   | 0   | 244  |
| 17:20-17:25              | 8          | 131  | 5   | 3           | 0   | 3   | 2           | 1  | 1   | 2          | 94   | 0   | 250  |
| 17:25-17:30              | 5          | 130  | 2   | 0           | 2   | 1   | 7           | 0  | 2   | 3          | 87   | 0   | 239  |
| 17:30-17:35              | 6          | 141  | 3   | 3           | 0   | 4   | 5           | 0  | 0   | 1          | 79   | 0   | 242  |
| 17:35-17:40              | 5          | 138  | 4   | 1           | 0   | 4   | 2           | 1  | 0   | 0          | 95   | 0   | 250  |
| 17:40-17:45              | 8          | 116  | 4   | 1           | 0   | 3   | 8           | 0  | 2   | 1          | 84   | 0   | 227  |
| 17:45-17:50              | 5          | 110  | 3   | 5           | 0   | 2   | 10          | 0  | 1   | 0          | 85   | 0   | 221  |
| 17:50-17:55              | 1          | 95   | 3   | 4           | 0   | 3   | 9           | 0  | 2   | 0          | 91   | 0   | 208  |
| 17:55-18:00              | 1          | 103  | 4   | 0           | 1   | 0   | 3           | 0  | 1   | 1          | 67   | 0   | 181  |
|                          |            |      |     |             |     |     |             |    |     |            |      |     |      |
| Total Survey             | 113        | 2878 | 90  | 79          | 13  | 66  | 143         | 13 | 38  | 33         | 2111 | 4   | 5581 |
| PHF                      | .71        | .88  | .71 | .7          | .58 | .71 | .77         | .5 | .61 | .71        | .92  | .25 | .936 |
| % Trucks                 | 2.7        | 3.5  | 0   | 1.3         | 0   | 0   | 0           | 0  | 0   | 0          | 5.5  | 0   | 4    |
| Stopped Buses            | 0          | 0    | 0   | 0           | 0   | 0   | 0           | 0  | 0   | 0          | 0    | 0   | 0    |
| Peds                     | 0          | 0    | 0   | 0           | 10  | 0   | 0           | 0  | 0   | 0          | 8    | 0   | 0    |
|                          |            |      |     |             |     |     |             |    |     |            |      |     |      |
| Hourly Totals            |            |      |     |             |     |     |             |    |     |            |      |     |      |
| 16:00-17:00              | 57         | 1384 | 47  | 45          | 10  | 35  | 75          | 11 | 21  | 22         | 1073 | 4   | 2784 |
| 16:15-17:15              | 52         | 1406 | 49  | 44          | 7   | 36  | 76          | 7  | 24  | 17         | 1107 | 2   | 2827 |
| 16:30-17:30              | 60         | 1476 | 46  | 40          | 8   | 37  | 68          | 7  | 21  | 16         | 1082 | 1   | 2862 |
| 16:45-17:45              | 59         | 1487 | 50  | 34          | 5   | 37  | 62          | 6  | 18  | 14         | 1058 | 0   | 2830 |
| 17:00-18:00              | 56         | 1494 | 43  | 34          | 3   | 31  | 68          | 2  | 17  | 11         | 1038 | 0   | 2797 |

166  
**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**HIGHWAY 101 @ COOS RIVER HIGHWAY @ (COOS RIVER @ MULLEN)**

DATE OF COUNT: 08/21/02  
 DAY OF WEEK: WED  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00



TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5CV

Peak Hour  
 16:45-17:45  
 TEV=1736

Traffic Smithy  
 (503) 641-6333

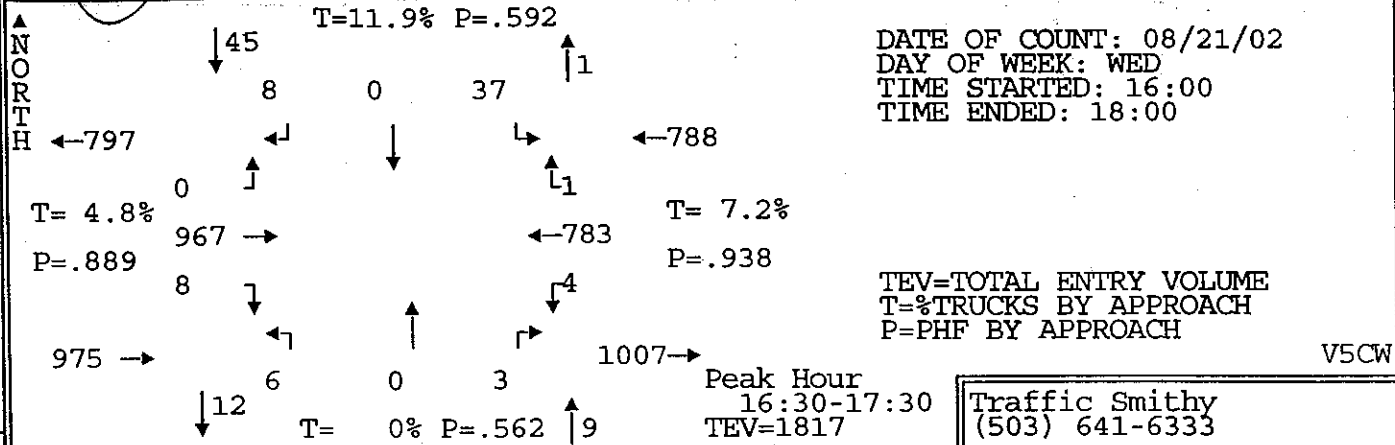
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↘ | ↙           | ↑ | ↘ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 37 | 0 | 3           | 0 | 1 | 68          | 3 | 5 | 0          | 28 | 0 | 145 |
| 16:05-16:10              | 0          | 50 | 0 | 0           | 0 | 1 | 53          | 1 | 4 | 0          | 38 | 0 | 147 |
| 16:10-16:15              | 0          | 43 | 0 | 0           | 0 | 0 | 56          | 2 | 3 | 0          | 33 | 0 | 137 |
| 16:15-16:20              | 0          | 49 | 0 | 0           | 0 | 1 | 58          | 1 | 6 | 0          | 18 | 0 | 133 |
| 16:20-16:25              | 0          | 44 | 0 | 1           | 0 | 0 | 63          | 0 | 3 | 0          | 29 | 0 | 140 |
| 16:25-16:30              | 0          | 37 | 0 | 0           | 0 | 0 | 74          | 0 | 3 | 0          | 39 | 0 | 153 |
| 16:30-16:35              | 0          | 36 | 2 | 1           | 0 | 0 | 51          | 0 | 0 | 0          | 42 | 0 | 132 |
| 16:35-16:40              | 0          | 42 | 0 | 0           | 0 | 0 | 74          | 1 | 5 | 0          | 30 | 0 | 152 |
| 16:40-16:45              | 0          | 57 | 0 | 0           | 0 | 0 | 45          | 0 | 2 | 0          | 45 | 0 | 149 |
| 16:45-16:50              | 0          | 46 | 2 | 0           | 0 | 0 | 70          | 2 | 7 | 0          | 30 | 0 | 157 |
| 16:50-16:55              | 0          | 33 | 1 | 0           | 0 | 0 | 61          | 0 | 4 | 0          | 32 | 0 | 131 |
| 16:55-17:00              | 0          | 42 | 0 | 0           | 0 | 0 | 50          | 1 | 0 | 0          | 36 | 0 | 129 |
| 17:00-17:05              | 0          | 32 | 0 | 0           | 0 | 0 | 56          | 0 | 2 | 0          | 39 | 0 | 129 |
| 17:05-17:10              | 0          | 35 | 0 | 0           | 0 | 0 | 75          | 0 | 6 | 0          | 25 | 0 | 141 |
| 17:10-17:15              | 0          | 54 | 0 | 2           | 0 | 1 | 67          | 0 | 5 | 0          | 29 | 0 | 158 |
| 17:15-17:20              | 0          | 55 | 0 | 0           | 0 | 0 | 60          | 0 | 5 | 0          | 21 | 0 | 141 |
| 17:20-17:25              | 0          | 57 | 0 | 0           | 0 | 0 | 49          | 0 | 4 | 0          | 25 | 0 | 135 |
| 17:25-17:30              | 0          | 57 | 0 | 0           | 0 | 0 | 75          | 1 | 6 | 0          | 28 | 0 | 167 |
| 17:30-17:35              | 0          | 47 | 1 | 0           | 0 | 2 | 57          | 0 | 2 | 0          | 29 | 0 | 138 |
| 17:35-17:40              | 0          | 75 | 0 | 0           | 0 | 0 | 46          | 0 | 3 | 0          | 35 | 0 | 159 |
| 17:40-17:45              | 0          | 45 | 0 | 0           | 0 | 0 | 66          | 0 | 6 | 0          | 34 | 0 | 151 |
| 17:45-17:50              | 0          | 51 | 0 | 0           | 0 | 0 | 64          | 0 | 2 | 0          | 19 | 0 | 136 |
| 17:50-17:55              | 0          | 49 | 1 | 0           | 0 | 0 | 49          | 0 | 1 | 1          | 32 | 0 | 133 |
| 17:55-18:00              | 0          | 33 | 0 | 0           | 0 | 0 | 54          | 0 | 3 | 0          | 26 | 0 | 116 |

|               |   |      |      |     |   |     |      |     |     |   |     |   |      |
|---------------|---|------|------|-----|---|-----|------|-----|-----|---|-----|---|------|
| Total Survey  | 0 | 1106 | 7    | 7   | 0 | 6   | 1441 | 12  | 87  | 1 | 742 | 0 | 3409 |
| PHF           | 0 | .81  | .33  | .25 | 0 | .38 | .91  | .33 | .78 | 0 | .85 | 0 | .935 |
| % Trucks      | 0 | 1.9  | 42.9 | 0   | 0 | 50  | 7.2  | 25  | 8   | 0 | 4.7 | 0 | 5.2  |
| Stopped Buses | 0 | 0    | 0    | 0   | 0 | 0   | 0    | 0   | 0   | 0 | 0   | 0 | 0    |
| Peds          | 0 | 0    | 0    | 0   | 0 | 0   | 0    | 0   | 0   | 0 | 0   | 0 | 0    |

|               |   |     |   |   |   |   |     |    |    |   |     |   |      |
|---------------|---|-----|---|---|---|---|-----|----|----|---|-----|---|------|
| Hourly Totals |   |     |   |   |   |   |     |    |    |   |     |   |      |
| 16:00-17:00   | 0 | 516 | 5 | 5 | 0 | 3 | 723 | 11 | 42 | 0 | 400 | 0 | 1705 |
| 16:15-17:15   | 0 | 507 | 5 | 4 | 0 | 2 | 744 | 5  | 43 | 0 | 394 | 0 | 1704 |
| 16:30-17:30   | 0 | 546 | 5 | 3 | 0 | 1 | 733 | 5  | 46 | 0 | 382 | 0 | 1721 |
| 16:45-17:45   | 0 | 578 | 4 | 2 | 0 | 3 | 732 | 4  | 50 | 0 | 363 | 0 | 1736 |
| 17:00-18:00   | 0 | 590 | 2 | 2 | 0 | 3 | 718 | 1  | 45 | 1 | 342 | 0 | 1704 |



**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**HIGHWAY 101 @ COOS RIVER HIGHWAY (101 @ EDWARDS)**

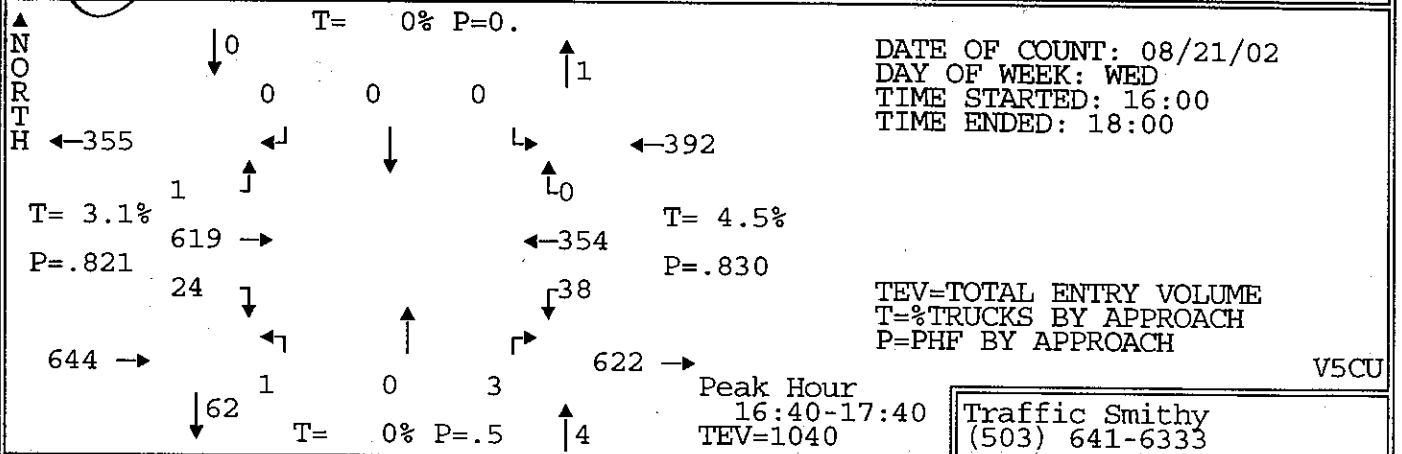


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |    | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|----|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | →  | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 2          | 48 | 0 | 1           | 0 | 9  | 4           | 0 | 0 | 0          | 68 | 0 | 132 |
| 16:05-16:10              | 1          | 72 | 0 | 2           | 0 | 4  | 1           | 0 | 0 | 0          | 56 | 0 | 136 |
| 16:10-16:15              | 1          | 69 | 0 | 1           | 0 | 5  | 1           | 0 | 0 | 0          | 57 | 0 | 134 |
| 16:15-16:20              | 0          | 89 | 0 | 0           | 0 | 3  | 1           | 0 | 0 | 0          | 64 | 0 | 157 |
| 16:20-16:25              | 0          | 72 | 0 | 0           | 0 | 0  | 0           | 0 | 1 | 0          | 70 | 0 | 143 |
| 16:25-16:30              | 1          | 78 | 0 | 1           | 0 | 1  | 0           | 0 | 0 | 0          | 69 | 0 | 150 |
| 16:30-16:35              | 2          | 91 | 0 | 1           | 0 | 2  | 0           | 0 | 0 | 1          | 67 | 0 | 164 |
| 16:35-16:40              | 0          | 94 | 0 | 1           | 0 | 2  | 1           | 0 | 0 | 0          | 68 | 0 | 166 |
| 16:40-16:45              | 0          | 79 | 0 | 0           | 0 | 4  | 1           | 0 | 1 | 1          | 52 | 0 | 138 |
| 16:45-16:50              | 1          | 76 | 0 | 2           | 0 | 2  | 0           | 0 | 0 | 1          | 82 | 0 | 164 |
| 16:50-16:55              | 0          | 44 | 0 | 0           | 0 | 5  | 0           | 0 | 0 | 0          | 52 | 1 | 102 |
| 16:55-17:00              | 1          | 78 | 0 | 1           | 0 | 2  | 0           | 0 | 0 | 0          | 57 | 0 | 139 |
| 17:00-17:05              | 1          | 77 | 0 | 0           | 0 | 10 | 0           | 0 | 0 | 1          | 55 | 0 | 144 |
| 17:05-17:10              | 1          | 71 | 0 | 2           | 0 | 4  | 1           | 0 | 0 | 0          | 75 | 0 | 154 |
| 17:10-17:15              | 1          | 97 | 0 | 0           | 0 | 3  | 1           | 0 | 1 | 0          | 78 | 0 | 181 |
| 17:15-17:20              | 0          | 78 | 0 | 0           | 0 | 2  | 1           | 0 | 0 | 0          | 57 | 0 | 138 |
| 17:20-17:25              | 1          | 97 | 0 | 1           | 0 | 0  | 0           | 0 | 1 | 0          | 61 | 0 | 161 |
| 17:25-17:30              | 0          | 85 | 0 | 0           | 0 | 1  | 1           | 0 | 0 | 0          | 79 | 0 | 166 |
| 17:30-17:35              | 1          | 64 | 0 | 0           | 0 | 5  | 1           | 0 | 0 | 1          | 57 | 0 | 129 |
| 17:35-17:40              | 0          | 93 | 0 | 1           | 0 | 7  | 0           | 0 | 0 | 0          | 67 | 0 | 168 |
| 17:40-17:45              | 2          | 79 | 0 | 1           | 0 | 5  | 0           | 0 | 0 | 0          | 63 | 0 | 150 |
| 17:45-17:50              | 0          | 62 | 0 | 0           | 0 | 5  | 1           | 0 | 0 | 0          | 64 | 0 | 132 |
| 17:50-17:55              | 1          | 77 | 0 | 1           | 0 | 3  | 1           | 0 | 0 | 0          | 60 | 0 | 143 |
| 17:55-18:00              | 2          | 52 | 0 | 0           | 0 | 1  | 0           | 0 | 0 | 0          | 52 | 0 | 107 |

|               |     |      |   |     |   |      |    |   |     |    |      |     |      |
|---------------|-----|------|---|-----|---|------|----|---|-----|----|------|-----|------|
| Total Survey  | 19  | 1822 | 0 | 16  | 0 | 85   | 16 | 0 | 4   | 5  | 1530 | 1   | 3498 |
| PHF           | .67 | .89  | 0 | .67 | 0 | .54  | .5 | 0 | .38 | .5 | .93  | .25 | .946 |
| % Trucks      | 0   | 4.9  | 0 | 6.3 | 0 | 12.9 | 0  | 0 | 0   | 0  | 7.2  | 0   | 6    |
| Stopped Buses | 0   | 0    | 0 | 0   | 0 | 0    | 0  | 0 | 0   | 0  | 0    | 0   | 0    |
| Peds          | 0   | 1    | 0 | 0   | 2 | 0    | 0  | 1 | 0   | 0  | 1    | 0   | 0    |

|                      |    |     |   |    |   |    |   |   |   |   |     |   |      |
|----------------------|----|-----|---|----|---|----|---|---|---|---|-----|---|------|
| <b>Hourly Totals</b> |    |     |   |    |   |    |   |   |   |   |     |   |      |
| 16:00-17:00          | 9  | 890 | 0 | 10 | 0 | 39 | 9 | 0 | 2 | 3 | 762 | 1 | 1725 |
| 16:15-17:15          | 8  | 946 | 0 | 8  | 0 | 38 | 5 | 0 | 3 | 4 | 789 | 1 | 1802 |
| 16:30-17:30          | 8  | 967 | 0 | 8  | 0 | 37 | 6 | 0 | 3 | 4 | 783 | 1 | 1817 |
| 16:45-17:45          | 9  | 939 | 0 | 8  | 0 | 46 | 5 | 0 | 2 | 3 | 783 | 1 | 1796 |
| 17:00-18:00          | 10 | 932 | 0 | 6  | 0 | 46 | 7 | 0 | 2 | 2 | 768 | 0 | 1773 |

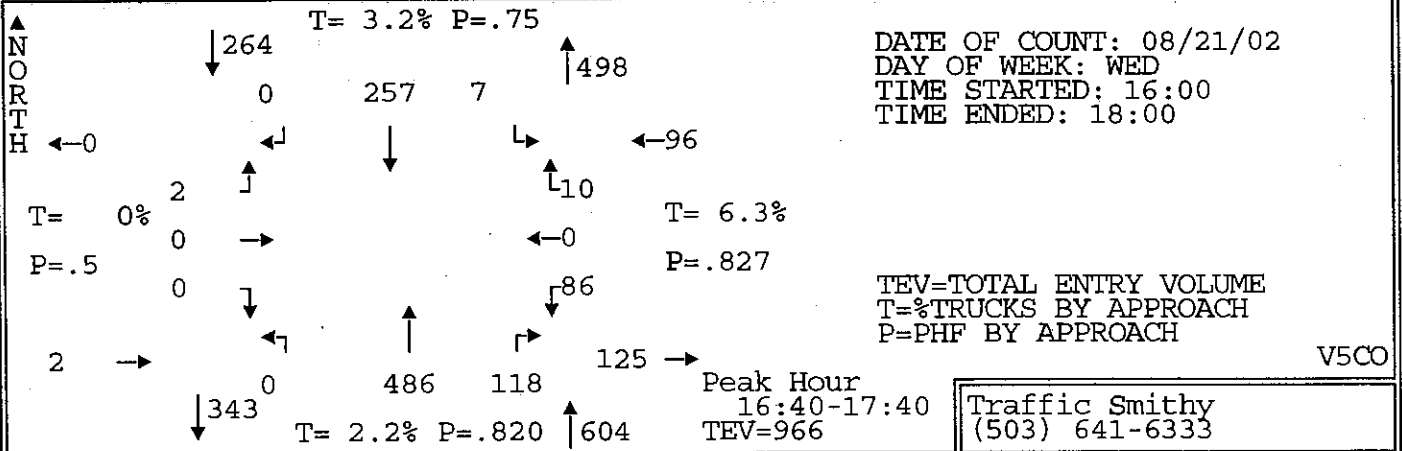
**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**COOS RIVER HIGHWAY @ HIGHWAY 101 (COOS @ EDWARDS)**



| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | → | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 4          | 43 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 3          | 28 | 0 | 78  |
| 16:05-16:10              | 2          | 52 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 2          | 33 | 0 | 89  |
| 16:10-16:15              | 3          | 36 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 3          | 29 | 0 | 71  |
| 16:15-16:20              | 2          | 57 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 27 | 0 | 87  |
| 16:20-16:25              | 3          | 36 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 27 | 0 | 67  |
| 16:25-16:30              | 0          | 43 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 37 | 0 | 81  |
| 16:30-16:35              | 1          | 44 | 0 | 0           | 0 | 0 | 0           | 0 | 2 | 3          | 37 | 0 | 87  |
| 16:35-16:40              | 0          | 47 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 2          | 38 | 0 | 87  |
| 16:40-16:45              | 3          | 55 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 3          | 32 | 0 | 93  |
| 16:45-16:50              | 1          | 48 | 0 | 0           | 0 | 0 | 1           | 0 | 0 | 3          | 33 | 0 | 86  |
| 16:50-16:55              | 2          | 32 | 0 | 0           | 0 | 0 | 0           | 0 | 1 | 5          | 27 | 0 | 67  |
| 16:55-17:00              | 3          | 40 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 7          | 38 | 0 | 88  |
| 17:00-17:05              | 3          | 37 | 0 | 0           | 0 | 0 | 0           | 0 | 1 | 2          | 36 | 0 | 79  |
| 17:05-17:10              | 1          | 44 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 4          | 31 | 0 | 80  |
| 17:10-17:15              | 0          | 60 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 18 | 0 | 79  |
| 17:15-17:20              | 1          | 61 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 26 | 0 | 89  |
| 17:20-17:25              | 4          | 53 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 22 | 0 | 80  |
| 17:25-17:30              | 3          | 57 | 1 | 0           | 0 | 0 | 0           | 0 | 0 | 2          | 29 | 0 | 92  |
| 17:30-17:35              | 1          | 63 | 0 | 0           | 0 | 0 | 0           | 0 | 1 | 2          | 26 | 0 | 93  |
| 17:35-17:40              | 2          | 69 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 7          | 36 | 0 | 114 |
| 17:40-17:45              | 2          | 58 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 3          | 21 | 0 | 84  |
| 17:45-17:50              | 0          | 44 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 4          | 31 | 0 | 79  |
| 17:50-17:55              | 0          | 50 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 19 | 0 | 70  |
| 17:55-18:00              | 1          | 34 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 2          | 26 | 0 | 63  |

|                      |      |      |     |   |   |   |     |   |     |      |     |   |      |
|----------------------|------|------|-----|---|---|---|-----|---|-----|------|-----|---|------|
| Total Survey         | 42   | 1163 | 1   | 0 | 0 | 0 | 1   | 0 | 5   | 64   | 707 | 0 | 1983 |
| PHF                  | .75  | .82  | .25 | 0 | 0 | 0 | .25 | 0 | .38 | .63  | .84 | 0 | .869 |
| % Trucks             | 11.9 | 2.8  | 0   | 0 | 0 | 0 | 0   | 0 | 0   | 10.9 | 4   | 0 | 3.6  |
| Stopped Buses        | 0    | 0    | 0   | 0 | 0 | 0 | 0   | 0 | 0   | 0    | 0   | 0 |      |
| Peds                 | 0    | 3    | 0   | 0 | 3 | 0 | 0   | 3 | 0   | 0    | 0   | 0 |      |
| <b>Hourly Totals</b> |      |      |     |   |   |   |     |   |     |      |     |   |      |
| 16:00-17:00          | 24   | 533  | 0   | 0 | 0 | 0 | 1   | 0 | 3   | 34   | 386 | 0 | 981  |
| 16:15-17:15          | 19   | 543  | 0   | 0 | 0 | 0 | 1   | 0 | 4   | 33   | 381 | 0 | 981  |
| 16:30-17:30          | 22   | 578  | 1   | 0 | 0 | 0 | 1   | 0 | 4   | 34   | 367 | 0 | 1007 |
| 16:45-17:45          | 23   | 622  | 1   | 0 | 0 | 0 | 1   | 0 | 3   | 38   | 343 | 0 | 1031 |
| 17:00-18:00          | 18   | 630  | 1   | 0 | 0 | 0 | 0   | 0 | 2   | 30   | 321 | 0 | 1002 |

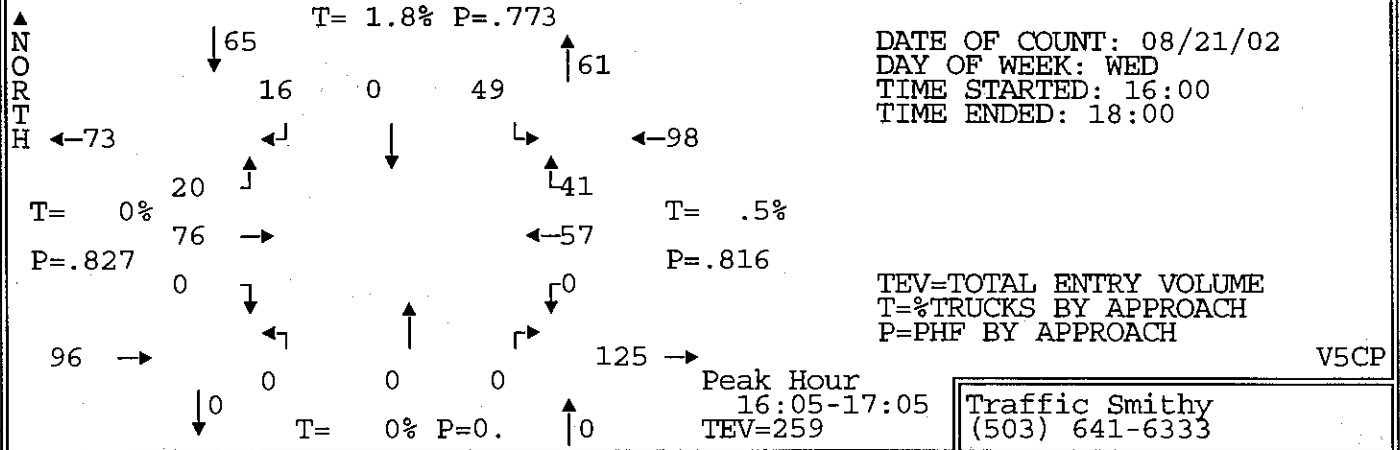
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT COOS RIVER HIGHWAY @ OLIVE BARBER ROAD



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |    | SOUTH BOUND |     |     | NORTH BOUND |     |     | WEST BOUND |   |     | ALL  |
|--------------------------|------------|---|----|-------------|-----|-----|-------------|-----|-----|------------|---|-----|------|
|                          | ↓          | → | ↑  | ←           | ↓   | →   | ←           | ↑   | →   | ↓          | ← | ↑   |      |
| 16:00-16:05              | 0          | 0 | 0  | 0           | 20  | 1   | 0           | 35  | 4   | 7          | 0 | 1   | 68   |
| 16:05-16:10              | 0          | 0 | 0  | 0           | 25  | 0   | 0           | 42  | 11  | 6          | 0 | 1   | 85   |
| 16:10-16:15              | 0          | 0 | 0  | 0           | 17  | 1   | 0           | 29  | 8   | 3          | 0 | 0   | 58   |
| 16:15-16:20              | 0          | 0 | 0  | 0           | 16  | 1   | 0           | 45  | 11  | 6          | 0 | 1   | 80   |
| 16:20-16:25              | 0          | 0 | 0  | 0           | 26  | 0   | 0           | 33  | 4   | 6          | 0 | 1   | 70   |
| 16:25-16:30              | 0          | 0 | 0  | 0           | 32  | 1   | 0           | 29  | 9   | 4          | 0 | 1   | 76   |
| 16:30-16:35              | 0          | 0 | 0  | 0           | 20  | 0   | 0           | 27  | 11  | 6          | 1 | 1   | 66   |
| 16:35-16:40              | 0          | 0 | 0  | 0           | 34  | 1   | 0           | 33  | 14  | 6          | 0 | 1   | 89   |
| 16:40-16:45              | 0          | 0 | 0  | 0           | 20  | 0   | 0           | 44  | 9   | 4          | 0 | 1   | 78   |
| 16:45-16:50              | 0          | 0 | 0  | 0           | 24  | 1   | 0           | 38  | 7   | 9          | 0 | 0   | 79   |
| 16:50-16:55              | 0          | 0 | 1  | 0           | 36  | 0   | 0           | 25  | 8   | 5          | 0 | 2   | 77   |
| 16:55-17:00              | 0          | 0 | 0  | 0           | 26  | 1   | 0           | 32  | 9   | 11         | 0 | 0   | 79   |
| 17:00-17:05              | 0          | 0 | 0  | 0           | 17  | 1   | 0           | 31  | 7   | 8          | 0 | 1   | 65   |
| 17:05-17:10              | 0          | 0 | 0  | 0           | 17  | 0   | 0           | 36  | 8   | 8          | 0 | 0   | 69   |
| 17:10-17:15              | 0          | 0 | 1  | 0           | 13  | 1   | 0           | 43  | 11  | 3          | 0 | 0   | 72   |
| 17:15-17:20              | 0          | 0 | 0  | 0           | 15  | 1   | 0           | 50  | 11  | 7          | 0 | 2   | 86   |
| 17:20-17:25              | 0          | 0 | 0  | 0           | 17  | 0   | 0           | 39  | 12  | 8          | 0 | 2   | 78   |
| 17:25-17:30              | 0          | 0 | 0  | 0           | 19  | 2   | 0           | 44  | 13  | 10         | 0 | 0   | 88   |
| 17:30-17:35              | 0          | 0 | 0  | 0           | 29  | 0   | 0           | 45  | 12  | 7          | 0 | 2   | 95   |
| 17:35-17:40              | 0          | 0 | 0  | 0           | 24  | 0   | 0           | 59  | 11  | 6          | 0 | 0   | 100  |
| 17:40-17:45              | 0          | 0 | 0  | 0           | 21  | 0   | 0           | 42  | 11  | 2          | 0 | 0   | 76   |
| 17:45-17:50              | 0          | 0 | 0  | 0           | 19  | 1   | 0           | 34  | 13  | 12         | 0 | 0   | 79   |
| 17:50-17:55              | 0          | 0 | 0  | 0           | 15  | 2   | 0           | 39  | 10  | 3          | 0 | 1   | 70   |
| 17:55-18:00              | 0          | 0 | 0  | 0           | 21  | 0   | 0           | 29  | 3   | 10         | 0 | 0   | 63   |
| <b>Total Survey</b>      |            |   |    |             |     |     |             |     |     |            |   |     |      |
| PHF                      | 0          | 0 | .5 | 0           | .75 | .58 | 0           | .82 | .8  | .8         | 0 | .63 | .853 |
| % Trucks                 | 0          | 0 | 0  | 0           | 3.3 | 0   | 0           | 1.7 | 4.4 | 7          | 0 | 0   | 2.9  |
| Stopped Buses            | 0          | 0 | 0  | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0 | 0   |      |
| Peds                     | 0          | 0 | 0  | 0           | 0   | 0   | 0           | 0   | 0   | 0          | 0 | 0   |      |
| <b>Hourly Totals</b>     |            |   |    |             |     |     |             |     |     |            |   |     |      |
| 16:00-17:00              | 0          | 0 | 1  | 0           | 296 | 7   | 0           | 412 | 105 | 73         | 1 | 10  | 905  |
| 16:15-17:15              | 0          | 0 | 2  | 0           | 281 | 7   | 0           | 416 | 108 | 76         | 1 | 9   | 900  |
| 16:30-17:30              | 0          | 0 | 2  | 0           | 258 | 8   | 0           | 442 | 120 | 85         | 1 | 10  | 926  |
| 16:45-17:45              | 0          | 0 | 2  | 0           | 258 | 7   | 0           | 484 | 120 | 84         | 0 | 9   | 964  |
| 17:00-18:00              | 0          | 0 | 1  | 0           | 227 | 8   | 0           | 491 | 122 | 84         | 0 | 8   | 941  |

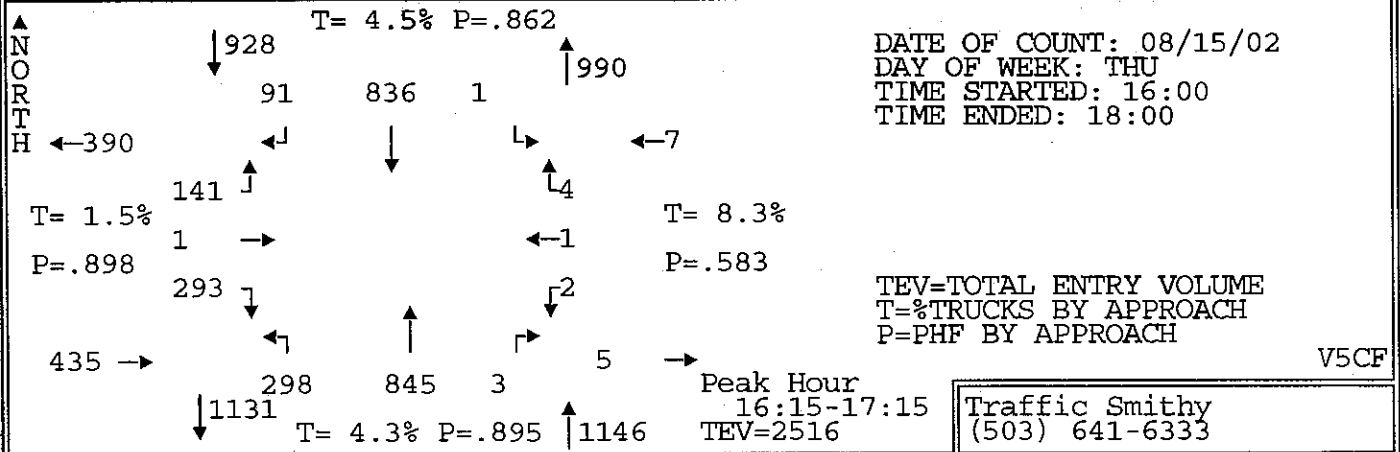
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## LIBBY LANE @ WILSHIRE LANE



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |   |     | NORTH BOUND |   |   | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|---|-----|-------------|---|---|------------|-----|-----|------|
|                          | ↓          | →   | ↑   | ↓           | → | ↑   | ↓           | → | ↑ | ↓          | →   | ↑   |      |
| 16:00-16:05              | 0          | 6   | 0   | 4           | 0 | 2   | 0           | 0 | 0 | 0          | 2   | 5   | 19   |
| 16:05-16:10              | 0          | 9   | 2   | 3           | 0 | 2   | 0           | 0 | 0 | 0          | 5   | 6   | 27   |
| 16:10-16:15              | 0          | 9   | 1   | 0           | 0 | 4   | 0           | 0 | 0 | 0          | 7   | 6   | 27   |
| 16:15-16:20              | 0          | 5   | 3   | 3           | 0 | 5   | 0           | 0 | 0 | 0          | 3   | 3   | 22   |
| 16:20-16:25              | 0          | 7   | 1   | 4           | 0 | 3   | 0           | 0 | 0 | 0          | 3   | 3   | 21   |
| 16:25-16:30              | 0          | 5   | 3   | 0           | 0 | 6   | 0           | 0 | 0 | 0          | 6   | 7   | 27   |
| 16:30-16:35              | 0          | 4   | 4   | 3           | 0 | 5   | 0           | 0 | 0 | 0          | 3   | 1   | 20   |
| 16:35-16:40              | 0          | 11  | 2   | 0           | 0 | 5   | 0           | 0 | 0 | 0          | 2   | 1   | 21   |
| 16:40-16:45              | 0          | 6   | 0   | 0           | 0 | 1   | 0           | 0 | 0 | 0          | 4   | 4   | 15   |
| 16:45-16:50              | 0          | 4   | 1   | 1           | 0 | 7   | 0           | 0 | 0 | 0          | 8   | 0   | 21   |
| 16:50-16:55              | 0          | 5   | 3   | 1           | 0 | 5   | 0           | 0 | 0 | 0          | 1   | 1   | 16   |
| 16:55-17:00              | 0          | 4   | 0   | 1           | 0 | 2   | 0           | 0 | 0 | 0          | 9   | 3   | 19   |
| 17:00-17:05              | 0          | 7   | 0   | 0           | 0 | 4   | 0           | 0 | 0 | 0          | 6   | 6   | 23   |
| 17:05-17:10              | 0          | 7   | 0   | 0           | 0 | 3   | 0           | 0 | 0 | 0          | 4   | 2   | 16   |
| 17:10-17:15              | 0          | 4   | 2   | 0           | 0 | 5   | 0           | 0 | 0 | 0          | 8   | 3   | 22   |
| 17:15-17:20              | 0          | 10  | 1   | 2           | 0 | 2   | 0           | 0 | 0 | 0          | 5   | 3   | 23   |
| 17:20-17:25              | 0          | 5   | 1   | 0           | 0 | 5   | 0           | 0 | 0 | 0          | 6   | 2   | 19   |
| 17:25-17:30              | 0          | 8   | 2   | 3           | 0 | 2   | 0           | 0 | 0 | 0          | 5   | 2   | 22   |
| 17:30-17:35              | 0          | 6   | 0   | 2           | 0 | 4   | 0           | 0 | 0 | 0          | 0   | 4   | 16   |
| 17:35-17:40              | 0          | 3   | 0   | 4           | 0 | 2   | 0           | 0 | 0 | 0          | 4   | 3   | 16   |
| 17:40-17:45              | 0          | 5   | 0   | 2           | 0 | 3   | 0           | 0 | 0 | 0          | 5   | 3   | 18   |
| 17:45-17:50              | 0          | 2   | 1   | 1           | 0 | 2   | 0           | 0 | 0 | 0          | 4   | 2   | 12   |
| 17:50-17:55              | 0          | 8   | 3   | 0           | 0 | 0   | 0           | 0 | 0 | 0          | 3   | 1   | 15   |
| 17:55-18:00              | 0          | 2   | 2   | 1           | 0 | 0   | 0           | 0 | 0 | 0          | 6   | 3   | 14   |
|                          |            |     |     |             |   |     |             |   |   |            |     |     |      |
| Total Survey             | 0          | 142 | 32  | 35          | 0 | 79  | 0           | 0 | 0 | 0          | 109 | 74  | 471  |
| PHF                      | 0          | .83 | .56 | .57         | 0 | .77 | 0           | 0 | 0 | 0          | .79 | .68 | .851 |
| % Trucks                 | 0          | 0   | 0   | 2.9         | 0 | 1.3 | 0           | 0 | 0 | 0          | .9  | 0   | .6   |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0 | 0   | 0           | 0 | 0 | 0          | 0   | 0   |      |
| Peds                     | 0          | 0   | 0   | 0           | 0 | 0   | 0           | 0 | 0 | 0          | 0   | 0   |      |
|                          |            |     |     |             |   |     |             |   |   |            |     |     |      |
| Hourly Totals            |            |     |     |             |   |     |             |   |   |            |     |     |      |
| 16:00-17:00              | 0          | 75  | 20  | 20          | 0 | 47  | 0           | 0 | 0 | 0          | 53  | 40  | 255  |
| 16:15-17:15              | 0          | 69  | 19  | 13          | 0 | 51  | 0           | 0 | 0 | 0          | 57  | 34  | 243  |
| 16:30-17:30              | 0          | 75  | 16  | 11          | 0 | 46  | 0           | 0 | 0 | 0          | 61  | 28  | 237  |
| 16:45-17:45              | 0          | 68  | 10  | 16          | 0 | 44  | 0           | 0 | 0 | 0          | 61  | 32  | 231  |
| 17:00-18:00              | 0          | 67  | 12  | 15          | 0 | 32  | 0           | 0 | 0 | 0          | 56  | 34  | 216  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT NEWMARK @ HIGHWAY 101



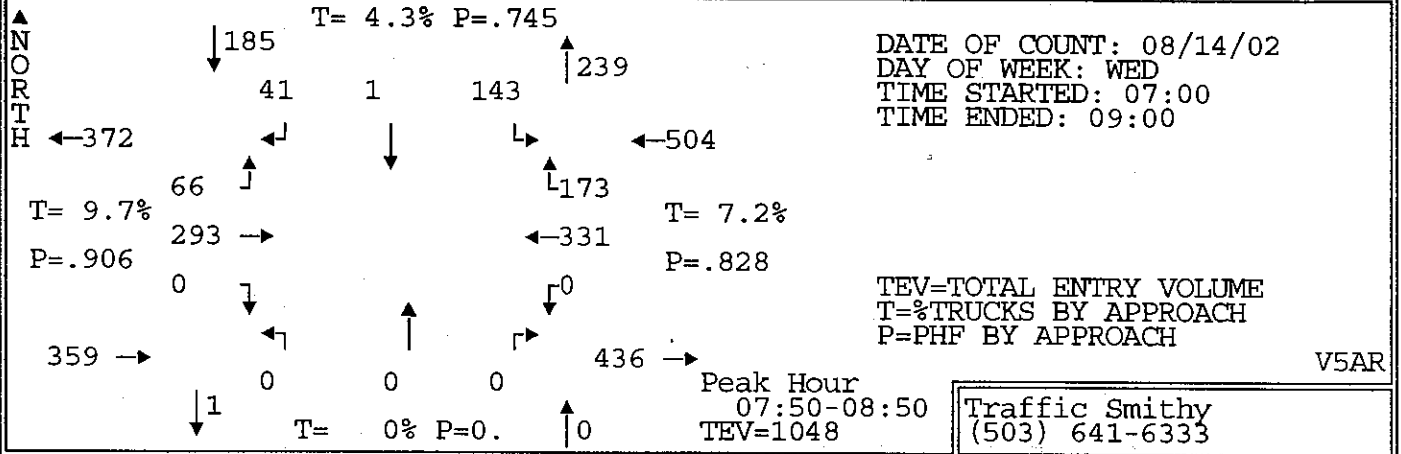
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |    | SOUTH BOUND |    |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|----|-------------|----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑  | ←           | ↓  | ↘ | ←           | ↑  | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 20         | 0 | 12 | 0           | 87 | 0 | 25          | 75 | 0 | 0          | 0 | 0 | 219 |
| 16:05-16:10              | 24         | 0 | 17 | 11          | 61 | 0 | 31          | 70 | 0 | 1          | 0 | 0 | 215 |
| 16:10-16:15              | 36         | 0 | 14 | 7           | 65 | 1 | 13          | 55 | 0 | 0          | 0 | 0 | 191 |
| 16:15-16:20              | 30         | 0 | 14 | 10          | 68 | 0 | 22          | 52 | 0 | 0          | 0 | 0 | 196 |
| 16:20-16:25              | 20         | 1 | 10 | 4           | 71 | 0 | 18          | 81 | 1 | 1          | 0 | 1 | 208 |
| 16:25-16:30              | 26         | 0 | 13 | 6           | 81 | 0 | 21          | 65 | 0 | 0          | 0 | 0 | 212 |
| 16:30-16:35              | 19         | 0 | 10 | 10          | 62 | 0 | 22          | 67 | 0 | 0          | 0 | 0 | 190 |
| 16:35-16:40              | 27         | 0 | 10 | 10          | 73 | 0 | 18          | 76 | 1 | 0          | 0 | 0 | 215 |
| 16:40-16:45              | 26         | 0 | 18 | 9           | 61 | 0 | 24          | 65 | 0 | 0          | 0 | 0 | 203 |
| 16:45-16:50              | 25         | 0 | 15 | 9           | 51 | 0 | 35          | 66 | 0 | 0          | 0 | 0 | 201 |
| 16:50-16:55              | 22         | 0 | 8  | 8           | 58 | 0 | 39          | 63 | 0 | 0          | 0 | 1 | 199 |
| 16:55-17:00              | 19         | 0 | 8  | 4           | 74 | 1 | 15          | 75 | 0 | 0          | 0 | 1 | 197 |
| 17:00-17:05              | 33         | 0 | 14 | 9           | 81 | 0 | 27          | 76 | 1 | 0          | 0 | 0 | 241 |
| 17:05-17:10              | 22         | 0 | 15 | 4           | 96 | 0 | 18          | 73 | 0 | 0          | 1 | 1 | 230 |
| 17:10-17:15              | 24         | 0 | 6  | 8           | 60 | 0 | 39          | 86 | 0 | 1          | 0 | 0 | 224 |
| 17:15-17:20              | 22         | 0 | 26 | 5           | 51 | 1 | 14          | 60 | 1 | 1          | 0 | 0 | 181 |
| 17:20-17:25              | 15         | 0 | 17 | 6           | 35 | 0 | 29          | 67 | 0 | 0          | 0 | 0 | 169 |
| 17:25-17:30              | 29         | 0 | 15 | 3           | 41 | 0 | 23          | 49 | 0 | 0          | 0 | 0 | 160 |
| 17:30-17:35              | 27         | 0 | 15 | 4           | 82 | 1 | 18          | 46 | 0 | 0          | 0 | 0 | 193 |
| 17:35-17:40              | 23         | 0 | 9  | 7           | 46 | 0 | 18          | 70 | 0 | 0          | 0 | 0 | 173 |
| 17:40-17:45              | 20         | 0 | 10 | 6           | 59 | 0 | 29          | 59 | 0 | 0          | 0 | 0 | 183 |
| 17:45-17:50              | 19         | 0 | 6  | 3           | 48 | 0 | 21          | 72 | 0 | 0          | 0 | 0 | 169 |
| 17:50-17:55              | 29         | 0 | 13 | 9           | 42 | 0 | 17          | 38 | 0 | 1          | 0 | 1 | 150 |
| 17:55-18:00              | 19         | 1 | 13 | 4           | 34 | 0 | 23          | 48 | 0 | 0          | 0 | 1 | 143 |

|               |     |     |     |     |      |     |     |      |     |    |     |    |      |
|---------------|-----|-----|-----|-----|------|-----|-----|------|-----|----|-----|----|------|
| Total Survey  | 576 | 2   | 308 | 156 | 1487 | 4   | 559 | 1554 | 4   | 5  | 1   | 6  | 4662 |
| PHF           | .93 | .25 | .82 | .78 | .83  | .25 | .76 | .9   | .75 | .5 | .25 | .5 | .905 |
| % Trucks      | 1   | 0   | 2.3 | 1.9 | 4.6  | 50  | .9  | 5.5  | 0   | 20 | 0   | 0  | 3.8  |
| Stopped Buses | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0  | 0   | 0  |      |
| Peds          | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0  | 0   | 0  |      |

|               |     |   |     |    |     |   |     |     |   |   |   |   |      |
|---------------|-----|---|-----|----|-----|---|-----|-----|---|---|---|---|------|
| Hourly Totals |     |   |     |    |     |   |     |     |   |   |   |   |      |
| 16:00-17:00   | 294 | 1 | 149 | 88 | 812 | 2 | 283 | 810 | 2 | 2 | 0 | 3 | 2446 |
| 16:15-17:15   | 293 | 1 | 141 | 91 | 836 | 1 | 298 | 845 | 3 | 2 | 1 | 4 | 2516 |
| 16:30-17:30   | 283 | 0 | 162 | 85 | 743 | 2 | 303 | 823 | 3 | 2 | 1 | 3 | 2410 |
| 16:45-17:45   | 281 | 0 | 158 | 73 | 734 | 3 | 304 | 790 | 2 | 2 | 1 | 3 | 2351 |
| 17:00-18:00   | 282 | 1 | 159 | 68 | 675 | 2 | 276 | 744 | 2 | 3 | 1 | 3 | 2216 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

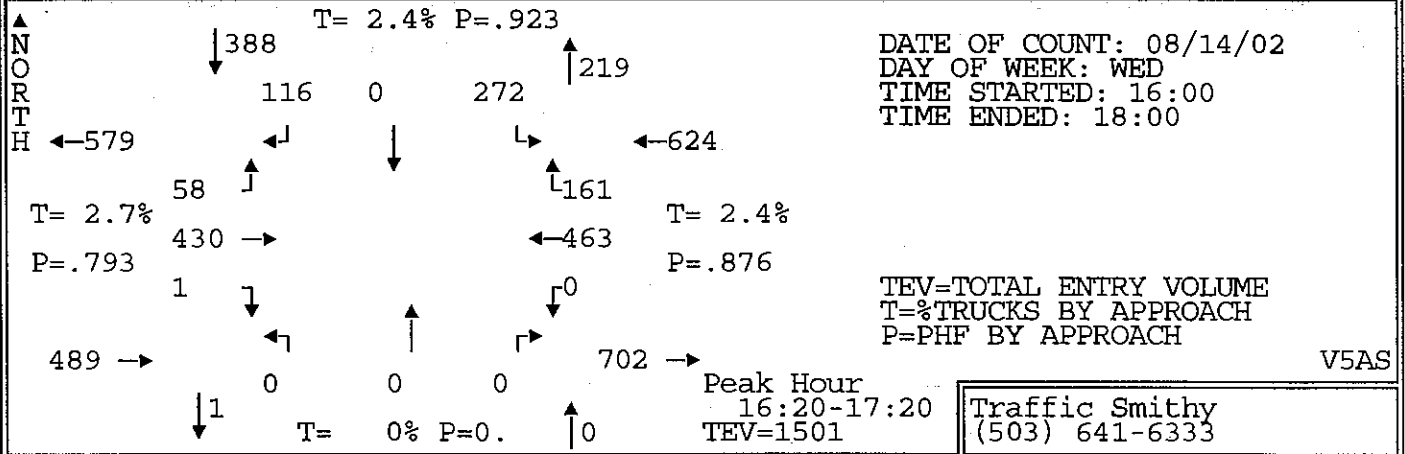
## WOODLAND @ OCEAN BLVD



| TIME PERIOD FROM - TO | EAST BOUND |      |     | SOUTH BOUND |     |     | NORTH BOUND |   |   | WEST BOUND |     |     | ALL  |
|-----------------------|------------|------|-----|-------------|-----|-----|-------------|---|---|------------|-----|-----|------|
|                       | ↓          | →    | ↑   | ←           | ↓   | ↘   | ←           | ↑ | ↗ | ↓          | ←   | ↑   |      |
| 07:00-07:05           | 0          | 11   | 3   | 2           | 0   | 7   | 0           | 0 | 0 | 0          | 9   | 7   | 39   |
| 07:05-07:10           | 0          | 13   | 3   | 0           | 0   | 0   | 0           | 0 | 0 | 0          | 18  | 3   | 37   |
| 07:10-07:15           | 0          | 14   | 2   | 2           | 0   | 7   | 0           | 0 | 0 | 0          | 8   | 4   | 37   |
| 07:15-07:20           | 0          | 11   | 2   | 3           | 0   | 11  | 0           | 0 | 0 | 0          | 13  | 5   | 45   |
| 07:20-07:25           | 0          | 15   | 5   | 0           | 0   | 3   | 0           | 0 | 0 | 0          | 14  | 7   | 44   |
| 07:25-07:30           | 0          | 16   | 0   | 2           | 0   | 9   | 0           | 0 | 0 | 0          | 18  | 8   | 53   |
| 07:30-07:35           | 0          | 16   | 4   | 0           | 0   | 10  | 0           | 0 | 0 | 0          | 13  | 10  | 53   |
| 07:35-07:40           | 0          | 20   | 3   | 4           | 0   | 14  | 0           | 0 | 0 | 0          | 13  | 6   | 60   |
| 07:40-07:45           | 0          | 32   | 3   | 4           | 0   | 9   | 0           | 0 | 0 | 0          | 22  | 13  | 83   |
| 07:45-07:50           | 0          | 34   | 5   | 6           | 0   | 12  | 0           | 0 | 0 | 0          | 27  | 13  | 97   |
| 07:50-07:55           | 0          | 26   | 7   | 8           | 0   | 13  | 0           | 0 | 0 | 0          | 37  | 13  | 104  |
| 07:55-08:00           | 0          | 24   | 4   | 6           | 1   | 22  | 0           | 0 | 0 | 0          | 46  | 15  | 118  |
| 08:00-08:05           | 0          | 31   | 7   | 3           | 0   | 9   | 0           | 0 | 0 | 0          | 29  | 12  | 91   |
| 08:05-08:10           | 0          | 24   | 7   | 6           | 0   | 9   | 0           | 0 | 0 | 0          | 17  | 15  | 78   |
| 08:10-08:15           | 0          | 26   | 2   | 1           | 0   | 12  | 0           | 0 | 0 | 0          | 21  | 10  | 72   |
| 08:15-08:20           | 0          | 20   | 4   | 0           | 0   | 8   | 0           | 0 | 0 | 0          | 24  | 10  | 66   |
| 08:20-08:25           | 0          | 33   | 5   | 2           | 0   | 10  | 0           | 0 | 0 | 0          | 22  | 12  | 84   |
| 08:25-08:30           | 0          | 13   | 5   | 1           | 0   | 8   | 0           | 0 | 0 | 0          | 18  | 21  | 66   |
| 08:30-08:35           | 0          | 27   | 5   | 4           | 0   | 7   | 0           | 0 | 0 | 0          | 26  | 15  | 84   |
| 08:35-08:40           | 0          | 26   | 7   | 3           | 0   | 12  | 0           | 0 | 0 | 0          | 28  | 11  | 87   |
| 08:40-08:45           | 0          | 21   | 8   | 4           | 0   | 10  | 0           | 0 | 0 | 0          | 28  | 19  | 90   |
| 08:45-08:50           | 0          | 22   | 5   | 3           | 0   | 23  | 0           | 0 | 0 | 0          | 35  | 20  | 108  |
| 08:50-08:55           | 0          | 23   | 4   | 3           | 0   | 13  | 0           | 0 | 0 | 0          | 27  | 22  | 92   |
| 08:55-09:00           | 0          | 26   | 3   | 4           | 0   | 13  | 0           | 0 | 0 | 0          | 25  | 16  | 87   |
| <hr/>                 |            |      |     |             |     |     |             |   |   |            |     |     |      |
| Total Survey          | 0          | 524  | 103 | 71          | 1   | 251 | 0           | 0 | 0 | 0          | 538 | 287 | 1775 |
| PHF                   | 0          | .9   | .82 | .6          | .25 | .79 | 0           | 0 | 0 | 0          | .74 | .87 | .837 |
| % Trucks              | 0          | 10.1 | 7.8 | 8.5         | 0   | 3.2 | 0           | 0 | 0 | 0          | 9.1 | 3.5 | 7.5  |
| Stopped Buses         | 0          | 0    | 0   | 0           | 0   | 0   | 0           | 0 | 0 | 0          | 0   | 0   | 0    |
| Peds                  | 0          | 0    | 0   | 0           | 0   | 0   | 0           | 0 | 0 | 0          | 0   | 0   | 0    |
| <hr/>                 |            |      |     |             |     |     |             |   |   |            |     |     |      |
| Hourly Totals         |            |      |     |             |     |     |             |   |   |            |     |     |      |
| 07:00-08:00           | 0          | 232  | 41  | 37          | 1   | 117 | 0           | 0 | 0 | 0          | 238 | 104 | 770  |
| 07:15-08:15           | 0          | 275  | 49  | 43          | 1   | 133 | 0           | 0 | 0 | 0          | 270 | 127 | 898  |
| 07:30-08:30           | 0          | 299  | 56  | 41          | 1   | 136 | 0           | 0 | 0 | 0          | 289 | 150 | 972  |
| 07:45-08:45           | 0          | 305  | 66  | 44          | 1   | 132 | 0           | 0 | 0 | 0          | 323 | 166 | 1037 |
| 08:00-09:00           | 0          | 292  | 62  | 34          | 0   | 134 | 0           | 0 | 0 | 0          | 300 | 183 | 1005 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## WOODLAND @ OCEAN BLVD



| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |    | NORTH BOUND |   |   | WEST BOUND |    |    | ALL |
|--------------------------|------------|----|---|-------------|---|----|-------------|---|---|------------|----|----|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↘  | ←           | ↑ | ↗ | ↓          | ←  | ↑  |     |
| 16:00-16:05              | 0          | 33 | 8 | 18          | 0 | 21 | 0           | 0 | 0 | 0          | 26 | 14 | 120 |
| 16:05-16:10              | 0          | 36 | 6 | 8           | 0 | 26 | 0           | 0 | 0 | 0          | 32 | 12 | 120 |
| 16:10-16:15              | 0          | 51 | 5 | 14          | 0 | 18 | 0           | 0 | 0 | 0          | 42 | 10 | 140 |
| 16:15-16:20              | 0          | 35 | 4 | 11          | 0 | 28 | 0           | 0 | 0 | 0          | 33 | 14 | 125 |
| 16:20-16:25              | 0          | 30 | 4 | 8           | 0 | 23 | 0           | 0 | 0 | 0          | 39 | 8  | 112 |
| 16:25-16:30              | 0          | 27 | 2 | 11          | 0 | 27 | 0           | 0 | 0 | 0          | 44 | 7  | 118 |
| 16:30-16:35              | 0          | 40 | 6 | 15          | 0 | 21 | 0           | 0 | 0 | 0          | 31 | 17 | 130 |
| 16:35-16:40              | 1          | 38 | 7 | 8           | 0 | 13 | 0           | 0 | 0 | 0          | 35 | 12 | 114 |
| 16:40-16:45              | 0          | 29 | 4 | 9           | 0 | 21 | 0           | 0 | 0 | 0          | 30 | 14 | 107 |
| 16:45-16:50              | 0          | 39 | 5 | 12          | 0 | 26 | 0           | 0 | 0 | 0          | 31 | 10 | 123 |
| 16:50-16:55              | 0          | 32 | 3 | 4           | 0 | 23 | 0           | 0 | 0 | 0          | 38 | 13 | 113 |
| 16:55-17:00              | 0          | 28 | 6 | 9           | 0 | 24 | 0           | 0 | 0 | 0          | 49 | 15 | 131 |
| 17:00-17:05              | 0          | 31 | 3 | 12          | 0 | 23 | 0           | 0 | 0 | 0          | 38 | 16 | 123 |
| 17:05-17:10              | 0          | 42 | 7 | 10          | 0 | 23 | 0           | 0 | 0 | 0          | 43 | 17 | 142 |
| 17:10-17:15              | 0          | 47 | 6 | 11          | 0 | 24 | 0           | 0 | 0 | 0          | 45 | 17 | 150 |
| 17:15-17:20              | 0          | 47 | 5 | 7           | 0 | 24 | 0           | 0 | 0 | 0          | 40 | 15 | 138 |
| 17:20-17:25              | 0          | 19 | 1 | 5           | 0 | 19 | 0           | 0 | 0 | 0          | 49 | 10 | 103 |
| 17:25-17:30              | 0          | 33 | 6 | 5           | 0 | 17 | 0           | 0 | 0 | 0          | 45 | 15 | 121 |
| 17:30-17:35              | 0          | 31 | 5 | 11          | 0 | 17 | 0           | 0 | 0 | 0          | 40 | 8  | 112 |
| 17:35-17:40              | 0          | 40 | 5 | 4           | 0 | 16 | 0           | 0 | 0 | 0          | 44 | 12 | 121 |
| 17:40-17:45              | 0          | 27 | 3 | 7           | 0 | 18 | 0           | 0 | 0 | 0          | 41 | 16 | 112 |
| 17:45-17:50              | 0          | 21 | 2 | 14          | 0 | 16 | 0           | 0 | 0 | 0          | 33 | 13 | 99  |
| 17:50-17:55              | 0          | 21 | 3 | 2           | 0 | 13 | 0           | 0 | 0 | 0          | 32 | 17 | 88  |
| 17:55-18:00              | 0          | 30 | 1 | 5           | 0 | 18 | 0           | 0 | 0 | 0          | 34 | 14 | 102 |

|               |     |     |     |     |   |     |   |   |   |   |     |     |      |
|---------------|-----|-----|-----|-----|---|-----|---|---|---|---|-----|-----|------|
| Total Survey  | 1   | 807 | 107 | 220 | 0 | 499 | 0 | 0 | 0 | 0 | 914 | 316 | 2864 |
| PHF           | .25 | .79 | .81 | .85 | 0 | .93 | 0 | 0 | 0 | 0 | .89 | .81 | .872 |
| % Trucks      | 0   | 2.7 | 2.8 | 2.3 | 0 | 2.4 | 0 | 0 | 0 | 0 | 2.8 | .9  | 2.5  |
| Stopped Buses | 0   | 0   | 0   | 0   | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0   |      |
| Peds          | 0   | 0   | 0   | 0   | 1 | 0   | 0 | 0 | 0 | 0 | 2   | 0   |      |

|               |   |     |    |     |   |     |   |   |   |   |     |     |      |
|---------------|---|-----|----|-----|---|-----|---|---|---|---|-----|-----|------|
| Hourly Totals |   |     |    |     |   |     |   |   |   |   |     |     |      |
| 16:00-17:00   | 1 | 418 | 60 | 127 | 0 | 271 | 0 | 0 | 0 | 0 | 430 | 146 | 1453 |
| 16:15-17:15   | 1 | 418 | 57 | 120 | 0 | 276 | 0 | 0 | 0 | 0 | 456 | 160 | 1488 |
| 16:30-17:30   | 1 | 425 | 59 | 107 | 0 | 258 | 0 | 0 | 0 | 0 | 474 | 171 | 1495 |
| 16:45-17:45   | 0 | 416 | 55 | 97  | 0 | 254 | 0 | 0 | 0 | 0 | 503 | 164 | 1489 |
| 17:00-18:00   | 0 | 389 | 47 | 93  | 0 | 228 | 0 | 0 | 0 | 0 | 484 | 170 | 1411 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## CAPE ARAGO WAY @ LA CLAIR

▲ NORTH

T= 0% P=0.

DATE OF COUNT: 08/15/02  
DAY OF WEEK: THU  
TIME STARTED: 16:00  
TIME ENDED: 18:00

T= 1.4%  
P=.923

T= 1.9%  
P=.921

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5BV

Peak Hour  
16:10-17:10  
TEV=1498

Traffic Smithy  
(503) 641-6333

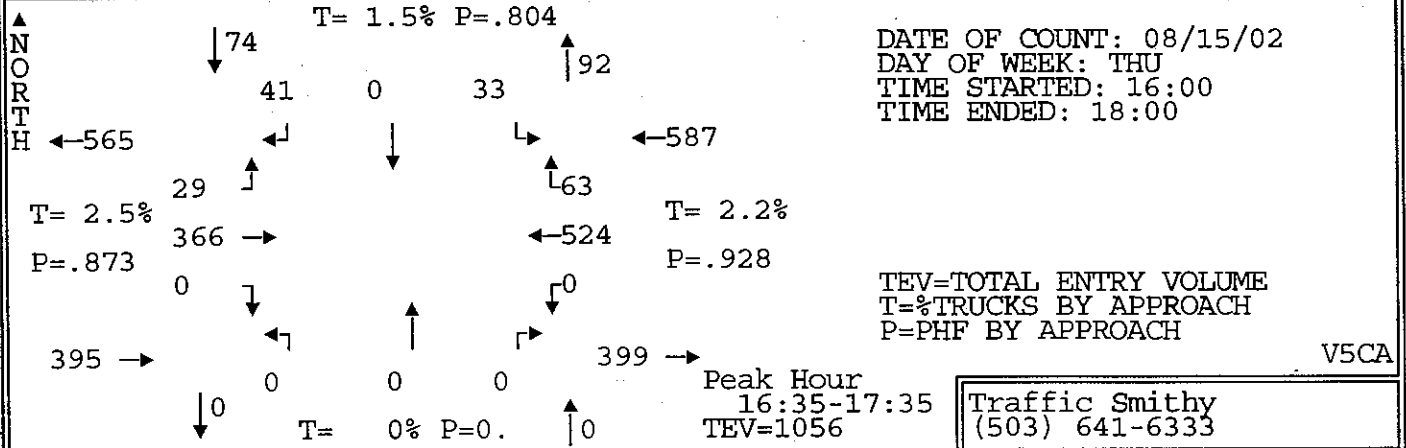
| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |    | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|----|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ↙           | ↓ | ↘ | ↖           | ↑ | ↗  | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 2          | 55 | 0 | 0           | 0 | 0 | 0           | 0 | 4  | 3          | 44 | 0 | 108 |
| 16:05-16:10              | 0          | 49 | 0 | 0           | 0 | 0 | 1           | 0 | 7  | 9          | 57 | 0 | 123 |
| 16:10-16:15              | 3          | 44 | 0 | 0           | 0 | 0 | 3           | 0 | 10 | 4          | 65 | 0 | 129 |
| 16:15-16:20              | 1          | 68 | 0 | 0           | 0 | 0 | 0           | 0 | 8  | 1          | 58 | 0 | 136 |
| 16:20-16:25              | 0          | 59 | 0 | 0           | 0 | 0 | 1           | 0 | 2  | 4          | 61 | 0 | 127 |
| 16:25-16:30              | 1          | 43 | 0 | 0           | 0 | 0 | 2           | 0 | 3  | 3          | 59 | 0 | 111 |
| 16:30-16:35              | 1          | 56 | 0 | 0           | 0 | 0 | 0           | 0 | 8  | 5          | 63 | 0 | 133 |
| 16:35-16:40              | 1          | 59 | 0 | 0           | 0 | 0 | 4           | 0 | 13 | 3          | 51 | 0 | 131 |
| 16:40-16:45              | 1          | 59 | 0 | 0           | 0 | 0 | 0           | 0 | 7  | 3          | 51 | 0 | 121 |
| 16:45-16:50              | 4          | 58 | 0 | 0           | 0 | 0 | 1           | 0 | 7  | 9          | 45 | 0 | 124 |
| 16:50-16:55              | 1          | 57 | 0 | 0           | 0 | 0 | 1           | 0 | 9  | 3          | 54 | 0 | 125 |
| 16:55-17:00              | 0          | 44 | 0 | 0           | 0 | 0 | 1           | 0 | 5  | 8          | 40 | 0 | 98  |
| 17:00-17:05              | 2          | 48 | 0 | 0           | 0 | 0 | 2           | 0 | 5  | 4          | 62 | 0 | 123 |
| 17:05-17:10              | 2          | 60 | 0 | 0           | 0 | 0 | 1           | 0 | 14 | 5          | 58 | 0 | 140 |
| 17:10-17:15              | 0          | 0  | 0 | 0           | 0 | 0 | 0           | 0 | 0  | 0          | 0  | 0 | 0   |
| 17:15-17:20              | 1          | 46 | 0 | 0           | 0 | 0 | 0           | 0 | 4  | 5          | 68 | 0 | 124 |
| 17:20-17:25              | 1          | 41 | 0 | 0           | 0 | 0 | 2           | 0 | 5  | 4          | 60 | 0 | 113 |
| 17:25-17:30              | 2          | 52 | 0 | 0           | 0 | 0 | 2           | 0 | 1  | 4          | 59 | 0 | 120 |
| 17:30-17:35              | 3          | 35 | 0 | 0           | 0 | 0 | 2           | 0 | 8  | 9          | 50 | 0 | 107 |
| 17:35-17:40              | 0          | 47 | 0 | 0           | 0 | 0 | 1           | 0 | 5  | 3          | 37 | 0 | 93  |
| 17:40-17:45              | 2          | 41 | 0 | 0           | 0 | 0 | 0           | 0 | 7  | 4          | 52 | 0 | 106 |
| 17:45-17:50              | 0          | 38 | 0 | 0           | 0 | 0 | 2           | 0 | 9  | 5          | 53 | 0 | 107 |
| 17:50-17:55              | 2          | 50 | 0 | 0           | 0 | 0 | 2           | 0 | 11 | 4          | 39 | 0 | 108 |
| 17:55-18:00              | 2          | 38 | 0 | 0           | 0 | 0 | 2           | 0 | 9  | 5          | 47 | 0 | 103 |

|               |     |      |   |   |   |   |     |    |     |     |      |   |      |
|---------------|-----|------|---|---|---|---|-----|----|-----|-----|------|---|------|
| Total Survey  | 32  | 1147 | 0 | 0 | 0 | 0 | 30  | 0  | 161 | 107 | 1233 | 0 | 2710 |
| PHF           | .71 | .93  | 0 | 0 | 0 | 0 | .67 | 0  | .81 | .65 | .91  | 0 | .955 |
| % Trucks      | 0   | 1.5  | 0 | 0 | 0 | 0 | 0   | 0  | 1.2 | 2.8 | 1.8  | 0 | 1.6  |
| Stopped Buses | 0   | 0    | 0 | 0 | 0 | 0 | 0   | 0  | 0   | 0   | 0    | 0 | 0    |
| Peds          | 0   | 10   | 0 | 0 | 6 | 0 | 0   | 84 | 0   | 0   | 8    | 0 | 0    |

| Hourly Totals |    |     |   |   |   |   |    |   |    |    |     |   |      |
|---------------|----|-----|---|---|---|---|----|---|----|----|-----|---|------|
| 16:00-17:00   | 15 | 651 | 0 | 0 | 0 | 0 | 14 | 0 | 83 | 55 | 648 | 0 | 1466 |
| 16:15-17:15   | 14 | 611 | 0 | 0 | 0 | 0 | 13 | 0 | 81 | 48 | 602 | 0 | 1369 |
| 16:30-17:30   | 16 | 580 | 0 | 0 | 0 | 0 | 14 | 0 | 78 | 53 | 611 | 0 | 1352 |
| 16:45-17:45   | 18 | 529 | 0 | 0 | 0 | 0 | 13 | 0 | 70 | 58 | 585 | 0 | 1273 |
| 17:00-18:00   | 17 | 496 | 0 | 0 | 0 | 0 | 16 | 0 | 78 | 52 | 585 | 0 | 1244 |



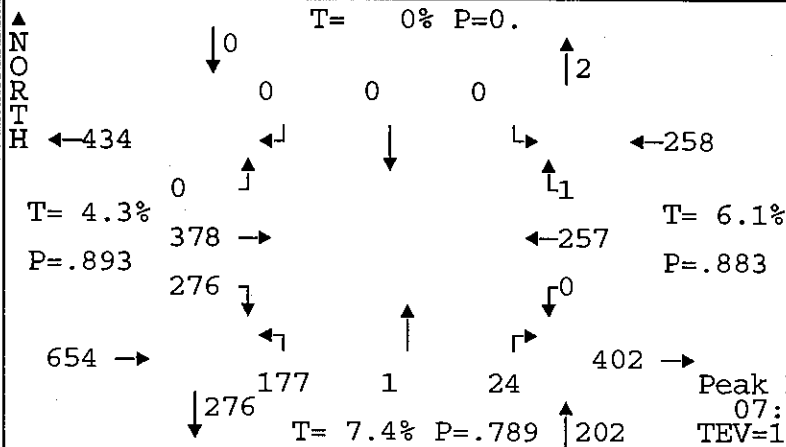
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT LA CLAIR @ OCEAN BLVD



| TIME PERIOD<br>FROM - TO | EAST BOUND |     |     | SOUTH BOUND |   |     | NORTH BOUND |   |   | WEST BOUND |     |     | ALL  |
|--------------------------|------------|-----|-----|-------------|---|-----|-------------|---|---|------------|-----|-----|------|
|                          | ↓          | →   | ↑   | ←           | ↓ | ↑   | ←           | ↑ | → | ↓          | ←   | ↑   |      |
| 16:00-16:05              | 0          | 26  | 5   | 5           | 0 | 3   | 0           | 0 | 0 | 0          | 34  | 8   | 81   |
| 16:05-16:10              | 0          | 31  | 1   | 1           | 0 | 1   | 0           | 0 | 0 | 0          | 34  | 6   | 74   |
| 16:10-16:15              | 0          | 33  | 1   | 3           | 0 | 3   | 0           | 0 | 0 | 0          | 38  | 4   | 82   |
| 16:15-16:20              | 0          | 27  | 0   | 0           | 0 | 1   | 0           | 0 | 0 | 0          | 30  | 4   | 62   |
| 16:20-16:25              | 0          | 26  | 2   | 4           | 0 | 0   | 0           | 0 | 0 | 0          | 38  | 8   | 78   |
| 16:25-16:30              | 0          | 17  | 2   | 4           | 0 | 4   | 0           | 0 | 0 | 0          | 25  | 4   | 56   |
| 16:30-16:35              | 0          | 33  | 0   | 4           | 0 | 1   | 0           | 0 | 0 | 0          | 39  | 8   | 85   |
| 16:35-16:40              | 0          | 26  | 2   | 4           | 0 | 9   | 0           | 0 | 0 | 0          | 46  | 5   | 92   |
| 16:40-16:45              | 0          | 33  | 3   | 3           | 0 | 2   | 0           | 0 | 0 | 0          | 42  | 8   | 91   |
| 16:45-16:50              | 0          | 37  | 2   | 4           | 0 | 1   | 0           | 0 | 0 | 0          | 43  | 6   | 93   |
| 16:50-16:55              | 0          | 29  | 3   | 4           | 0 | 4   | 0           | 0 | 0 | 0          | 42  | 6   | 88   |
| 16:55-17:00              | 0          | 26  | 4   | 6           | 0 | 2   | 0           | 0 | 0 | 0          | 42  | 9   | 89   |
| 17:00-17:05              | 0          | 37  | 2   | 2           | 0 | 3   | 0           | 0 | 0 | 0          | 49  | 4   | 97   |
| 17:05-17:10              | 0          | 42  | 2   | 4           | 0 | 1   | 0           | 0 | 0 | 0          | 48  | 6   | 103  |
| 17:10-17:15              | 0          | 30  | 0   | 2           | 0 | 1   | 0           | 0 | 0 | 0          | 43  | 4   | 80   |
| 17:15-17:20              | 0          | 28  | 0   | 5           | 0 | 1   | 0           | 0 | 0 | 0          | 46  | 3   | 83   |
| 17:20-17:25              | 0          | 29  | 6   | 3           | 0 | 2   | 0           | 0 | 0 | 0          | 42  | 0   | 82   |
| 17:25-17:30              | 0          | 26  | 0   | 1           | 0 | 6   | 0           | 0 | 0 | 0          | 34  | 5   | 72   |
| 17:30-17:35              | 0          | 23  | 5   | 3           | 0 | 1   | 0           | 0 | 0 | 0          | 47  | 7   | 86   |
| 17:35-17:40              | 0          | 26  | 4   | 4           | 0 | 3   | 0           | 0 | 0 | 0          | 40  | 3   | 80   |
| 17:40-17:45              | 0          | 18  | 6   | 2           | 0 | 3   | 0           | 0 | 0 | 0          | 24  | 6   | 59   |
| 17:45-17:50              | 0          | 24  | 3   | 3           | 0 | 3   | 0           | 0 | 0 | 0          | 35  | 4   | 72   |
| 17:50-17:55              | 0          | 18  | 6   | 3           | 0 | 3   | 0           | 0 | 0 | 0          | 31  | 5   | 66   |
| 17:55-18:00              | 0          | 22  | 0   | 4           | 0 | 1   | 0           | 0 | 0 | 0          | 30  | 6   | 63   |
| <b>Total Survey</b>      |            |     |     |             |   |     |             |   |   |            |     |     |      |
| PHF                      | 0          | .84 | .66 | .73         | 0 | .69 | 0           | 0 | 0 | 0          | .94 | .75 | .913 |
| % Trucks                 | 0          | 2.5 | 1.7 | 1.3         | 0 | 1.7 | 0           | 0 | 0 | 0          | 2   | 3.9 | 2.2  |
| Stopped Buses            | 0          | 0   | 0   | 0           | 0 | 0   | 0           | 0 | 0 | 0          | 0   | 0   |      |
| Peds                     | 0          | 2   | 0   | 0           | 0 | 0   | 0           | 0 | 0 | 0          | 3   | 0   |      |
| <b>Hourly Totals</b>     |            |     |     |             |   |     |             |   |   |            |     |     |      |
| 16:00-17:00              | 0          | 344 | 25  | 42          | 0 | 31  | 0           | 0 | 0 | 0          | 453 | 76  | 971  |
| 16:15-17:15              | 0          | 363 | 22  | 41          | 0 | 29  | 0           | 0 | 0 | 0          | 487 | 72  | 1014 |
| 16:30-17:30              | 0          | 376 | 24  | 42          | 0 | 33  | 0           | 0 | 0 | 0          | 516 | 64  | 1055 |
| 16:45-17:45              | 0          | 351 | 34  | 40          | 0 | 28  | 0           | 0 | 0 | 0          | 500 | 59  | 1012 |
| 17:00-18:00              | 0          | 323 | 34  | 36          | 0 | 28  | 0           | 0 | 0 | 0          | 469 | 53  | 943  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## OCEAN BLVD @ CAPE ARAGO WAY



DATE OF COUNT: 08/14/02  
 DAY OF WEEK: WED  
 TIME STARTED: 07:00  
 TIME ENDED: 09:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

Peak Hour  
 07:55-08:55  
 TEV=1114

Traffic Smithy  
 (503) 641-6333

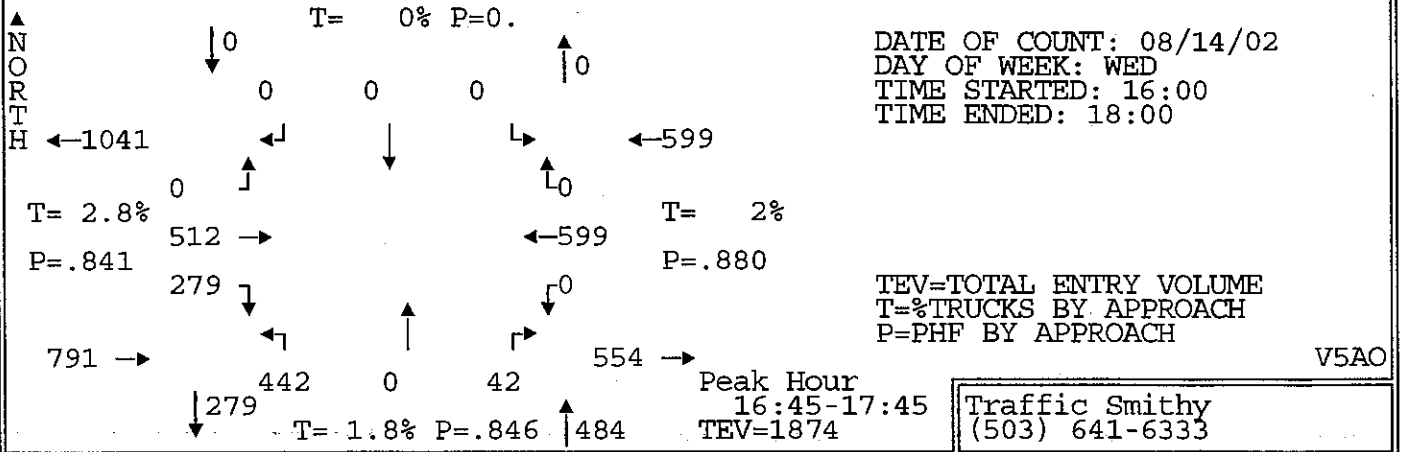
V5AN

| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 07:00-07:05              | 13         | 11 | 0 | 0           | 0 | 0 | 9           | 0 | 2 | 0          | 9  | 0 | 44  |
| 07:05-07:10              | 5          | 21 | 0 | 0           | 0 | 0 | 7           | 0 | 1 | 0          | 10 | 0 | 44  |
| 07:10-07:15              | 13         | 13 | 0 | 0           | 0 | 0 | 7           | 0 | 0 | 0          | 8  | 0 | 41  |
| 07:15-07:20              | 14         | 26 | 0 | 0           | 1 | 0 | 7           | 0 | 1 | 0          | 8  | 0 | 57  |
| 07:20-07:25              | 18         | 23 | 0 | 0           | 0 | 0 | 4           | 0 | 0 | 0          | 18 | 0 | 63  |
| 07:25-07:30              | 16         | 21 | 0 | 0           | 0 | 0 | 9           | 0 | 0 | 0          | 8  | 0 | 54  |
| 07:30-07:35              | 14         | 14 | 0 | 0           | 0 | 0 | 9           | 0 | 0 | 0          | 13 | 0 | 50  |
| 07:35-07:40              | 24         | 30 | 0 | 0           | 0 | 0 | 6           | 0 | 0 | 0          | 20 | 0 | 80  |
| 07:40-07:45              | 20         | 28 | 0 | 0           | 0 | 0 | 10          | 0 | 1 | 0          | 9  | 0 | 68  |
| 07:45-07:50              | 25         | 36 | 0 | 0           | 0 | 0 | 14          | 1 | 2 | 0          | 20 | 0 | 98  |
| 07:50-07:55              | 25         | 44 | 0 | 0           | 0 | 0 | 18          | 0 | 1 | 0          | 22 | 0 | 110 |
| 07:55-08:00              | 30         | 42 | 0 | 0           | 0 | 0 | 20          | 0 | 4 | 0          | 27 | 0 | 123 |
| 08:00-08:05              | 29         | 31 | 0 | 0           | 0 | 0 | 17          | 0 | 9 | 0          | 18 | 0 | 104 |
| 08:05-08:10              | 19         | 32 | 0 | 0           | 0 | 0 | 14          | 0 | 0 | 0          | 21 | 0 | 86  |
| 08:10-08:15              | 19         | 28 | 0 | 0           | 0 | 0 | 9           | 0 | 0 | 0          | 24 | 0 | 80  |
| 08:15-08:20              | 21         | 18 | 0 | 0           | 0 | 0 | 15          | 0 | 2 | 0          | 18 | 0 | 74  |
| 08:20-08:25              | 24         | 34 | 0 | 0           | 0 | 0 | 18          | 0 | 1 | 0          | 21 | 1 | 99  |
| 08:25-08:30              | 16         | 30 | 0 | 0           | 0 | 0 | 11          | 0 | 0 | 0          | 14 | 0 | 71  |
| 08:30-08:35              | 30         | 29 | 0 | 0           | 0 | 0 | 8           | 0 | 0 | 0          | 22 | 0 | 89  |
| 08:35-08:40              | 17         | 28 | 0 | 0           | 0 | 0 | 10          | 0 | 2 | 0          | 19 | 0 | 76  |
| 08:40-08:45              | 24         | 32 | 0 | 0           | 0 | 0 | 16          | 0 | 2 | 0          | 23 | 0 | 97  |
| 08:45-08:50              | 18         | 37 | 0 | 0           | 0 | 0 | 13          | 0 | 2 | 0          | 27 | 0 | 97  |
| 08:50-08:55              | 29         | 37 | 0 | 0           | 0 | 0 | 26          | 1 | 2 | 0          | 23 | 0 | 118 |
| 08:55-09:00              | 27         | 28 | 1 | 0           | 0 | 0 | 12          | 0 | 0 | 0          | 23 | 0 | 91  |

|               |     |     |   |   |   |   |     |     |      |   |     |     |      |
|---------------|-----|-----|---|---|---|---|-----|-----|------|---|-----|-----|------|
| Total Survey  | 490 | 673 | 1 | 0 | 1 | 0 | 289 | 2   | 32   | 0 | 425 | 1   | 1914 |
| PHF           | .88 | .89 | 0 | 0 | 0 | 0 | .8  | .25 | .46  | 0 | .88 | .25 | .889 |
| % Trucks      | 4.9 | 3.9 | 0 | 0 | 0 | 0 | 6.6 | 0   | 15.6 | 0 | 6.1 | 0   | 5.2  |
| Stopped Buses | 0   | 0   | 0 | 0 | 0 | 0 | 0   | 0   | 0    | 0 | 0   | 0   | 0    |
| Peds          | 0   | 2   | 0 | 0 | 0 | 0 | 0   | 0   | 0    | 0 | 0   | 0   | 0    |

|               |     |     |   |   |   |   |     |   |    |   |     |   |      |
|---------------|-----|-----|---|---|---|---|-----|---|----|---|-----|---|------|
| Hourly Totals |     |     |   |   |   |   |     |   |    |   |     |   |      |
| 07:00-08:00   | 217 | 309 | 0 | 0 | 1 | 0 | 120 | 1 | 12 | 0 | 172 | 0 | 832  |
| 07:15-08:15   | 253 | 355 | 0 | 0 | 1 | 0 | 137 | 1 | 18 | 0 | 208 | 0 | 973  |
| 07:30-08:30   | 266 | 367 | 0 | 0 | 0 | 0 | 161 | 1 | 20 | 0 | 227 | 1 | 1043 |
| 07:45-08:45   | 279 | 384 | 0 | 0 | 0 | 0 | 170 | 1 | 23 | 0 | 249 | 1 | 1107 |
| 08:00-09:00   | 273 | 364 | 1 | 0 | 0 | 0 | 169 | 1 | 20 | 0 | 253 | 1 | 1082 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT OCEAN BLVD @ CAPE ARAGO HIGHWAY

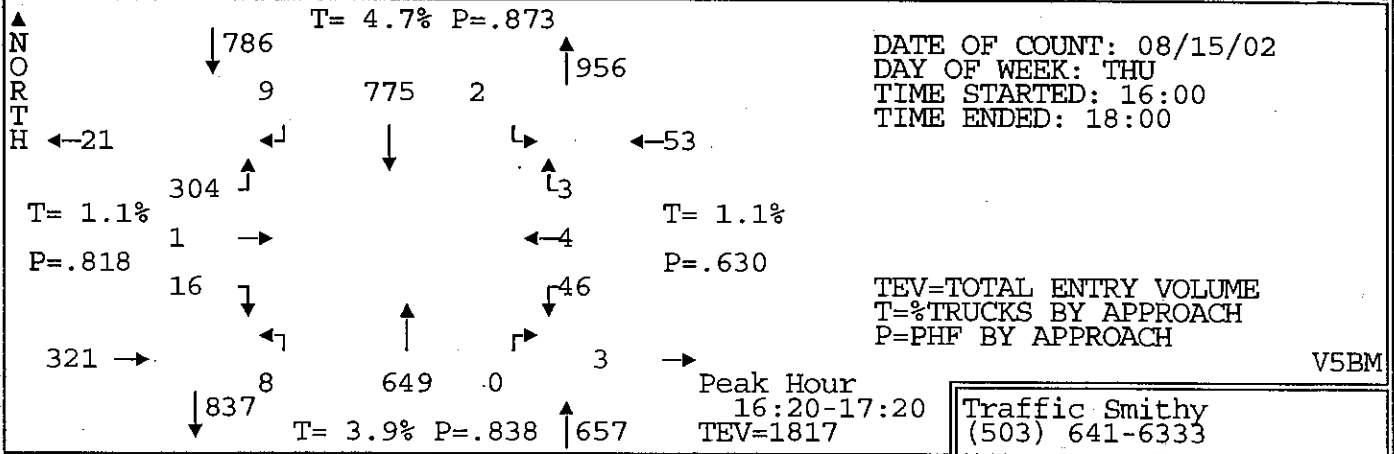


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 22         | 53 | 0 | 0           | 0 | 0 | 34          | 0 | 2 | 0          | 35 | 0 | 146 |
| 16:05-16:10              | 31         | 53 | 0 | 0           | 0 | 0 | 22          | 0 | 3 | 0          | 50 | 0 | 159 |
| 16:10-16:15              | 23         | 32 | 0 | 0           | 0 | 0 | 33          | 0 | 4 | 1          | 45 | 0 | 138 |
| 16:15-16:20              | 21         | 50 | 0 | 0           | 0 | 0 | 31          | 0 | 2 | 0          | 46 | 0 | 150 |
| 16:20-16:25              | 18         | 41 | 0 | 0           | 0 | 0 | 35          | 0 | 2 | 0          | 53 | 0 | 149 |
| 16:25-16:30              | 28         | 43 | 0 | 0           | 0 | 0 | 23          | 0 | 2 | 0          | 53 | 0 | 149 |
| 16:30-16:35              | 28         | 43 | 0 | 0           | 0 | 0 | 31          | 0 | 4 | 0          | 44 | 0 | 150 |
| 16:35-16:40              | 27         | 40 | 0 | 0           | 0 | 0 | 25          | 0 | 1 | 0          | 42 | 0 | 135 |
| 16:40-16:45              | 31         | 36 | 0 | 0           | 0 | 0 | 21          | 0 | 3 | 0          | 51 | 0 | 142 |
| 16:45-16:50              | 28         | 42 | 0 | 0           | 0 | 0 | 33          | 0 | 2 | 0          | 41 | 0 | 146 |
| 16:50-16:55              | 28         | 38 | 0 | 0           | 0 | 0 | 29          | 0 | 4 | 0          | 52 | 0 | 151 |
| 16:55-17:00              | 14         | 34 | 0 | 0           | 0 | 0 | 29          | 0 | 8 | 0          | 42 | 0 | 127 |
| 17:00-17:05              | 23         | 51 | 0 | 0           | 0 | 0 | 38          | 0 | 7 | 0          | 63 | 0 | 182 |
| 17:05-17:10              | 23         | 55 | 0 | 0           | 0 | 0 | 38          | 0 | 1 | 0          | 58 | 0 | 175 |
| 17:10-17:15              | 35         | 48 | 0 | 0           | 0 | 0 | 51          | 0 | 1 | 0          | 49 | 0 | 184 |
| 17:15-17:20              | 18         | 34 | 0 | 0           | 0 | 0 | 41          | 0 | 3 | 0          | 40 | 0 | 136 |
| 17:20-17:25              | 19         | 37 | 0 | 0           | 0 | 0 | 41          | 0 | 6 | 0          | 53 | 0 | 156 |
| 17:25-17:30              | 29         | 33 | 0 | 0           | 0 | 0 | 37          | 0 | 4 | 0          | 37 | 0 | 140 |
| 17:30-17:35              | 22         | 42 | 0 | 0           | 0 | 0 | 30          | 0 | 2 | 0          | 54 | 0 | 150 |
| 17:35-17:40              | 26         | 52 | 0 | 0           | 0 | 0 | 36          | 0 | 3 | 0          | 66 | 0 | 183 |
| 17:40-17:45              | 14         | 46 | 0 | 0           | 0 | 0 | 39          | 0 | 1 | 0          | 44 | 0 | 144 |
| 17:45-17:50              | 16         | 28 | 0 | 0           | 0 | 0 | 19          | 0 | 1 | 0          | 52 | 0 | 116 |
| 17:50-17:55              | 25         | 33 | 0 | 0           | 0 | 0 | 24          | 0 | 3 | 0          | 35 | 0 | 120 |
| 17:55-18:00              | 24         | 41 | 0 | 0           | 0 | 0 | 30          | 0 | 1 | 0          | 31 | 0 | 127 |

|               |     |      |   |   |   |   |     |   |     |   |      |   |      |
|---------------|-----|------|---|---|---|---|-----|---|-----|---|------|---|------|
| Total Survey  | 573 | 1005 | 0 | 0 | 0 | 0 | 770 | 0 | 70  | 1 | 1136 | 0 | 3555 |
| PHF           | .86 | .83  | 0 | 0 | 0 | 0 | .83 | 0 | .55 | 0 | .88  | 0 | .865 |
| % Trucks      | 2.1 | 3.2  | 0 | 0 | 0 | 0 | 1.4 | 0 | 5.7 | 0 | 2    | 0 | 2.3  |
| Stopped Buses | 0   | 0    | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0 | 0    | 0 | 0    |
| Peds          | 0   | 1    | 0 | 0 | 0 | 0 | 0   | 0 | 0   | 0 | 0    | 0 | 0    |

|               |     |     |   |   |   |   |     |   |    |   |     |   |      |
|---------------|-----|-----|---|---|---|---|-----|---|----|---|-----|---|------|
| Hourly Totals |     |     |   |   |   |   |     |   |    |   |     |   |      |
| 16:00-17:00   | 299 | 505 | 0 | 0 | 0 | 0 | 346 | 0 | 37 | 1 | 554 | 0 | 1742 |
| 16:15-17:15   | 304 | 521 | 0 | 0 | 0 | 0 | 384 | 0 | 37 | 0 | 594 | 0 | 1840 |
| 16:30-17:30   | 303 | 491 | 0 | 0 | 0 | 0 | 414 | 0 | 44 | 0 | 572 | 0 | 1824 |
| 16:45-17:45   | 279 | 512 | 0 | 0 | 0 | 0 | 442 | 0 | 42 | 0 | 599 | 0 | 1874 |
| 17:00-18:00   | 274 | 500 | 0 | 0 | 0 | 0 | 424 | 0 | 33 | 0 | 582 | 0 | 1813 |

**INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT**  
**FLORIDA @ HIGHWAY 101**



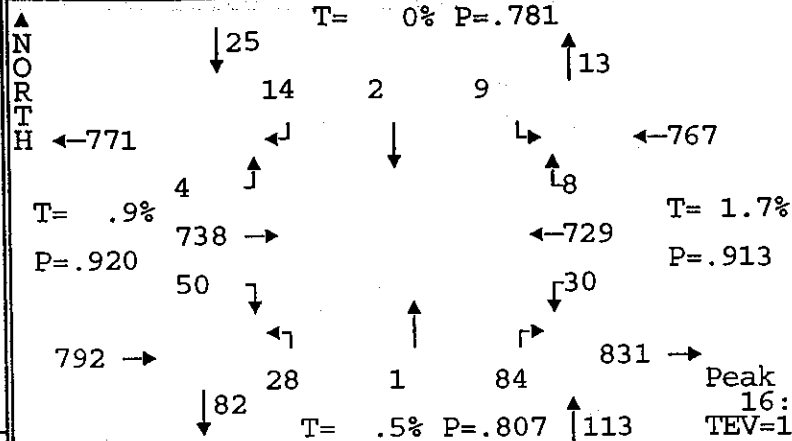
| TIME PERIOD<br>FROM - TO | EAST BOUND |   |    | SOUTH BOUND |     |   | NORTH BOUND |    |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|----|-------------|-----|---|-------------|----|---|------------|---|---|-----|
|                          | ↓          | → | ↑  | ←           | ↓   | ↘ | ←           | ↑  | ↗ | ↓          | ← | ↑ |     |
| 16:00-16:05              | 1          | 0 | 14 | 1           | 63  | 0 | 1           | 44 | 1 | 4          | 2 | 1 | 132 |
| 16:05-16:10              | 0          | 0 | 22 | 2           | 81  | 0 | 0           | 46 | 1 | 2          | 0 | 1 | 155 |
| 16:10-16:15              | 3          | 0 | 21 | 2           | 63  | 0 | 0           | 54 | 0 | 0          | 1 | 0 | 144 |
| 16:15-16:20              | 0          | 0 | 31 | 0           | 48  | 0 | 0           | 62 | 0 | 2          | 0 | 0 | 143 |
| 16:20-16:25              | 2          | 0 | 24 | 3           | 103 | 0 | 1           | 51 | 0 | 4          | 0 | 0 | 188 |
| 16:25-16:30              | 2          | 0 | 19 | 0           | 54  | 0 | 1           | 38 | 0 | 3          | 1 | 0 | 118 |
| 16:30-16:35              | 4          | 0 | 19 | 1           | 64  | 0 | 2           | 62 | 0 | 2          | 0 | 1 | 155 |
| 16:35-16:40              | 2          | 0 | 35 | 1           | 49  | 2 | 0           | 54 | 0 | 3          | 0 | 0 | 146 |
| 16:40-16:45              | 1          | 0 | 33 | 0           | 64  | 0 | 1           | 52 | 0 | 5          | 1 | 0 | 157 |
| 16:45-16:50              | 1          | 0 | 26 | 1           | 64  | 0 | 1           | 49 | 0 | 1          | 0 | 2 | 145 |
| 16:50-16:55              | 0          | 0 | 20 | 1           | 65  | 0 | 0           | 57 | 0 | 4          | 0 | 0 | 147 |
| 16:55-17:00              | 0          | 0 | 34 | 1           | 60  | 0 | 1           | 41 | 0 | 2          | 0 | 0 | 139 |
| 17:00-17:05              | 0          | 0 | 17 | 0           | 62  | 0 | 0           | 50 | 0 | 5          | 0 | 0 | 134 |
| 17:05-17:10              | 1          | 1 | 21 | 0           | 73  | 0 | 0           | 74 | 0 | 8          | 0 | 0 | 178 |
| 17:10-17:15              | 1          | 0 | 26 | 1           | 60  | 0 | 0           | 46 | 0 | 7          | 1 | 0 | 142 |
| 17:15-17:20              | 2          | 0 | 30 | 0           | 57  | 0 | 1           | 75 | 0 | 2          | 1 | 0 | 168 |
| 17:20-17:25              | 2          | 0 | 30 | 0           | 58  | 0 | 2           | 53 | 0 | 5          | 1 | 0 | 151 |
| 17:25-17:30              | 1          | 0 | 28 | 1           | 46  | 0 | 1           | 62 | 0 | 1          | 0 | 0 | 140 |
| 17:30-17:35              | 1          | 0 | 23 | 1           | 57  | 0 | 1           | 63 | 0 | 1          | 0 | 0 | 147 |
| 17:35-17:40              | 3          | 0 | 22 | 1           | 84  | 0 | 1           | 51 | 0 | 1          | 1 | 0 | 164 |
| 17:40-17:45              | 1          | 0 | 28 | 1           | 43  | 0 | 0           | 38 | 0 | 2          | 0 | 0 | 113 |
| 17:45-17:50              | 2          | 0 | 24 | 0           | 66  | 0 | 1           | 52 | 1 | 4          | 1 | 0 | 151 |
| 17:50-17:55              | 0          | 0 | 25 | 0           | 40  | 0 | 2           | 50 | 0 | 2          | 1 | 0 | 120 |
| 17:55-18:00              | 1          | 0 | 24 | 2           | 58  | 1 | 0           | 55 | 0 | 1          | 0 | 1 | 143 |

|               |     |     |     |     |      |     |    |      |   |     |    |     |      |
|---------------|-----|-----|-----|-----|------|-----|----|------|---|-----|----|-----|------|
| Total Survey  | 31  | 1   | 596 | 20  | 1482 | 3   | 17 | 1279 | 3 | 71  | 11 | 6   | 3520 |
| PHF           | .5  | .25 | .81 | .56 | .88  | .25 | .5 | .83  | 0 | .57 | .5 | .38 | .930 |
| % Trucks      | 3.2 | 0   | 1   | 10  | 4.7  | 0   | 0  | 4    | 0 | 1.4 | 0  | 0   | 3.7  |
| Stopped Buses | 0   | 0   | 0   | 0   | 0    | 0   | 0  | 0    | 0 | 0   | 0  | 0   | 0    |
| Peds          | 0   | 0   | 0   | 0   | 6    | 0   | 0  | 5    | 0 | 0   | 12 | 0   | 0    |

|               |    |   |     |    |     |   |   |     |   |    |   |   |      |
|---------------|----|---|-----|----|-----|---|---|-----|---|----|---|---|------|
| Hourly Totals |    |   |     |    |     |   |   |     |   |    |   |   |      |
| 16:00-17:00   | 16 | 0 | 298 | 13 | 778 | 2 | 8 | 610 | 2 | 32 | 5 | 5 | 1769 |
| 16:15-17:15   | 14 | 1 | 305 | 9  | 766 | 2 | 7 | 636 | 0 | 46 | 3 | 3 | 1792 |
| 16:30-17:30   | 15 | 1 | 319 | 7  | 722 | 2 | 9 | 675 | 0 | 45 | 4 | 3 | 1802 |
| 16:45-17:45   | 13 | 1 | 305 | 8  | 729 | 0 | 8 | 659 | 0 | 39 | 4 | 2 | 1768 |
| 17:00-18:00   | 15 | 1 | 298 | 7  | 704 | 1 | 9 | 669 | 1 | 39 | 6 | 1 | 1751 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## MARION @ CAPE ARAGO WAY



DATE OF COUNT: 08/15/02  
 DAY OF WEEK: THU  
 TIME STARTED: 16:00  
 TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
 T=%TRUCKS BY APPROACH  
 P=PHF BY APPROACH

V5BO

Peak Hour  
 16:05-17:05  
 TEV=1697

Traffic Smithy  
 (503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |      |    | SOUTH BOUND |    |     | NORTH BOUND |     |     | WEST BOUND |      |     | ALL  |
|--------------------------|------------|------|----|-------------|----|-----|-------------|-----|-----|------------|------|-----|------|
|                          | ↓          | →    | ↑  | ↙           | ↓  | ↘   | ↙           | ↑   | ↘   | ↓          | ←    | ↑   |      |
| 16:00-16:05              | 6          | 62   | 0  | 0           | 1  | 2   | 2           | 1   | 7   | 1          | 66   | 0   | 148  |
| 16:05-16:10              | 3          | 74   | 0  | 1           | 0  | 2   | 3           | 0   | 7   | 4          | 68   | 1   | 163  |
| 16:10-16:15              | 6          | 61   | 0  | 2           | 0  | 1   | 3           | 0   | 8   | 3          | 66   | 0   | 150  |
| 16:15-16:20              | 5          | 65   | 1  | 1           | 1  | 0   | 0           | 0   | 5   | 1          | 62   | 1   | 142  |
| 16:20-16:25              | 3          | 60   | 0  | 1           | 0  | 0   | 0           | 0   | 7   | 1          | 76   | 0   | 148  |
| 16:25-16:30              | 3          | 56   | 1  | 1           | 0  | 0   | 1           | 0   | 7   | 5          | 57   | 0   | 131  |
| 16:30-16:35              | 6          | 73   | 0  | 0           | 0  | 2   | 5           | 0   | 10  | 3          | 40   | 2   | 141  |
| 16:35-16:40              | 5          | 50   | 0  | 1           | 0  | 0   | 1           | 0   | 9   | 3          | 60   | 0   | 129  |
| 16:40-16:45              | 5          | 57   | 0  | 0           | 0  | 1   | 2           | 0   | 8   | 1          | 50   | 1   | 125  |
| 16:45-16:50              | 5          | 57   | 2  | 2           | 1  | 0   | 4           | 0   | 4   | 1          | 67   | 0   | 143  |
| 16:50-16:55              | 3          | 62   | 0  | 3           | 0  | 1   | 1           | 0   | 7   | 3          | 54   | 2   | 136  |
| 16:55-17:00              | 4          | 56   | 0  | 0           | 0  | 1   | 7           | 0   | 7   | 2          | 56   | 0   | 133  |
| 17:00-17:05              | 2          | 67   | 0  | 2           | 0  | 1   | 1           | 1   | 5   | 3          | 73   | 1   | 156  |
| 17:05-17:10              | 8          | 66   | 0  | 0           | 0  | 0   | 1           | 0   | 6   | 2          | 53   | 0   | 136  |
| 17:10-17:15              | 2          | 57   | 1  | 0           | 0  | 0   | 3           | 0   | 6   | 5          | 59   | 1   | 134  |
| 17:15-17:20              | 2          | 57   | 0  | 2           | 0  | 0   | 8           | 0   | 5   | 1          | 60   | 1   | 136  |
| 17:20-17:25              | 5          | 50   | 0  | 0           | 0  | 0   | 3           | 0   | 4   | 1          | 59   | 0   | 122  |
| 17:25-17:30              | 3          | 55   | 0  | 0           | 0  | 0   | 1           | 0   | 4   | 2          | 61   | 0   | 126  |
| 17:30-17:35              | 1          | 53   | 0  | 0           | 0  | 0   | 5           | 0   | 1   | 2          | 61   | 0   | 123  |
| 17:35-17:40              | 3          | 43   | 0  | 0           | 0  | 1   | 0           | 0   | 5   | 2          | 61   | 0   | 115  |
| 17:40-17:45              | 7          | 57   | 0  | 0           | 0  | 0   | 3           | 0   | 4   | 0          | 51   | 0   | 122  |
| 17:45-17:50              | 3          | 50   | 0  | 0           | 0  | 0   | 2           | 0   | 4   | 2          | 53   | 0   | 114  |
| 17:50-17:55              | 2          | 53   | 0  | 0           | 0  | 0   | 4           | 0   | 7   | 2          | 48   | 0   | 116  |
| 17:55-18:00              | 4          | 44   | 0  | 0           | 0  | 0   | 7           | 0   | 1   | 3          | 53   | 0   | 112  |
|                          |            |      |    |             |    |     |             |     |     |            |      |     |      |
| Total Survey             | 96         | 1385 | 5  | 16          | 3  | 12  | 67          | 2   | 138 | 53         | 1414 | 10  | 3201 |
| PHF                      | .78        | .92  | .5 | .7          | .5 | .75 | .58         | .25 | .78 | .68        | .89  | .67 | .932 |
| % Trucks                 | 0          | 1    | 0  | 0           | 0  | 0   | 0           | 0   | .7  | 3.8        | 1.6  | 0   | 1.2  |
| Stopped Buses            | 0          | 0    | 0  | 0           | 0  | 0   | 0           | 0   | 0   | 0          | 0    | 0   |      |
| Peds                     | 0          | 4    | 0  | 0           | 1  | 0   | 0           | 0   | 0   | 0          | 4    | 0   |      |
|                          |            |      |    |             |    |     |             |     |     |            |      |     |      |
| Hourly Totals            |            |      |    |             |    |     |             |     |     |            |      |     |      |
| 16:00-17:00              | 54         | 733  | 4  | 12          | 3  | 10  | 29          | 1   | 86  | 28         | 722  | 7   | 1689 |
| 16:15-17:15              | 51         | 726  | 5  | 11          | 2  | 6   | 26          | 1   | 81  | 30         | 707  | 8   | 1654 |
| 16:30-17:30              | 50         | 707  | 3  | 10          | 1  | 6   | 37          | 1   | 75  | 27         | 692  | 8   | 1617 |
| 16:45-17:45              | 45         | 680  | 3  | 9           | 1  | 4   | 37          | 1   | 58  | 24         | 715  | 5   | 1582 |
| 17:00-18:00              | 42         | 652  | 1  | 4           | 0  | 2   | 38          | 1   | 52  | 25         | 692  | 3   | 1512 |

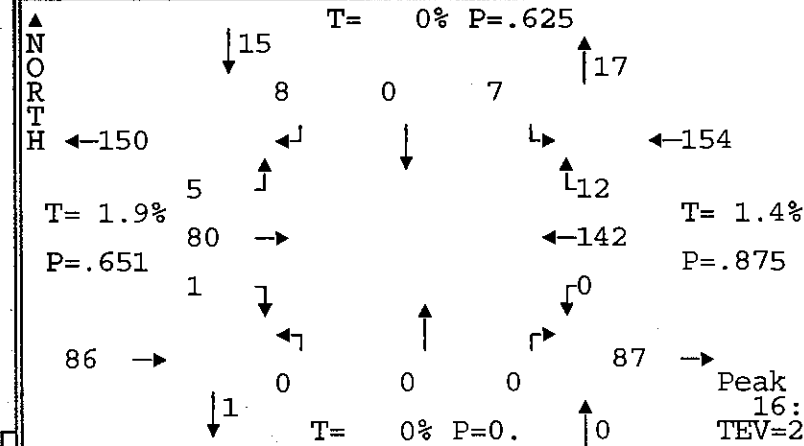
# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT VIRGINIA @ CHANNEL

DATE OF COUNT: 08/20/02  
DAY OF WEEK: TUE  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

V5CQ

Traffic Smithy  
(503) 641-6333

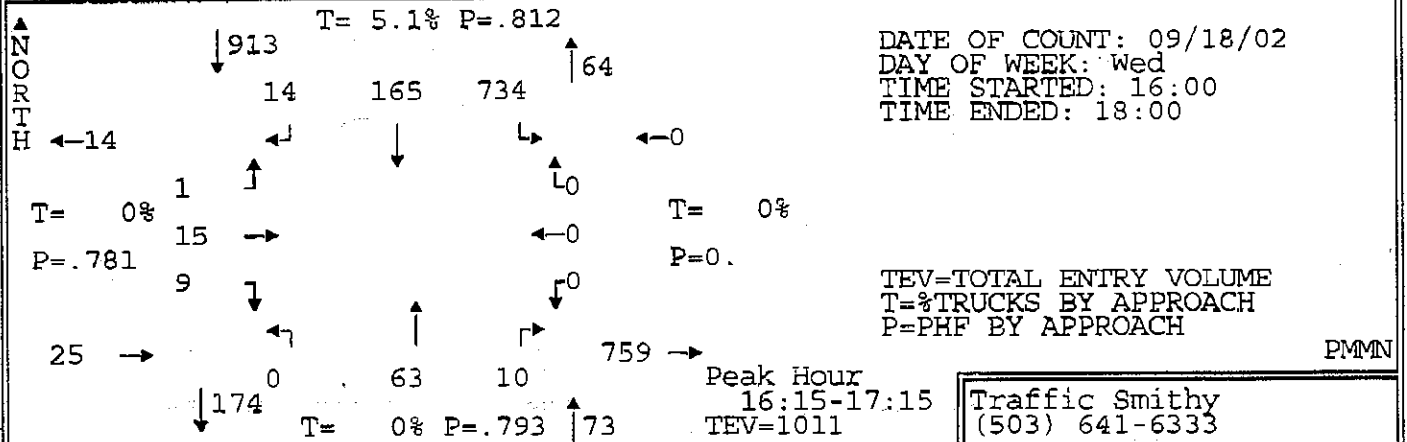


| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | → | ←           | ↑ | → | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 6  | 0 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 12 | 1 | 21  |
| 16:05-16:10              | 0          | 7  | 0 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 5  | 0 | 13  |
| 16:10-16:15              | 0          | 4  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 19 | 1 | 24  |
| 16:15-16:20              | 0          | 7  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 13 | 0 | 20  |
| 16:20-16:25              | 0          | 7  | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 7  | 0 | 15  |
| 16:25-16:30              | 0          | 5  | 1 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 9  | 0 | 17  |
| 16:30-16:35              | 0          | 3  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 7  | 0 | 10  |
| 16:35-16:40              | 0          | 6  | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 12 | 1 | 20  |
| 16:40-16:45              | 0          | 4  | 0 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 5  | 2 | 13  |
| 16:45-16:50              | 0          | 11 | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 8  | 0 | 20  |
| 16:50-16:55              | 0          | 10 | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 11 | 2 | 24  |
| 16:55-17:00              | 0          | 4  | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 14 | 0 | 19  |
| 17:00-17:05              | 0          | 3  | 0 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 10 | 2 | 17  |
| 17:05-17:10              | 0          | 6  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 7  | 1 | 14  |
| 17:10-17:15              | 1          | 5  | 0 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 11 | 0 | 19  |
| 17:15-17:20              | 0          | 8  | 0 | 0           | 0 | 3 | 0           | 0 | 0 | 0          | 13 | 0 | 24  |
| 17:20-17:25              | 0          | 11 | 3 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 12 | 0 | 26  |
| 17:25-17:30              | 0          | 9  | 2 | 2           | 0 | 1 | 0           | 0 | 0 | 0          | 18 | 1 | 33  |
| 17:30-17:35              | 0          | 4  | 0 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 9  | 1 | 16  |
| 17:35-17:40              | 0          | 5  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 9  | 1 | 15  |
| 17:40-17:45              | 0          | 5  | 0 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 12 | 0 | 18  |
| 17:45-17:50              | 0          | 10 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 16 | 4 | 30  |
| 17:50-17:55              | 0          | 7  | 2 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 8  | 1 | 19  |
| 17:55-18:00              | 0          | 4  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 14 | 1 | 19  |

|               |     |     |      |    |   |     |   |   |   |   |     |    |      |
|---------------|-----|-----|------|----|---|-----|---|---|---|---|-----|----|------|
| Total Survey  | 1   | 151 | 8    | 16 | 0 | 10  | 0 | 0 | 0 | 0 | 261 | 19 | 466  |
| PHF           | .25 | .71 | .25  | .5 | 0 | .44 | 0 | 0 | 0 | 0 | .83 | .6 | .768 |
| % Trucks      | 0   | 1.3 | 12.5 | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 1.5 | 0  | 1.5  |
| Stopped Buses | 0   | 0   | 0    | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 0   | 0  |      |
| Peds          | 0   | 0   | 0    | 0  | 0 | 0   | 0 | 0 | 0 | 0 | 6   | 0  |      |

|               |   |    |   |    |   |   |   |   |   |   |     |    |     |
|---------------|---|----|---|----|---|---|---|---|---|---|-----|----|-----|
| Hourly Totals |   |    |   |    |   |   |   |   |   |   |     |    |     |
| 16:00-17:00   | 0 | 74 | 1 | 9  | 0 | 3 | 0 | 0 | 0 | 0 | 122 | 7  | 216 |
| 16:15-17:15   | 1 | 71 | 1 | 10 | 0 | 3 | 0 | 0 | 0 | 0 | 114 | 8  | 208 |
| 16:30-17:30   | 1 | 80 | 5 | 10 | 0 | 6 | 0 | 0 | 0 | 0 | 128 | 9  | 239 |
| 16:45-17:45   | 1 | 81 | 5 | 9  | 0 | 7 | 0 | 0 | 0 | 0 | 134 | 8  | 245 |
| 17:00-18:00   | 1 | 77 | 7 | 7  | 0 | 7 | 0 | 0 | 0 | 0 | 139 | 12 | 250 |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT HIGHWAY 101 SOUTHBOUND/SHERMAN AVENUE AT WASHINGTON STREET



| TIME PERIOD<br>FROM - TO | EAST BOUND |   |   | SOUTH BOUND |    |    | NORTH BOUND |   |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|---|-------------|----|----|-------------|---|---|------------|---|---|-----|
|                          | ↓          | → | ↑ | ←           | ↓  | ↑  | ←           | ↑ | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 3 | 1 | 1           | 12 | 69 | 0           | 5 | 0 | 0          | 0 | 0 | 91  |
| 16:05-16:10              | 3          | 0 | 0 | 2           | 10 | 62 | 0           | 6 | 0 | 0          | 0 | 0 | 83  |
| 16:10-16:15              | 2          | 1 | 0 | 0           | 11 | 59 | 0           | 3 | 0 | 0          | 0 | 0 | 76  |
| 16:15-16:20              | 1          | 0 | 0 | 0           | 18 | 57 | 0           | 5 | 0 | 0          | 0 | 0 | 81  |
| 16:20-16:25              | 0          | 1 | 0 | 2           | 9  | 55 | 0           | 9 | 0 | 0          | 0 | 0 | 76  |
| 16:25-16:30              | 0          | 3 | 0 | 2           | 12 | 51 | 0           | 5 | 1 | 0          | 0 | 0 | 74  |
| 16:30-16:35              | 2          | 1 | 0 | 3           | 8  | 55 | 0           | 5 | 1 | 0          | 0 | 0 | 75  |
| 16:35-16:40              | 1          | 0 | 1 | 1           | 2  | 70 | 0           | 1 | 0 | 0          | 0 | 0 | 76  |
| 16:40-16:45              | 2          | 0 | 0 | 1           | 12 | 54 | 0           | 4 | 0 | 0          | 0 | 0 | 73  |
| 16:45-16:50              | 0          | 1 | 0 | 2           | 15 | 60 | 0           | 8 | 1 | 0          | 0 | 0 | 87  |
| 16:50-16:55              | 0          | 3 | 0 | 1           | 11 | 57 | 0           | 6 | 1 | 0          | 0 | 0 | 79  |
| 16:55-17:00              | 1          | 1 | 0 | 1           | 20 | 55 | 0           | 3 | 0 | 0          | 0 | 0 | 81  |
| 17:00-17:05              | 0          | 3 | 0 | 0           | 19 | 90 | 0           | 2 | 3 | 0          | 0 | 0 | 117 |
| 17:05-17:10              | 1          | 1 | 0 | 1           | 25 | 70 | 0           | 8 | 1 | 0          | 0 | 0 | 107 |
| 17:10-17:15              | 1          | 1 | 0 | 0           | 14 | 60 | 0           | 7 | 2 | 0          | 0 | 0 | 85  |
| 17:15-17:20              | 2          | 3 | 0 | 1           | 14 | 48 | 0           | 3 | 1 | 0          | 0 | 0 | 72  |
| 17:20-17:25              | 0          | 3 | 0 | 1           | 7  | 40 | 0           | 7 | 2 | 0          | 0 | 0 | 59  |
| 17:25-17:30              | 0          | 2 | 0 | 0           | 16 | 60 | 0           | 5 | 1 | 0          | 0 | 0 | 85  |
| 17:30-17:35              | 1          | 1 | 0 | 3           | 8  | 40 | 0           | 8 | 0 | 0          | 0 | 0 | 61  |
| 17:35-17:40              | 1          | 0 | 0 | 2           | 9  | 55 | 0           | 3 | 0 | 0          | 0 | 0 | 70  |
| 17:40-17:45              | 1          | 2 | 0 | 1           | 17 | 53 | 0           | 3 | 0 | 0          | 0 | 0 | 77  |
| 17:45-17:50              | 1          | 0 | 0 | 1           | 16 | 47 | 0           | 7 | 0 | 0          | 0 | 0 | 72  |
| 17:50-17:55              | 0          | 1 | 0 | 0           | 7  | 56 | 0           | 9 | 0 | 0          | 0 | 0 | 73  |
| 17:55-18:00              | 0          | 0 | 0 | 2           | 8  | 45 | 0           | 6 | 0 | 0          | 0 | 0 | 61  |

Washington St. SB  
RT  
@  
Wash.  
St.

SB  
RT  
onto  
Sherman

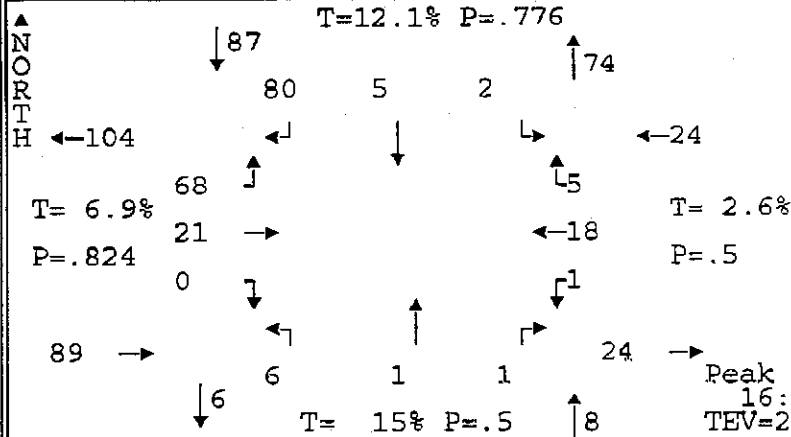
SB  
Thru  
onto  
101SB

Eastbound on  
Sherman

Not used in  
Excel or Traffix

|               |     |     |     |    |     |      |   |     |     |   |   |   |      |
|---------------|-----|-----|-----|----|-----|------|---|-----|-----|---|---|---|------|
| Total Survey  | 20  | 31  | 2   | 28 | 300 | 1368 | 0 | 128 | 14  | 0 | 0 | 0 | 1891 |
| PHF           | .45 | .54 | .25 | .5 | .64 | .83  | 0 | .83 | .42 | 0 | 0 | 0 | .817 |
| % Trucks      | 0   | 0   | 0   | 0  | .7  | 6.1  | 0 | 0   | 0   | 0 | 0 | 0 | 4.5  |
| Stopped Buses | 0   | 0   | 0   | 0  | 0   | 0    | 0 | 0   | 0   | 0 | 0 | 0 | 0    |
| Peds          | 0   | 1   | 0   | 0  | 14  | 0    | 0 | 0   | 0   | 0 | 4 | 0 | 0    |
| Hourly Totals |     |     |     |    |     |      |   |     |     |   |   |   |      |
| 16:00-17:00   | 12  | 14  | 2   | 16 | 140 | 704  | 0 | 60  | 4   | 0 | 0 | 0 | 952  |
| 16:15-17:15   | 9   | 15  | 1   | 14 | 165 | 734  | 0 | 63  | 10  | 0 | 0 | 0 | 1011 |
| 16:30-17:30   | 10  | 19  | 1   | 12 | 163 | 719  | 0 | 59  | 13  | 0 | 0 | 0 | 996  |
| 16:45-17:45   | 8   | 21  | 0   | 13 | 175 | 688  | 0 | 63  | 12  | 0 | 0 | 0 | 980  |
| 17:00-18:00   | 8   | 17  | 0   | 12 | 160 | 664  | 0 | 68  | 10  | 0 | 0 | 0 | 939  |

# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT BROADWAY AT LOCKHART



DATE OF COUNT: 09/18/02  
DAY OF WEEK: Wed  
TIME STARTED: 16:00  
TIME ENDED: 18:00

TEV=TOTAL ENTRY VOLUME  
T=%TRUCKS BY APPROACH  
P=PHF BY APPROACH

PMMO

Peak Hour  
16:30-17:30  
TEV=208

Traffic Smithy  
(503) 641-6333

| TIME PERIOD<br>FROM - TO | EAST BOUND |   |    | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |   |   | ALL |
|--------------------------|------------|---|----|-------------|---|---|-------------|---|---|------------|---|---|-----|
|                          | ↓          | → | ↑  | ←           | ↓ | ↑ | ←           | ↑ | → | ↓          | ← | ↑ |     |
| 16:00-16:05              | 0          | 1 | 3  | 5           | 2 | 1 | 2           | 1 | 0 | 0          | 0 | 1 | 16  |
| 16:05-16:10              | 1          | 0 | 2  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 1 | 0 | 10  |
| 16:10-16:15              | 1          | 3 | 3  | 6           | 1 | 0 | 2           | 0 | 0 | 0          | 2 | 1 | 19  |
| 16:15-16:20              | 0          | 0 | 2  | 12          | 1 | 1 | 2           | 2 | 0 | 0          | 1 | 1 | 22  |
| 16:20-16:25              | 1          | 1 | 4  | 9           | 0 | 0 | 0           | 1 | 0 | 0          | 1 | 0 | 17  |
| 16:25-16:30              | 0          | 0 | 5  | 3           | 0 | 0 | 0           | 0 | 1 | 0          | 1 | 0 | 10  |
| 16:30-16:35              | 0          | 4 | 4  | 11          | 2 | 0 | 2           | 0 | 0 | 0          | 6 | 1 | 30  |
| 16:35-16:40              | 0          | 1 | 5  | 7           | 0 | 1 | 2           | 0 | 0 | 0          | 4 | 0 | 20  |
| 16:40-16:45              | 0          | 1 | 3  | 7           | 0 | 0 | 0           | 0 | 0 | 0          | 1 | 0 | 12  |
| 16:45-16:50              | 0          | 3 | 3  | 3           | 1 | 0 | 0           | 0 | 0 | 0          | 0 | 2 | 12  |
| 16:50-16:55              | 0          | 3 | 5  | 6           | 0 | 0 | 0           | 0 | 1 | 0          | 1 | 0 | 16  |
| 16:55-17:00              | 0          | 2 | 4  | 5           | 0 | 0 | 0           | 0 | 0 | 0          | 1 | 1 | 13  |
| 17:00-17:05              | 0          | 1 | 6  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 1 | 0 | 14  |
| 17:05-17:10              | 0          | 3 | 3  | 7           | 1 | 0 | 0           | 1 | 0 | 1          | 0 | 0 | 16  |
| 17:10-17:15              | 0          | 1 | 11 | 10          | 0 | 0 | 0           | 0 | 0 | 0          | 2 | 0 | 24  |
| 17:15-17:20              | 0          | 0 | 9  | 5           | 1 | 1 | 1           | 0 | 0 | 0          | 0 | 0 | 17  |
| 17:20-17:25              | 0          | 0 | 6  | 8           | 0 | 0 | 1           | 0 | 0 | 0          | 2 | 0 | 17  |
| 17:25-17:30              | 0          | 2 | 9  | 5           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 1 | 17  |
| 17:30-17:35              | 0          | 0 | 3  | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 1 | 1 | 7   |
| 17:35-17:40              | 0          | 4 | 2  | 1           | 1 | 1 | 0           | 0 | 0 | 0          | 0 | 0 | 9   |
| 17:40-17:45              | 0          | 1 | 2  | 6           | 0 | 0 | 0           | 1 | 0 | 0          | 0 | 0 | 10  |
| 17:45-17:50              | 0          | 2 | 7  | 8           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 17  |
| 17:50-17:55              | 0          | 1 | 4  | 6           | 0 | 0 | 0           | 0 | 0 | 0          | 3 | 0 | 14  |
| 17:55-18:00              | 0          | 0 | 3  | 5           | 1 | 0 | 0           | 0 | 0 | 0          | 1 | 0 | 10  |

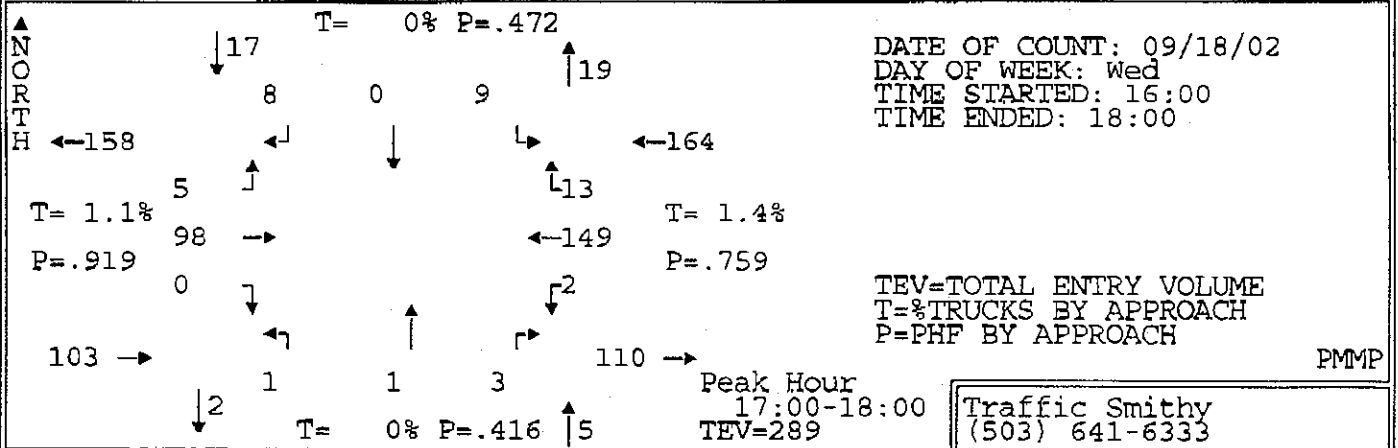
|               |   |     |     |      |      |    |     |     |     |     |     |      |      |
|---------------|---|-----|-----|------|------|----|-----|-----|-----|-----|-----|------|------|
| Total Survey  | 3 | 34  | 108 | 149  | 11   | 5  | 12  | 6   | 2   | 1   | 29  | 9    | 369  |
| PHF           | 0 | .66 | .65 | .8   | .63  | .5 | .38 | .25 | .25 | .25 | .41 | .42  | .838 |
| % Trucks      | 0 | 8.8 | 6.5 | 11.4 | 18.2 | 20 | 25  | 0   | 0   | 0   | 0   | 11.1 | 9.2  |
| Stopped Buses | 0 | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0    |
| Peds          | 0 | 0   | 0   | 0    | 0    | 0  | 0   | 0   | 0   | 0   | 0   | 0    | 0    |

|               |   |    |    |    |   |   |    |   |   |   |    |   |     |
|---------------|---|----|----|----|---|---|----|---|---|---|----|---|-----|
| Hourly Totals |   |    |    |    |   |   |    |   |   |   |    |   |     |
| 16:00-17:00   | 3 | 19 | 43 | 80 | 7 | 3 | 10 | 4 | 2 | 0 | 19 | 7 | 197 |
| 16:15-17:15   | 1 | 20 | 55 | 86 | 5 | 2 | 6  | 4 | 2 | 1 | 19 | 5 | 206 |
| 16:30-17:30   | 0 | 21 | 68 | 80 | 5 | 2 | 6  | 1 | 1 | 1 | 18 | 5 | 208 |
| 16:45-17:45   | 0 | 20 | 63 | 64 | 4 | 2 | 2  | 2 | 1 | 1 | 8  | 5 | 172 |
| 17:00-18:00   | 0 | 15 | 65 | 69 | 4 | 2 | 2  | 2 | 0 | 1 | 10 | 2 | 172 |



# INTERSECTION TURN MOVEMENT COUNT SUMMARY REPORT

## VIRGINIA AT ARTHUR



| TIME PERIOD<br>FROM - TO | EAST BOUND |    |   | SOUTH BOUND |   |   | NORTH BOUND |   |   | WEST BOUND |    |   | ALL |
|--------------------------|------------|----|---|-------------|---|---|-------------|---|---|------------|----|---|-----|
|                          | ↓          | →  | ↑ | ←           | ↓ | ↘ | ←           | ↑ | ↗ | ↓          | ←  | ↑ |     |
| 16:00-16:05              | 0          | 6  | 0 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 7  | 2 | 16  |
| 16:05-16:10              | 0          | 7  | 1 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 9  | 0 | 18  |
| 16:10-16:15              | 0          | 9  | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 11 | 0 | 21  |
| 16:15-16:20              | 0          | 9  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 7  | 1 | 17  |
| 16:20-16:25              | 0          | 6  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 11 | 1 | 18  |
| 16:25-16:30              | 0          | 2  | 0 | 1           | 0 | 2 | 0           | 0 | 0 | 0          | 12 | 0 | 17  |
| 16:30-16:35              | 0          | 5  | 0 | 1           | 0 | 0 | 0           | 0 | 0 | 0          | 8  | 2 | 16  |
| 16:35-16:40              | 0          | 7  | 0 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 13 | 1 | 23  |
| 16:40-16:45              | 0          | 4  | 1 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 7  | 0 | 12  |
| 16:45-16:50              | 0          | 9  | 0 | 1           | 0 | 2 | 0           | 0 | 0 | 0          | 11 | 0 | 23  |
| 16:50-16:55              | 0          | 10 | 0 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 17 | 0 | 28  |
| 16:55-17:00              | 0          | 8  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 3  | 0 | 11  |
| 17:00-17:05              | 0          | 7  | 0 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 8  | 1 | 18  |
| 17:05-17:10              | 0          | 7  | 1 | 0           | 0 | 0 | 0           | 0 | 1 | 0          | 11 | 1 | 22  |
| 17:10-17:15              | 0          | 10 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 15 | 0 | 25  |
| 17:15-17:20              | 0          | 9  | 0 | 1           | 0 | 0 | 0           | 0 | 1 | 0          | 12 | 1 | 24  |
| 17:20-17:25              | 0          | 9  | 0 | 1           | 0 | 0 | 0           | 1 | 1 | 0          | 17 | 1 | 30  |
| 17:25-17:30              | 0          | 6  | 0 | 2           | 0 | 2 | 0           | 0 | 0 | 0          | 21 | 2 | 33  |
| 17:30-17:35              | 0          | 7  | 1 | 0           | 0 | 3 | 0           | 0 | 0 | 0          | 13 | 0 | 24  |
| 17:35-17:40              | 0          | 7  | 2 | 1           | 0 | 1 | 0           | 0 | 0 | 0          | 11 | 2 | 24  |
| 17:40-17:45              | 0          | 11 | 2 | 2           | 0 | 0 | 0           | 0 | 0 | 0          | 11 | 0 | 24  |
| 17:45-17:50              | 0          | 7  | 0 | 1           | 0 | 1 | 1           | 0 | 0 | 0          | 6  | 1 | 17  |
| 17:50-17:55              | 0          | 8  | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 10 | 1 | 19  |
| 17:55-18:00              | 0          | 10 | 1 | 0           | 0 | 1 | 0           | 0 | 0 | 0          | 14 | 3 | 29  |

|               |   |     |     |    |   |     |     |     |     |     |     |     |      |
|---------------|---|-----|-----|----|---|-----|-----|-----|-----|-----|-----|-----|------|
| Total Survey  | 0 | 180 | 7   | 14 | 0 | 16  | 1   | 1   | 3   | 2   | 265 | 20  | 509  |
| PHF           | 0 | .88 | .42 | .5 | 0 | .38 | .25 | .25 | .38 | .25 | .73 | .65 | .830 |
| % Trucks      | 0 | 1.1 | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0   | 1.5 | 0   | 1.2  |
| Stopped Buses | 0 | 0   | 0   | 0  | 0 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    |
| Peds          | 0 | 0   | 0   | 0  | 3 | 0   | 0   | 2   | 0   | 0   | 8   | 0   | 0    |
| Hourly Totals |   |     |     |    |   |     |     |     |     |     |     |     |      |
| 16:00-17:00   | 0 | 82  | 2   | 6  | 0 | 7   | 0   | 0   | 0   | 0   | 116 | 7   | 220  |
| 16:15-17:15   | 0 | 84  | 2   | 5  | 0 | 6   | 0   | 0   | 1   | 2   | 123 | 7   | 230  |
| 16:30-17:30   | 0 | 91  | 2   | 8  | 0 | 6   | 0   | 1   | 3   | 2   | 143 | 9   | 265  |
| 16:45-17:45   | 0 | 100 | 4   | 8  | 0 | 10  | 0   | 1   | 3   | 2   | 150 | 8   | 286  |
| 17:00-18:00   | 0 | 98  | 5   | 8  | 0 | 9   | 1   | 1   | 3   | 2   | 149 | 13  | 289  |

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: WEST BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 1           | 3           | 1           | 3           | 3           | 1           | 1           | 2           | 1           | 1           | 2           | 1           | 20           |
| 01-02          | 5           | 0           | 1           | 0           | 0           | 0           | 1           | 9           | 4           | 3           | 1           | 6           | 30           |
| 02-03          | 2           | 2           | 1           | 2           | 2           | 1           | 1           | 1           | 1           | 1           | 2           | 5           | 21           |
| 03-04          | 2           | 4           | 1           | 0           | 0           | 0           | 0           | 0           | 0           | 1           | 1           | 0           | 9            |
| 04-05          | 4           | 2           | 1           | 2           | 2           | 2           | 5           | 4           | 5           | 4           | 1           | 3           | 35           |
| 05-06          | 6           | 0           | 5           | 1           | 11          | 2           | 5           | 8           | 9           | 8           | 11          | 3           | 69           |
| 06-07          | 7           | 9           | 4           | 8           | 8           | 19          | 14          | 12          | 20          | 24          | 28          | 15          | 168          |
| 07-08          | 23          | 13          | 19          | 17          | 27          | 22          | 22          | 32          | 36          | 51          | 55          | 34          | 351          |
| 08-09          | 35          | 26          | 33          | 34          | 40          | 34          | 43          | 46          | 50          | 48          | 40          | 42          | 471          |
| 09-10          | 28          | 33          | 51          | 55          | 35          | 43          | 27          | 45          | 47          | 48          | 52          | 54          | 518          |
| 10-11          | 45          | 45          | 50          | 57          | 55          | 40          | 50          | 47          | 48          | 47          | 51          | 61          | 596          |
| 11-12          | 70          | 69          | 68          | 60          | 47          | 56          | 43          | 57          | 51          | 60          | 49          | 61          | 691          |
| 12-13          | 70          | 68          | 65          | 59          | 58          | 74          | 61          | 40          | 49          | 61          | 58          | 66          | 729          |
| 13-14          | 49          | 59          | 56          | 58          | 68          | 58          | 53          | 63          | 52          | 45          | 45          | 61          | 667          |
| 14-15          | 61          | 49          | 55          | 36          | 67          | 47          | 51          | 58          | 45          | 54          | 44          | 52          | 619          |
| 15-16          | 43          | 55          | 52          | 59          | 46          | 49          | 61          | 65          | 54          | 60          | 51          | 42          | 637          |
| 16-17          | 51          | 51          | 51          | 47          | 48          | 52          | 52          | 48          | 44          | 47          | 54          | 64          | 609          |
| 17-18          | 63          | 65          | 55          | 51          | 57          | 51          | 53          | 53          | 44          | 52          | 54          | 41          | 639          |
| 18-19          | 39          | 48          | 44          | 43          | 38          | 29          | 35          | 30          | 27          | 39          | 32          | 29          | 433          |
| 19-20          | 32          | 34          | 42          | 24          | 24          | 20          | 35          | 31          | 23          | 20          | 25          | 25          | 335          |
| 20-21          | 21          | 15          | 14          | 8           | 14          | 18          | 25          | 19          | 25          | 26          | 23          | 17          | 225          |
| 21-22          | 22          | 21          | 11          | 19          | 18          | 25          | 17          | 12          | 17          | 12          | 17          | 10          | 201          |
| 22-23          | 17          | 11          | 10          | 8           | 6           | 9           | 13          | 5           | 10          | 4           | 9           | 5           | 107          |
| 23-24          | 5           | 9           | 8           | 7           | 9           | 11          | 4           | 3           | 3           | 5           | 3           | 3           | 70           |

Daily Total: 8250

AM Peak Hour (10:50-11:50) 693

8.4 % of Daily Total

PM Peak Hour (12:00-13:00) 729

8.84 % of Daily Total

4th Highest Hour (17:00-18:00) 639

7.75 % of Daily Total

8th Highest Hour (10:00-11:00) 596

7.22 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: WEST BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 5           | 7           | 6           | 1           | 2           | 4           | 3           | 2           | 4           | 1           | 1           | 39           |
| 01-02          | 1           | 1           | 2           | 2           | 2           | 4           | 1           | 4           | 0           | 0           | 0           | 1           | 18           |
| 02-03          | 2           | 2           | 2           | 1           | 0           | 1           | 1           | 2           | 3           | 3           | 1           | 1           | 19           |
| 03-04          | 3           | 1           | 1           | 1           | 0           | 1           | 0           | 1           | 0           | 3           | 0           | 0           | 11           |
| 04-05          | 4           | 3           | 0           | 0           | 2           | 4           | 1           | 2           | 3           | 4           | 4           | 1           | 28           |
| 05-06          | 2           | 4           | 2           | 1           | 2           | 3           | 5           | 10          | 7           | 3           | 11          | 5           | 55           |
| 06-07          | 8           | 10          | 11          | 8           | 7           | 14          | 17          | 22          | 22          | 26          | 21          | 20          | 186          |
| 07-08          | 11          | 19          | 18          | 21          | 26          | 16          | 27          | 32          | 37          | 47          | 46          | 30          | 330          |
| 08-09          | 31          | 30          | 35          | 34          | 38          | 38          | 42          | 33          | 45          | 52          | 51          | 32          | 461          |
| 09-10          | 39          | 37          | 42          | 30          | 30          | 37          | 45          | 26          | 40          | 46          | 44          | 47          | 463          |
| 10-11          | 50          | 48          | 30          | 63          | 50          | 38          | 47          | 46          | 43          | 48          | 49          | 50          | 562          |
| 11-12          | 59          | 41          | 46          | 62          | 49          | 48          | 58          | 56          | 54          | 56          | 50          | 53          | 632          |
| 12-13          | 61          | 55          | 73          | 49          | 56          | 54          | 54          | 60          | 56          | 58          | 61          | 57          | 694          |
| 13-14          | 69          | 46          | 48          | 56          | 55          | 48          | 41          | 40          | 55          | 45          | 52          | 45          | 600          |
| 14-15          | 52          | 54          | 40          | 54          | 54          | 52          | 44          | 54          | 53          | 55          | 59          | 52          | 623          |
| 15-16          | 71          | 57          | 49          | 64          | 53          | 62          | 50          | 66          | 73          | 59          | 68          | 54          | 726          |
| 16-17          | 55          | 51          | 45          | 42          | 43          | 56          | 50          | 49          | 46          | 51          | 63          | 62          | 613          |
| 17-18          | 65          | 69          | 60          | 56          | 54          | 48          | 38          | 57          | 44          | 54          | 42          | 41          | 628          |
| 18-19          | 46          | 43          | 39          | 38          | 46          | 31          | 28          | 37          | 36          | 43          | 30          | 29          | 446          |
| 19-20          | 45          | 45          | 34          | 33          | 28          | 26          | 14          | 27          | 28          | 24          | 29          | 22          | 355          |
| 20-21          | 30          | 20          | 21          | 21          | 16          | 17          | 16          | 25          | 27          | 25          | 17          | 20          | 255          |
| 21-22          | 21          | 14          | 23          | 22          | 19          | 14          | 17          | 21          | 14          | 20          | 13          | 11          | 209          |
| 22-23          | 8           | 8           | 14          | 14          | 7           | 8           | 11          | 8           | 10          | 2           | 2           | 6           | 98           |
| 23-24          | 2           | 6           | 5           | 10          | 10          | 5           | 6           | 1           | 5           | 3           | 3           | 5           | 61           |

Daily Total: 8112

AM Peak Hour (11:00-12:00) 632

7.79 % of Daily Total

PM Peak Hour (15:00-16:00) 726

8.95 % of Daily Total

4th Highest Hour (17:00-18:00) 628

7.74 % of Daily Total

8th Highest Hour (10:00-11:00) 562

6.93 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: WEST BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 4           | 3           | 2           | 3           | 7           | 3           | 4           | 3           | 2           | 1           | 1           | 1           | 34           |
| 01-02          | 0           | 4           | 2           | 1           | 1           | 2           | 1           | 3           | 3           | 3           | 0           | 1           | 21           |
| 02-03          | 3           | 1           | 1           | 3           | 2           | 2           | 1           | 0           | 0           | 3           | 3           | 3           | 22           |
| 03-04          | 0           | 2           | 0           | 1           | 2           | 2           | 1           | 2           | 2           | 2           | 0           | 0           | 14           |
| 04-05          | 1           | 1           | 0           | 1           | 3           | 1           | 4           | 2           | 5           | 8           | 3           | 1           | 30           |
| 05-06          | 3           | 0           | 5           | 6           | 4           | 1           | 5           | 7           | 7           | 4           | 10          | 7           | 59           |
| 06-07          | 7           | 9           | 3           | 12          | 19          | 9           | 13          | 20          | 21          | 16          | 26          | 20          | 175          |
| 07-08          | 11          | 15          | 17          | 19          | 28          | 20          | 26          | 32          | 49          | 61          | 49          | 41          | 368          |
| 08-09          | 40          | 33          | 36          | 25          | 34          | 35          | 43          | 40          | 35          | 42          | 48          | 28          | 439          |
| 09-10          | 53          | 44          | 35          | 47          | 31          | 41          | 31          | 41          | 32          | 37          | 43          | 41          | 476          |
| 10-11          | 50          | 36          | 39          | 51          | 35          | 34          | 39          | 41          | 65          | 51          | 43          | 48          | 532          |
| 11-12          | 61          | 47          | 46          | 47          | 58          | 52          | 46          | 61          | 63          | 64          | 70          | 52          | 667          |
| 12-13          | 66          | 63          | 63          | 51          | 47          | 49          | 46          | 56          | 56          | 65          | 53          | 63          | 678          |
| 13-14          | 48          | 63          | 55          | 64          | 58          | 43          | 63          | 49          | 38          | 61          | 57          | 58          | 657          |
| 14-15          | 79          | 54          | 46          | 46          | 54          | 61          | 57          | 60          | 50          | 50          | 63          | 75          | 695          |
| 15-16          | 38          | 64          | 36          | 72          | 61          | 64          | 72          | 57          | 40          | 46          | 53          | 61          | 664          |
| 16-17          | 59          | 48          | 62          | 41          | 44          | 53          | 54          | 47          | 53          | 53          | 60          | 48          | 622          |
| 17-18          | 62          | 68          | 74          | 51          | 66          | 48          | 56          | 64          | 61          | 44          | 41          | 38          | 673          |
| 18-19          | 45          | 42          | 41          | 35          | 28          | 32          | 32          | 25          | 41          | 29          | 35          | 32          | 417          |
| 19-20          | 39          | 40          | 34          | 30          | 30          | 19          | 19          | 26          | 27          | 34          | 26          | 31          | 355          |
| 20-21          | 24          | 25          | 21          | 27          | 19          | 16          | 27          | 15          | 24          | 15          | 24          | 19          | 256          |
| 21-22          | 26          | 30          | 14          | 19          | 18          | 16          | 11          | 17          | 16          | 7           | 11          | 9           | 194          |
| 22-23          | 11          | 9           | 14          | 15          | 5           | 10          | 9           | 13          | 12          | 5           | 8           | 13          | 124          |
| 23-24          | 11          | 6           | 10          | 6           | 6           | 12          | 7           | 5           | 5           | 7           | 4           | 2           | 81           |

Daily Total: 8253

AM Peak Hour (11:00-12:00) 667

8.08 % of Daily Total

PM Peak Hour (16:45-17:45) 711

8.62 % of Daily Total

4th Highest Hour (11:00-12:00) 667

8.08 % of Daily Total

8th Highest Hour (10:00-11:00) 532

6.45 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: EAST BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 5           | 4           | 5           | 3           | 1           | 4           | 1           | 2           | 1           | 0           | 0           | 2           | 28           |
| 01-02          | 3           | 3           | 0           | 2           | 4           | 5           | 4           | 3           | 0           | 4           | 1           | 1           | 30           |
| 02-03          | 2           | 4           | 3           | 1           | 4           | 2           | 2           | 2           | 5           | 3           | 1           | 0           | 29           |
| 03-04          | 2           | 0           | 2           | 1           | 2           | 0           | 2           | 1           | 2           | 3           | 5           | 2           | 22           |
| 04-05          | 3           | 8           | 3           | 4           | 5           | 4           | 8           | 6           | 5           | 5           | 3           | 5           | 59           |
| 05-06          | 14          | 6           | 15          | 5           | 6           | 8           | 7           | 8           | 6           | 9           | 8           | 11          | 103          |
| 06-07          | 8           | 16          | 7           | 29          | 13          | 15          | 14          | 17          | 21          | 16          | 19          | 23          | 198          |
| 07-08          | 19          | 17          | 26          | 21          | 28          | 31          | 28          | 48          | 47          | 46          | 47          | 53          | 411          |
| 08-09          | 35          | 37          | 32          | 43          | 23          | 33          | 40          | 30          | 56          | 42          | 37          | 47          | 455          |
| 09-10          | 32          | 35          | 39          | 31          | 34          | 36          | 41          | 41          | 50          | 68          | 48          | 48          | 503          |
| 10-11          | 41          | 39          | 38          | 52          | 41          | 53          | 63          | 43          | 49          | 40          | 34          | 45          | 538          |
| 11-12          | 43          | 48          | 46          | 61          | 57          | 41          | 57          | 61          | 59          | 57          | 58          | 56          | 644          |
| 12-13          | 43          | 54          | 53          | 55          | 52          | 64          | 49          | 53          | 57          | 55          | 55          | 68          | 658          |
| 13-14          | 69          | 59          | 62          | 72          | 43          | 54          | 45          | 43          | 40          | 45          | 49          | 43          | 624          |
| 14-15          | 60          | 48          | 56          | 48          | 52          | 53          | 47          | 64          | 54          | 58          | 53          | 67          | 660          |
| 15-16          | 56          | 56          | 56          | 60          | 63          | 58          | 50          | 55          | 46          | 57          | 47          | 53          | 657          |
| 16-17          | 58          | 57          | 60          | 56          | 53          | 59          | 58          | 50          | 59          | 50          | 54          | 36          | 650          |
| 17-18          | 59          | 73          | 61          | 45          | 49          | 46          | 53          | 45          | 38          | 32          | 50          | 47          | 598          |
| 18-19          | 55          | 33          | 29          | 52          | 37          | 27          | 42          | 26          | 37          | 32          | 29          | 32          | 431          |
| 19-20          | 36          | 37          | 26          | 32          | 27          | 20          | 29          | 24          | 31          | 25          | 24          | 23          | 334          |
| 20-21          | 34          | 29          | 17          | 20          | 19          | 23          | 16          | 18          | 26          | 24          | 20          | 21          | 267          |
| 21-22          | 24          | 19          | 16          | 21          | 17          | 17          | 17          | 11          | 14          | 15          | 16          | 11          | 198          |
| 22-23          | 14          | 6           | 6           | 8           | 9           | 8           | 4           | 10          | 7           | 6           | 9           | 6           | 93           |
| 23-24          | 6           | 12          | 3           | 4           | 8           | 7           | 7           | 8           | 8           | 0           | 3           | 3           | 69           |

Daily Total: 8259

AM Peak Hour (11:00-12:00) 644

7.8 % of Daily Total

PM Peak Hour (12:20-13:20) 715

8.66 % of Daily Total

4th Highest Hour (16:00-17:00) 650

7.87 % of Daily Total

8th Highest Hour (10:00-11:00) 538

6.51 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: EAST BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 0           | 4           | 1           | 2           | 1           | 5           | 3           | 2           | 3           | 6           | 1           | 5           | 33           |
| 01-02          | 1           | 3           | 4           | 1           | 2           | 1           | 1           | 4           | 2           | 0           | 3           | 0           | 22           |
| 02-03          | 3           | 2           | 2           | 4           | 2           | 2           | 3           | 5           | 0           | 3           | 0           | 1           | 27           |
| 03-04          | 0           | 0           | 1           | 2           | 0           | 2           | 3           | 2           | 3           | 1           | 7           | 2           | 23           |
| 04-05          | 2           | 1           | 3           | 7           | 6           | 5           | 3           | 9           | 5           | 8           | 3           | 2           | 54           |
| 05-06          | 13          | 6           | 9           | 8           | 9           | 6           | 5           | 8           | 5           | 6           | 7           | 6           | 88           |
| 06-07          | 8           | 14          | 16          | 17          | 17          | 19          | 17          | 14          | 15          | 14          | 22          | 20          | 193          |
| 07-08          | 15          | 23          | 15          | 25          | 30          | 31          | 26          | 35          | 49          | 54          | 49          | 47          | 399          |
| 08-09          | 37          | 37          | 39          | 29          | 28          | 40          | 41          | 36          | 54          | 53          | 46          | 36          | 476          |
| 09-10          | 34          | 37          | 35          | 37          | 41          | 42          | 43          | 38          | 46          | 41          | 34          | 41          | 469          |
| 10-11          | 37          | 42          | 36          | 39          | 52          | 63          | 37          | 46          | 62          | 49          | 33          | 50          | 546          |
| 11-12          | 41          | 60          | 40          | 55          | 60          | 59          | 60          | 61          | 58          | 64          | 52          | 63          | 673          |
| 12-13          | 57          | 51          | 58          | 68          | 59          | 53          | 60          | 59          | 52          | 65          | 60          | 59          | 701          |
| 13-14          | 58          | 55          | 45          | 45          | 46          | 45          | 48          | 56          | 63          | 60          | 61          | 53          | 635          |
| 14-15          | 53          | 48          | 52          | 55          | 51          | 51          | 45          | 59          | 71          | 58          | 55          | 62          | 660          |
| 15-16          | 44          | 58          | 65          | 47          | 44          | 59          | 59          | 62          | 56          | 59          | 51          | 52          | 656          |
| 16-17          | 40          | 71          | 60          | 43          | 47          | 63          | 57          | 62          | 55          | 49          | 47          | 42          | 636          |
| 17-18          | 69          | 62          | 59          | 58          | 58          | 57          | 49          | 54          | 51          | 54          | 44          | 42          | 657          |
| 18-19          | 53          | 28          | 45          | 33          | 40          | 30          | 44          | 35          | 30          | 47          | 43          | 44          | 472          |
| 19-20          | 32          | 29          | 21          | 31          | 13          | 17          | 25          | 29          | 31          | 28          | 27          | 26          | 309          |
| 20-21          | 28          | 30          | 18          | 19          | 16          | 30          | 26          | 14          | 19          | 20          | 26          | 13          | 259          |
| 21-22          | 25          | 15          | 19          | 25          | 8           | 7           | 11          | 12          | 13          | 10          | 10          | 17          | 172          |
| 22-23          | 9           | 11          | 17          | 8           | 6           | 3           | 6           | 14          | 9           | 9           | 4           | 5           | 101          |
| 23-24          | 9           | 8           | 2           | 3           | 8           | 9           | 4           | 5           | 1           | 5           | 2           | 5           | 61           |

Daily Total: 8322

AM Peak Hour (11:00-12:00) 673

8.09 % of Daily Total

PM Peak Hour (12:10-13:10) 706

8.48 % of Daily Total

4th Highest Hour (17:00-18:00) 657

7.89 % of Daily Total

8th Highest Hour (10:00-11:00) 546

6.56 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: CENTRAL AVENUE  
 Location: WEST OF 10TH  
 Direction: EAST BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 6           | 1           | 4           | 4           | 1           | 2           | 2           | 3           | 1           | 4           | 4           | 1           | 33           |
| 01-02          | 3           | 4           | 1           | 2           | 1           | 2           | 0           | 1           | 1           | 2           | 2           | 2           | 21           |
| 02-03          | 3           | 7           | 4           | 1           | 3           | 0           | 1           | 3           | 4           | 1           | 0           | 2           | 29           |
| 03-04          | 2           | 0           | 2           | 1           | 2           | 1           | 3           | 4           | 4           | 2           | 3           | 2           | 26           |
| 04-05          | 2           | 7           | 4           | 2           | 1           | 5           | 11          | 5           | 3           | 4           | 12          | 5           | 61           |
| 05-06          | 13          | 4           | 6           | 8           | 7           | 7           | 7           | 3           | 4           | 9           | 6           | 11          | 85           |
| 06-07          | 10          | 12          | 14          | 23          | 16          | 18          | 13          | 12          | 18          | 20          | 16          | 24          | 196          |
| 07-08          | 17          | 20          | 18          | 27          | 24          | 34          | 23          | 46          | 52          | 50          | 46          | 37          | 394          |
| 08-09          | 39          | 34          | 36          | 27          | 39          | 31          | 28          | 51          | 45          | 53          | 34          | 37          | 454          |
| 09-10          | 19          | 41          | 47          | 31          | 34          | 45          | 31          | 39          | 45          | 51          | 42          | 43          | 468          |
| 10-11          | 56          | 34          | 41          | 40          | 54          | 48          | 55          | 44          | 44          | 62          | 46          | 46          | 570          |
| 11-12          | 40          | 46          | 37          | 62          | 67          | 55          | 70          | 55          | 63          | 51          | 76          | 56          | 678          |
| 12-13          | 57          | 52          | 61          | 53          | 54          | 46          | 48          | 49          | 47          | 68          | 70          | 62          | 667          |
| 13-14          | 58          | 38          | 54          | 52          | 45          | 44          | 46          | 63          | 65          | 63          | 67          | 58          | 653          |
| 14-15          | 50          | 57          | 56          | 62          | 54          | 64          | 60          | 60          | 66          | 50          | 57          | 44          | 680          |
| 15-16          | 44          | 57          | 56          | 51          | 59          | 52          | 64          | 67          | 55          | 60          | 44          | 63          | 672          |
| 16-17          | 63          | 71          | 56          | 64          | 57          | 44          | 49          | 46          | 58          | 52          | 37          | 68          | 665          |
| 17-18          | 52          | 51          | 64          | 54          | 39          | 46          | 67          | 45          | 40          | 41          | 35          | 37          | 571          |
| 18-19          | 48          | 43          | 33          | 37          | 34          | 45          | 31          | 30          | 37          | 42          | 45          | 21          | 446          |
| 19-20          | 33          | 26          | 34          | 30          | 23          | 29          | 25          | 28          | 22          | 29          | 21          | 18          | 318          |
| 20-21          | 27          | 21          | 22          | 18          | 22          | 17          | 26          | 23          | 12          | 20          | 17          | 17          | 242          |
| 21-22          | 19          | 17          | 15          | 13          | 21          | 15          | 12          | 20          | 13          | 7           | 18          | 9           | 179          |
| 22-23          | 15          | 12          | 11          | 16          | 15          | 15          | 9           | 5           | 9           | 6           | 2           | 9           | 124          |
| 23-24          | 3           | 5           | 7           | 2           | 7           | 5           | 4           | 7           | 3           | 1           | 4           | 4           | 52           |

Daily Total: 8284

AM Peak Hour (11:00-12:00) 678

8.18 % of Daily Total

PM Peak Hour (13:35-14:35) 719

8.68 % of Daily Total

4th Highest Hour (12:00-13:00) 667

8.05 % of Daily Total

8th Highest Hour (10:00-11:00) 570

6.88 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: WEST BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 8           | 4           | 3           | 4           | 5           | 4           | 10          | 8           | 3           | 6           | 5           | 3           | 63           |
| 01-02          | 2           | 1           | 6           | 3           | 2           | 1           | 7           | 0           | 5           | 2           | 1           | 1           | 31           |
| 02-03          | 9           | 3           | 1           | 1           | 0           | 2           | 2           | 2           | 2           | 1           | 3           | 7           | 33           |
| 03-04          | 2           | 4           | 1           | 0           | 1           | 2           | 5           | 9           | 1           | 4           | 6           | 7           | 42           |
| 04-05          | 6           | 4           | 2           | 2           | 4           | 4           | 5           | 3           | 7           | 3           | 8           | 3           | 51           |
| 05-06          | 3           | 6           | 3           | 3           | 9           | 3           | 7           | 10          | 11          | 9           | 7           | 11          | 82           |
| 06-07          | 16          | 13          | 10          | 12          | 6           | 19          | 23          | 23          | 33          | 22          | 25          | 21          | 223          |
| 07-08          | 24          | 31          | 24          | 37          | 36          | 42          | 48          | 52          | 63          | 66          | 35          | 34          | 492          |
| 08-09          | 43          | 53          | 38          | 36          | 42          | 45          | 59          | 53          | 46          | 72          | 51          | 56          | 594          |
| 09-10          | 31          | 45          | 39          | 54          | 47          | 55          | 57          | 69          | 56          | 52          | 49          | 56          | 610          |
| 10-11          | 50          | 69          | 45          | 52          | 77          | 68          | 47          | 50          | 90          | 66          | 75          | 72          | 761          |
| 11-12          | 69          | 80          | 82          | 61          | 79          | 63          | 65          | 77          | 80          | 80          | 69          | 86          | 891          |
| 12-13          | 86          | 100         | 92          | 83          | 71          | 84          | 73          | 79          | 80          | 61          | 80          | 81          | 970          |
| 13-14          | 71          | 72          | 72          | 63          | 92          | 70          | 67          | 48          | 52          | 66          | 70          | 79          | 822          |
| 14-15          | 58          | 54          | 83          | 65          | 62          | 78          | 75          | 66          | 68          | 65          | 76          | 60          | 810          |
| 15-16          | 73          | 77          | 63          | 75          | 70          | 64          | 68          | 73          | 67          | 65          | 67          | 82          | 844          |
| 16-17          | 84          | 80          | 68          | 77          | 69          | 78          | 84          | 62          | 83          | 70          | 70          | 77          | 902          |
| 17-18          | 86          | 81          | 63          | 67          | 63          | 69          | 67          | 56          | 61          | 61          | 59          | 67          | 800          |
| 18-19          | 50          | 58          | 52          | 46          | 48          | 63          | 57          | 55          | 48          | 56          | 33          | 48          | 614          |
| 19-20          | 51          | 35          | 40          | 40          | 30          | 37          | 37          | 33          | 36          | 37          | 40          | 37          | 453          |
| 20-21          | 38          | 29          | 40          | 31          | 24          | 43          | 38          | 35          | 29          | 31          | 21          | 28          | 387          |
| 21-22          | 26          | 33          | 45          | 33          | 38          | 37          | 30          | 30          | 29          | 30          | 22          | 9           | 362          |
| 22-23          | 18          | 15          | 15          | 25          | 17          | 20          | 15          | 16          | 19          | 13          | 10          | 15          | 198          |
| 23-24          | 8           | 14          | 14          | 8           | 7           | 18          | 9           | 9           | 11          | 10          | 5           | 4           | 117          |

Daily Total: 11152

AM Peak Hour (11:00-12:00) 891

7.99 % of Daily Total

PM Peak Hour (12:00-13:00) 970

8.7 % of Daily Total

4th Highest Hour (15:00-16:00) 844

7.57 % of Daily Total

8th Highest Hour (10:00-11:00) 761

6.82 % of Daily Total



# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: WEST BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 2           | 8           | 2           | 4           | 8           | 4           | 7           | 3           | 4           | 7           | 5           | 57           |
| 01-02          | 4           | 2           | 2           | 3           | 7           | 3           | 2           | 1           | 2           | 2           | 3           | 2           | 33           |
| 02-03          | 1           | 2           | 5           | 5           | 4           | 2           | 0           | 3           | 1           | 5           | 1           | 6           | 35           |
| 03-04          | 1           | 1           | 5           | 3           | 1           | 6           | 4           | 5           | 7           | 5           | 2           | 8           | 48           |
| 04-05          | 7           | 5           | 5           | 4           | 2           | 5           | 2           | 3           | 8           | 6           | 9           | 1           | 57           |
| 05-06          | 5           | 6           | 6           | 7           | 5           | 5           | 3           | 5           | 9           | 13          | 2           | 13          | 79           |
| 06-07          | 11          | 6           | 11          | 7           | 14          | 25          | 25          | 21          | 39          | 27          | 27          | 22          | 235          |
| 07-08          | 24          | 27          | 27          | 33          | 39          | 45          | 39          | 57          | 53          | 65          | 60          | 40          | 509          |
| 08-09          | 28          | 37          | 58          | 49          | 42          | 48          | 46          | 51          | 55          | 47          | 45          | 30          | 536          |
| 09-10          | 35          | 55          | 47          | 36          | 54          | 61          | 49          | 49          | 66          | 57          | 50          | 57          | 616          |
| 10-11          | 49          | 58          | 61          | 47          | 67          | 55          | 84          | 73          | 70          | 66          | 71          | 70          | 771          |
| 11-12          | 55          | 66          | 54          | 71          | 68          | 74          | 70          | 80          | 69          | 88          | 70          | 82          | 847          |
| 12-13          | 101         | 79          | 81          | 81          | 81          | 95          | 83          | 63          | 83          | 80          | 59          | 70          | 956          |
| 13-14          | 78          | 85          | 80          | 87          | 78          | 96          | 68          | 77          | 83          | 66          | 64          | 64          | 926          |
| 14-15          | 57          | 97          | 64          | 73          | 71          | 80          | 62          | 71          | 62          | 84          | 95          | 67          | 883          |
| 15-16          | 67          | 61          | 76          | 83          | 67          | 64          | 71          | 79          | 71          | 78          | 80          | 77          | 874          |
| 16-17          | 83          | 71          | 69          | 74          | 67          | 83          | 69          | 73          | 64          | 83          | 80          | 86          | 902          |
| 17-18          | 82          | 95          | 80          | 66          | 69          | 73          | 71          | 63          | 75          | 68          | 76          | 54          | 872          |
| 18-19          | 69          | 67          | 46          | 45          | 51          | 45          | 44          | 58          | 70          | 44          | 48          | 38          | 625          |
| 19-20          | 51          | 37          | 43          | 40          | 32          | 29          | 27          | 34          | 33          | 33          | 45          | 41          | 445          |
| 20-21          | 38          | 50          | 28          | 33          | 40          | 34          | 39          | 45          | 34          | 38          | 32          | 22          | 433          |
| 21-22          | 22          | 28          | 36          | 37          | 34          | 21          | 20          | 29          | 31          | 19          | 16          | 19          | 312          |
| 22-23          | 18          | 17          | 18          | 15          | 10          | 18          | 12          | 10          | 9           | 12          | 14          | 11          | 164          |
| 23-24          | 14          | 17          | 3           | 8           | 14          | 14          | 2           | 7           | 7           | 12          | 8           | 7           | 113          |

Daily Total: 11328

AM Peak Hour (11:00-12:00) 847

7.48 % of Daily Total

PM Peak Hour (12:00-13:00) 956

8.44 % of Daily Total

4th Highest Hour (14:00-15:00) 883

7.79 % of Daily Total

8th Highest Hour (10:00-11:00) 771

6.81 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: WEST BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 4           | 6           | 7           | 6           | 4           | 8           | 6           | 7           | 4           | 5           | 7           | 2           | 66           |
| 01-02          | 7           | 5           | 2           | 4           | 4           | 3           | 2           | 2           | 4           | 7           | 1           | 0           | 41           |
| 02-03          | 1           | 3           | 6           | 0           | 0           | 2           | 2           | 3           | 1           | 1           | 2           | 3           | 24           |
| 03-04          | 0           | 4           | 2           | 1           | 1           | 4           | 8           | 5           | 8           | 9           | 5           | 4           | 51           |
| 04-05          | 8           | 6           | 10          | 6           | 8           | 5           | 3           | 6           | 2           | 7           | 8           | 4           | 73           |
| 05-06          | 2           | 6           | 6           | 5           | 4           | 3           | 7           | 6           | 10          | 14          | 6           | 11          | 80           |
| 06-07          | 9           | 11          | 19          | 7           | 19          | 22          | 16          | 29          | 42          | 32          | 33          | 23          | 262          |
| 07-08          | 24          | 27          | 28          | 33          | 37          | 30          | 49          | 65          | 52          | 46          | 61          | 38          | 490          |
| 08-09          | 36          | 35          | 40          | 48          | 48          | 35          | 38          | 59          | 48          | 60          | 39          | 56          | 542          |
| 09-10          | 47          | 47          | 47          | 52          | 48          | 52          | 48          | 65          | 51          | 65          | 63          | 41          | 626          |
| 10-11          | 59          | 47          | 57          | 53          | 54          | 47          | 68          | 57          | 69          | 66          | 67          | 68          | 712          |
| 11-12          | 69          | 77          | 60          | 62          | 71          | 48          | 75          | 76          | 75          | 76          | 82          | 89          | 860          |
| 12-13          | 83          | 81          | 83          | 91          | 69          | 72          | 60          | 85          | 76          | 95          | 78          | 81          | 954          |
| 13-14          | 85          | 83          | 75          | 83          | 76          | 85          | 76          | 73          | 84          | 87          | 49          | 93          | 949          |
| 14-15          | 86          | 73          | 85          | 82          | 68          | 79          | 65          | 78          | 68          | 66          | 77          | 62          | 889          |
| 15-16          | 74          | 77          | 76          | 72          | 72          | 64          | 82          | 74          | 89          | 90          | 61          | 89          | 920          |
| 16-17          | 85          | 74          | 83          | 86          | 75          | 53          | 71          | 78          | 70          | 72          | 82          | 85          | 914          |
| 17-18          | 87          | 72          | 81          | 76          | 60          | 77          | 81          | 61          | 62          | 63          | 67          | 65          | 852          |
| 18-19          | 74          | 52          | 43          | 52          | 48          | 41          | 55          | 57          | 44          | 44          | 43          | 29          | 582          |
| 19-20          | 27          | 31          | 36          | 37          | 39          | 29          | 27          | 34          | 32          | 35          | 49          | 25          | 401          |
| 20-21          | 34          | 41          | 35          | 38          | 41          | 41          | 37          | 39          | 35          | 38          | 22          | 38          | 439          |
| 21-22          | 26          | 32          | 22          | 23          | 25          | 23          | 19          | 22          | 18          | 21          | 18          | 11          | 260          |
| 22-23          | 17          | 15          | 18          | 20          | 9           | 16          | 19          | 11          | 11          | 10          | 6           | 19          | 171          |
| 23-24          | 7           | 5           | 19          | 11          | 10          | 10          | 3           | 14          | 10          | 8           | 12          | 7           | 116          |

Daily Total: 11274

AM Peak Hour (11:00-12:00) 860

7.63 % of Daily Total

PM Peak Hour (12:35-13:35) 978

8.67 % of Daily Total

4th Highest Hour (16:00-17:00 ) 914

8.11 % of Daily Total

8th Highest Hour (10:00-11:00 ) 712

6.32 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: EAST BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 7           | 6           | 5           | 5           | 0           | 3           | 2           | 2           | 1           | 1           | 5           | 40           |
| 01-02          | 3           | 3           | 0           | 6           | 3           | 3           | 3           | 5           | 0           | 0           | 5           | 0           | 31           |
| 02-03          | 3           | 3           | 3           | 2           | 1           | 3           | 0           | 5           | 2           | 2           | 1           | 1           | 26           |
| 03-04          | 0           | 2           | 1           | 1           | 0           | 2           | 1           | 5           | 1           | 2           | 2           | 4           | 21           |
| 04-05          | 6           | 5           | 4           | 2           | 0           | 4           | 4           | 3           | 2           | 5           | 9           | 8           | 52           |
| 05-06          | 5           | 7           | 8           | 11          | 10          | 5           | 13          | 10          | 10          | 15          | 5           | 10          | 109          |
| 06-07          | 5           | 21          | 11          | 13          | 21          | 11          | 17          | 27          | 20          | 25          | 13          | 23          | 207          |
| 07-08          | 23          | 19          | 32          | 27          | 36          | 36          | 37          | 42          | 37          | 57          | 57          | 40          | 443          |
| 08-09          | 28          | 26          | 40          | 37          | 38          | 35          | 41          | 37          | 48          | 53          | 36          | 49          | 468          |
| 09-10          | 38          | 44          | 48          | 30          | 38          | 41          | 51          | 46          | 51          | 48          | 53          | 55          | 543          |
| 10-11          | 53          | 46          | 43          | 58          | 60          | 57          | 67          | 56          | 66          | 62          | 59          | 65          | 692          |
| 11-12          | 64          | 62          | 65          | 63          | 49          | 70          | 82          | 72          | 80          | 68          | 69          | 80          | 824          |
| 12-13          | 74          | 75          | 67          | 65          | 70          | 73          | 88          | 89          | 84          | 63          | 76          | 79          | 903          |
| 13-14          | 74          | 81          | 68          | 68          | 56          | 79          | 70          | 70          | 74          | 60          | 67          | 70          | 837          |
| 14-15          | 70          | 62          | 59          | 60          | 79          | 66          | 70          | 74          | 70          | 55          | 77          | 64          | 806          |
| 15-16          | 77          | 79          | 62          | 52          | 62          | 66          | 74          | 81          | 59          | 67          | 68          | 59          | 806          |
| 16-17          | 83          | 85          | 89          | 84          | 93          | 74          | 68          | 78          | 66          | 74          | 61          | 81          | 936          |
| 17-18          | 64          | 85          | 83          | 75          | 77          | 74          | 58          | 48          | 55          | 52          | 61          | 58          | 790          |
| 18-19          | 55          | 51          | 57          | 49          | 59          | 63          | 59          | 57          | 52          | 43          | 62          | 48          | 655          |
| 19-20          | 32          | 32          | 41          | 32          | 40          | 45          | 52          | 42          | 54          | 38          | 28          | 43          | 479          |
| 20-21          | 44          | 40          | 45          | 39          | 36          | 29          | 30          | 25          | 30          | 24          | 32          | 36          | 410          |
| 21-22          | 23          | 26          | 35          | 33          | 16          | 27          | 17          | 20          | 22          | 29          | 23          | 18          | 289          |
| 22-23          | 16          | 24          | 25          | 18          | 20          | 17          | 16          | 15          | 10          | 10          | 6           | 11          | 188          |
| 23-24          | 21          | 11          | 5           | 12          | 7           | 6           | 12          | 8           | 10          | 6           | 4           | 10          | 112          |

Daily Total: 10667

AM Peak Hour (11:00-12:00) 824

7.72 % of Daily Total

PM Peak Hour (16:00-17:00) 936

8.77 % of Daily Total

4th Highest Hour (11:00-12:00) 824

7.72 % of Daily Total

8th Highest Hour (10:00-11:00) 692

6.49 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: EAST BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 8           | 7           | 5           | 2           | 5           | 4           | 3           | 4           | 1           | 3           | 1           | 46           |
| 01-02          | 3           | 4           | 3           | 5           | 0           | 1           | 3           | 4           | 2           | 3           | 1           | 3           | 32           |
| 02-03          | 4           | 1           | 2           | 0           | 1           | 3           | 2           | 0           | 2           | 4           | 2           | 2           | 23           |
| 03-04          | 1           | 1           | 0           | 2           | 1           | 3           | 4           | 4           | 5           | 1           | 4           | 3           | 29           |
| 04-05          | 4           | 3           | 4           | 3           | 4           | 3           | 4           | 7           | 6           | 5           | 4           | 2           | 49           |
| 05-06          | 7           | 12          | 8           | 6           | 12          | 6           | 11          | 14          | 18          | 10          | 12          | 8           | 124          |
| 06-07          | 13          | 15          | 10          | 12          | 16          | 15          | 16          | 16          | 24          | 20          | 22          | 20          | 199          |
| 07-08          | 26          | 23          | 25          | 35          | 31          | 29          | 44          | 48          | 36          | 49          | 44          | 44          | 434          |
| 08-09          | 42          | 42          | 53          | 29          | 34          | 44          | 41          | 44          | 44          | 42          | 56          | 46          | 517          |
| 09-10          | 48          | 39          | 31          | 46          | 46          | 53          | 31          | 43          | 51          | 46          | 56          | 49          | 539          |
| 10-11          | 44          | 50          | 48          | 46          | 59          | 48          | 57          | 65          | 59          | 69          | 49          | 62          | 656          |
| 11-12          | 61          | 63          | 64          | 68          | 59          | 73          | 67          | 70          | 55          | 75          | 67          | 72          | 794          |
| 12-13          | 84          | 63          | 48          | 67          | 80          | 74          | 91          | 72          | 86          | 72          | 88          | 86          | 911          |
| 13-14          | 74          | 77          | 76          | 73          | 94          | 72          | 69          | 74          | 69          | 70          | 59          | 56          | 863          |
| 14-15          | 69          | 77          | 54          | 59          | 59          | 64          | 66          | 75          | 71          | 67          | 70          | 83          | 814          |
| 15-16          | 69          | 74          | 56          | 65          | 73          | 82          | 66          | 67          | 63          | 71          | 84          | 75          | 845          |
| 16-17          | 76          | 68          | 96          | 77          | 78          | 66          | 75          | 73          | 77          | 71          | 84          | 73          | 914          |
| 17-18          | 64          | 75          | 71          | 73          | 63          | 62          | 74          | 67          | 70          | 84          | 42          | 52          | 797          |
| 18-19          | 59          | 52          | 61          | 62          | 68          | 56          | 47          | 55          | 51          | 45          | 36          | 34          | 626          |
| 19-20          | 44          | 51          | 39          | 46          | 40          | 38          | 39          | 31          | 53          | 41          | 28          | 29          | 479          |
| 20-21          | 45          | 44          | 38          | 35          | 34          | 39          | 36          | 22          | 39          | 34          | 16          | 28          | 410          |
| 21-22          | 42          | 36          | 33          | 36          | 19          | 16          | 11          | 20          | 25          | 20          | 19          | 21          | 298          |
| 22-23          | 21          | 28          | 20          | 22          | 25          | 7           | 8           | 13          | 10          | 9           | 7           | 14          | 184          |
| 23-24          | 20          | 6           | 13          | 14          | 6           | 9           | 7           | 10          | 9           | 4           | 3           | 4           | 105          |

Daily Total: 10688

AM Peak Hour (11:00-12:00) 794

7.43 % of Daily Total

PM Peak Hour (12:25-13:25) 963

9.01 % of Daily Total

4th Highest Hour (15:00-16:00) 845

7.91 % of Daily Total

8th Highest Hour (10:00-11:00) 656

6.14 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: VIRGINIA AVENUE  
 Location: WEST OF HARRISON  
 Direction: EAST BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 9           | 8           | 7           | 5           | 4           | 4           | 4           | 12          | 3           | 7           | 6           | 2           | 71           |
| 01-02          | 5           | 1           | 9           | 3           | 2           | 6           | 1           | 6           | 4           | 3           | 5           | 3           | 48           |
| 02-03          | 2           | 1           | 1           | 3           | 2           | 0           | 4           | 0           | 2           | 3           | 2           | 0           | 20           |
| 03-04          | 2           | 3           | 0           | 0           | 4           | 3           | 1           | 4           | 1           | 2           | 3           | 2           | 25           |
| 04-05          | 5           | 5           | 5           | 5           | 7           | 6           | 7           | 0           | 4           | 5           | 4           | 4           | 57           |
| 05-06          | 9           | 11          | 11          | 11          | 8           | 11          | 8           | 6           | 7           | 16          | 13          | 14          | 125          |
| 06-07          | 8           | 8           | 22          | 11          | 15          | 18          | 13          | 30          | 21          | 22          | 25          | 31          | 224          |
| 07-08          | 30          | 37          | 33          | 15          | 28          | 36          | 34          | 33          | 36          | 47          | 54          | 49          | 432          |
| 08-09          | 54          | 46          | 38          | 36          | 47          | 35          | 38          | 51          | 38          | 51          | 40          | 41          | 515          |
| 09-10          | 47          | 52          | 40          | 51          | 36          | 42          | 57          | 44          | 43          | 51          | 61          | 52          | 576          |
| 10-11          | 42          | 37          | 58          | 51          | 43          | 59          | 59          | 58          | 58          | 58          | 52          | 69          | 645          |
| 11-12          | 78          | 70          | 60          | 62          | 79          | 68          | 73          | 61          | 60          | 78          | 70          | 59          | 818          |
| 12-13          | 65          | 67          | 78          | 76          | 84          | 77          | 78          | 91          | 69          | 78          | 81          | 76          | 920          |
| 13-14          | 71          | 82          | 71          | 78          | 79          | 78          | 82          | 66          | 75          | 68          | 79          | 86          | 915          |
| 14-15          | 74          | 69          | 74          | 64          | 58          | 63          | 89          | 74          | 74          | 61          | 70          | 85          | 855          |
| 15-16          | 77          | 81          | 77          | 84          | 71          | 71          | 68          | 75          | 88          | 67          | 71          | 76          | 906          |
| 16-17          | 79          | 89          | 82          | 75          | 72          | 72          | 93          | 82          | 68          | 73          | 69          | 78          | 932          |
| 17-18          | 81          | 83          | 82          | 77          | 52          | 65          | 65          | 70          | 72          | 69          | 63          | 52          | 831          |
| 18-19          | 78          | 43          | 71          | 61          | 48          | 48          | 47          | 52          | 46          | 37          | 51          | 41          | 623          |
| 19-20          | 43          | 40          | 45          | 36          | 46          | 40          | 25          | 42          | 45          | 44          | 33          | 41          | 480          |
| 20-21          | 37          | 33          | 38          | 40          | 44          | 40          | 39          | 38          | 33          | 20          | 33          | 28          | 423          |
| 21-22          | 32          | 34          | 21          | 20          | 24          | 31          | 23          | 30          | 21          | 16          | 25          | 14          | 291          |
| 22-23          | 21          | 17          | 25          | 26          | 20          | 15          | 17          | 6           | 9           | 12          | 11          | 6           | 185          |
| 23-24          | 4           | 22          | 14          | 10          | 4           | 9           | 9           | 11          | 9           | 6           | 8           | 13          | 119          |

Daily Total: 11036

AM Peak Hour (10:55-11:55) 828

7.5 % of Daily Total

PM Peak Hour (15:40-16:40) 946

8.57 % of Daily Total

4th Highest Hour (15:00-16:00) 906

8.21 % of Daily Total

8th Highest Hour (10:00-11:00) 645

5.84 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: NORTH BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 3           | 1           | 3           | 4           | 4           | 3           | 2           | 3           | 0           | 2           | 2           | 30           |
| 01-02          | 2           | 0           | 1           | 0           | 2           | 2           | 0           | 1           | 1           | 1           | 3           | 0           | 13           |
| 02-03          | 2           | 1           | 0           | 1           | 2           | 1           | 2           | 2           | 1           | 1           | 1           | 2           | 16           |
| 03-04          | 1           | 1           | 0           | 0           | 1           | 2           | 5           | 0           | 2           | 5           | 0           | 2           | 19           |
| 04-05          | 0           | 0           | 2           | 3           | 3           | 4           | 5           | 3           | 3           | 2           | 1           | 2           | 28           |
| 05-06          | 3           | 5           | 2           | 5           | 7           | 11          | 8           | 10          | 5           | 13          | 7           | 7           | 83           |
| 06-07          | 10          | 16          | 11          | 11          | 15          | 12          | 17          | 16          | 15          | 16          | 20          | 15          | 174          |
| 07-08          | 15          | 12          | 23          | 19          | 14          | 28          | 37          | 23          | 34          | 41          | 41          | 26          | 313          |
| 08-09          | 30          | 23          | 23          | 36          | 26          | 33          | 17          | 27          | 26          | 37          | 24          | 23          | 325          |
| 09-10          | 25          | 24          | 34          | 31          | 26          | 45          | 27          | 39          | 40          | 33          | 23          | 34          | 381          |
| 10-11          | 28          | 27          | 42          | 33          | 41          | 29          | 45          | 35          | 39          | 36          | 28          | 37          | 420          |
| 11-12          | 22          | 42          | 44          | 38          | 38          | 26          | 44          | 36          | 58          | 36          | 33          | 40          | 457          |
| 12-13          | 41          | 38          | 41          | 26          | 32          | 37          | 47          | 44          | 46          | 41          | 39          | 57          | 489          |
| 13-14          | 39          | 34          | 39          | 44          | 50          | 41          | 44          | 38          | 54          | 57          | 35          | 41          | 516          |
| 14-15          | 43          | 56          | 37          | 54          | 51          | 37          | 44          | 37          | 54          | 41          | 51          | 30          | 535          |
| 15-16          | 43          | 45          | 54          | 48          | 39          | 44          | 54          | 52          | 36          | 44          | 56          | 51          | 566          |
| 16-17          | 32          | 42          | 43          | 39          | 44          | 59          | 48          | 48          | 39          | 25          | 30          | 31          | 480          |
| 17-18          | 40          | 43          | 44          | 32          | 46          | 47          | 43          | 33          | 24          | 30          | 30          | 47          | 459          |
| 18-19          | 39          | 41          | 36          | 21          | 34          | 33          | 32          | 28          | 41          | 20          | 33          | 31          | 389          |
| 19-20          | 27          | 28          | 36          | 27          | 21          | 23          | 32          | 35          | 28          | 16          | 20          | 27          | 320          |
| 20-21          | 22          | 23          | 22          | 28          | 18          | 16          | 26          | 21          | 31          | 30          | 31          | 23          | 291          |
| 21-22          | 15          | 17          | 26          | 21          | 16          | 5           | 18          | 18          | 10          | 15          | 13          | 7           | 181          |
| 22-23          | 7           | 6           | 8           | 16          | 9           | 2           | 2           | 14          | 6           | 7           | 4           | 6           | 87           |
| 23-24          | 6           | 10          | 6           | 5           | 4           | 3           | 4           | 7           | 6           | 4           | 2           | 2           | 59           |

Daily Total: 6631

AM Peak Hour (11:00-12:00) 457

6.89 % of Daily Total

PM Peak Hour (15:00-16:00) 566

8.54 % of Daily Total

4th Highest Hour (12:00-13:00) 489

7.37 % of Daily Total

8th Highest Hour (10:00-11:00) 420

6.33 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: NORTH BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 1           | 6           | 5           | 1           | 4           | 4           | 3           | 0           | 5           | 3           | 3           | 1           | 36           |
| 01-02          | 4           | 5           | 0           | 2           | 1           | 1           | 0           | 1           | 1           | 2           | 2           | 2           | 21           |
| 02-03          | 0           | 2           | 2           | 1           | 1           | 0           | 3           | 3           | 3           | 1           | 1           | 0           | 17           |
| 03-04          | 1           | 1           | 3           | 0           | 2           | 1           | 1           | 0           | 0           | 2           | 4           | 2           | 17           |
| 04-05          | 2           | 2           | 0           | 1           | 5           | 3           | 6           | 6           | 2           | 5           | 4           | 2           | 38           |
| 05-06          | 5           | 4           | 3           | 8           | 1           | 5           | 17          | 9           | 7           | 9           | 6           | 6           | 80           |
| 06-07          | 12          | 7           | 14          | 9           | 12          | 16          | 15          | 14          | 13          | 18          | 17          | 9           | 156          |
| 07-08          | 15          | 19          | 14          | 15          | 26          | 21          | 41          | 28          | 33          | 31          | 35          | 30          | 308          |
| 08-09          | 25          | 25          | 29          | 34          | 25          | 28          | 30          | 39          | 29          | 27          | 30          | 33          | 354          |
| 09-10          | 23          | 37          | 40          | 33          | 25          | 39          | 36          | 43          | 37          | 29          | 22          | 35          | 399          |
| 10-11          | 34          | 23          | 35          | 33          | 34          | 31          | 43          | 53          | 38          | 31          | 36          | 39          | 430          |
| 11-12          | 39          | 37          | 34          | 42          | 33          | 44          | 48          | 43          | 48          | 51          | 48          | 32          | 499          |
| 12-13          | 47          | 54          | 37          | 37          | 37          | 40          | 40          | 46          | 41          | 44          | 43          | 30          | 496          |
| 13-14          | 42          | 31          | 35          | 44          | 48          | 37          | 49          | 51          | 34          | 40          | 27          | 38          | 476          |
| 14-15          | 45          | 46          | 48          | 36          | 42          | 46          | 33          | 39          | 67          | 44          | 26          | 66          | 538          |
| 15-16          | 41          | 35          | 44          | 42          | 39          | 33          | 49          | 47          | 45          | 51          | 37          | 34          | 497          |
| 16-17          | 54          | 39          | 34          | 47          | 27          | 39          | 37          | 43          | 50          | 31          | 17          | 49          | 467          |
| 17-18          | 49          | 47          | 33          | 35          | 45          | 27          | 34          | 22          | 44          | 32          | 26          | 25          | 419          |
| 18-19          | 32          | 26          | 29          | 25          | 33          | 24          | 31          | 25          | 32          | 35          | 27          | 21          | 340          |
| 19-20          | 21          | 30          | 25          | 28          | 33          | 25          | 19          | 20          | 27          | 24          | 19          | 19          | 290          |
| 20-21          | 25          | 21          | 23          | 12          | 24          | 25          | 12          | 18          | 17          | 18          | 15          | 19          | 229          |
| 21-22          | 11          | 11          | 18          | 12          | 9           | 19          | 10          | 19          | 9           | 6           | 11          | 11          | 146          |
| 22-23          | 13          | 10          | 6           | 5           | 6           | 7           | 7           | 6           | 3           | 7           | 13          | 4           | 87           |
| 23-24          | 5           | 6           | 2           | 5           | 5           | 5           | 4           | 5           | 2           | 4           | 3           | 2           | 48           |

Daily Total: 6388

AM Peak Hour (10:55-11:55) 506

7.92 % of Daily Total

PM Peak Hour (14:00-15:00) 538

8.42 % of Daily Total

4th Highest Hour (12:00-13:00) 496

7.76 % of Daily Total

8th Highest Hour (17:00-18:00) 419

6.56 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: NORTH BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 4           | 2           | 5           | 2           | 1           | 1           | 0           | 1           | 3           | 0           | 0           | 4           | 23           |
| 01-02          | 2           | 1           | 2           | 2           | 1           | 1           | 0           | 1           | 0           | 1           | 1           | 1           | 13           |
| 02-03          | 3           | 1           | 4           | 1           | 0           | 0           | 4           | 2           | 0           | 0           | 1           | 1           | 17           |
| 03-04          | 0           | 3           | 2           | 3           | 2           | 1           | 3           | 2           | 3           | 3           | 2           | 0           | 24           |
| 04-05          | 1           | 1           | 1           | 2           | 1           | 6           | 7           | 4           | 3           | 3           | 2           | 3           | 34           |
| 05-06          | 4           | 5           | 3           | 5           | 4           | 6           | 10          | 9           | 3           | 7           | 6           | 4           | 66           |
| 06-07          | 10          | 16          | 9           | 11          | 11          | 18          | 21          | 13          | 18          | 13          | 13          | 12          | 165          |
| 07-08          | 15          | 17          | 25          | 15          | 15          | 25          | 25          | 51          | 33          | 41          | 41          | 33          | 336          |
| 08-09          | 20          | 35          | 34          | 23          | 23          | 21          | 38          | 21          | 31          | 38          | 34          | 24          | 342          |
| 09-10          | 33          | 28          | 32          | 21          | 43          | 29          | 29          | 31          | 34          | 31          | 37          | 30          | 378          |
| 10-11          | 54          | 22          | 31          | 41          | 48          | 41          | 38          | 41          | 32          | 33          | 33          | 33          | 447          |
| 11-12          | 41          | 45          | 56          | 48          | 43          | 45          | 40          | 35          | 51          | 52          | 50          | 34          | 540          |
| 12-13          | 44          | 32          | 46          | 29          | 31          | 30          | 49          | 55          | 45          | 45          | 30          | 50          | 486          |
| 13-14          | 40          | 57          | 41          | 43          | 46          | 24          | 44          | 49          | 51          | 33          | 38          | 29          | 495          |
| 14-15          | 38          | 49          | 47          | 44          | 44          | 48          | 38          | 42          | 33          | 48          | 44          | 22          | 497          |
| 15-16          | 44          | 30          | 45          | 44          | 39          | 52          | 43          | 35          | 44          | 26          | 43          | 48          | 493          |
| 16-17          | 53          | 46          | 32          | 53          | 29          | 31          | 37          | 40          | 39          | 34          | 37          | 49          | 480          |
| 17-18          | 43          | 32          | 46          | 39          | 30          | 33          | 46          | 36          | 29          | 31          | 28          | 27          | 420          |
| 18-19          | 42          | 36          | 27          | 24          | 25          | 27          | 25          | 28          | 32          | 23          | 31          | 19          | 339          |
| 19-20          | 30          | 22          | 19          | 21          | 24          | 29          | 28          | 21          | 14          | 27          | 18          | 21          | 274          |
| 20-21          | 19          | 24          | 14          | 19          | 15          | 19          | 21          | 13          | 15          | 18          | 14          | 19          | 210          |
| 21-22          | 21          | 23          | 10          | 16          | 19          | 17          | 14          | 9           | 13          | 19          | 10          | 9           | 180          |
| 22-23          | 8           | 8           | 7           | 12          | 5           | 9           | 12          | 8           | 4           | 2           | 5           | 3           | 83           |
| 23-24          | 5           | 6           | 5           | 7           | 4           | 3           | 5           | 2           | 4           | 7           | 3           | 5           | 56           |

Daily Total: 6398

AM Peak Hour (11:00-12:00) 540

8.44 % of Daily Total

PM Peak Hour (12:25-13:25) 531

8.3 % of Daily Total

4th Highest Hour (15:00-16:00) 493

7.71 % of Daily Total

8th Highest Hour (17:00-18:00) 420

6.56 % of Daily Total



# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: SOUTH BOUND  
 Date: 8/13/2  
 Day of Week: TUESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 8           | 5           | 4           | 2           | 4           | 4           | 2           | 2           | 3           | 2           | 2           | 2           | 40           |
| 01-02          | 1           | 3           | 1           | 1           | 4           | 1           | 3           | 1           | 3           | 4           | 2           | 3           | 27           |
| 02-03          | 0           | 6           | 2           | 1           | 1           | 3           | 1           | 1           | 1           | 2           | 0           | 2           | 20           |
| 03-04          | 2           | 1           | 1           | 1           | 0           | 1           | 2           | 1           | 4           | 2           | 2           | 2           | 19           |
| 04-05          | 1           | 1           | 2           | 0           | 2           | 2           | 0           | 1           | 1           | 0           | 1           | 2           | 13           |
| 05-06          | 3           | 2           | 7           | 6           | 6           | 5           | 6           | 1           | 8           | 4           | 3           | 3           | 54           |
| 06-07          | 7           | 3           | 7           | 2           | 4           | 10          | 5           | 9           | 5           | 9           | 6           | 7           | 74           |
| 07-08          | 14          | 8           | 8           | 12          | 13          | 8           | 14          | 17          | 20          | 15          | 21          | 9           | 159          |
| 08-09          | 20          | 17          | 18          | 19          | 17          | 17          | 12          | 13          | 18          | 24          | 17          | 25          | 217          |
| 09-10          | 20          | 16          | 19          | 28          | 19          | 22          | 24          | 32          | 32          | 33          | 34          | 26          | 305          |
| 10-11          | 29          | 30          | 23          | 32          | 31          | 34          | 36          | 36          | 28          | 27          | 41          | 41          | 388          |
| 11-12          | 45          | 41          | 44          | 50          | 47          | 37          | 44          | 27          | 40          | 43          | 41          | 43          | 502          |
| 12-13          | 55          | 52          | 43          | 43          | 48          | 49          | 49          | 52          | 48          | 48          | 46          | 32          | 565          |
| 13-14          | 47          | 57          | 34          | 39          | 37          | 50          | 45          | 40          | 37          | 42          | 54          | 32          | 514          |
| 14-15          | 48          | 45          | 35          | 40          | 53          | 53          | 53          | 53          | 33          | 56          | 47          | 53          | 569          |
| 15-16          | 46          | 38          | 55          | 45          | 46          | 35          | 43          | 51          | 42          | 45          | 37          | 36          | 519          |
| 16-17          | 31          | 56          | 49          | 45          | 46          | 40          | 41          | 42          | 43          | 48          | 44          | 44          | 529          |
| 17-18          | 54          | 40          | 42          | 57          | 49          | 48          | 55          | 41          | 51          | 34          | 36          | 30          | 537          |
| 18-19          | 40          | 36          | 47          | 39          | 27          | 32          | 36          | 39          | 35          | 34          | 30          | 24          | 419          |
| 19-20          | 30          | 35          | 28          | 30          | 33          | 28          | 25          | 28          | 44          | 18          | 25          | 28          | 352          |
| 20-21          | 35          | 29          | 26          | 29          | 26          | 21          | 20          | 31          | 11          | 21          | 18          | 15          | 282          |
| 21-22          | 24          | 21          | 22          | 25          | 20          | 20          | 21          | 13          | 8           | 13          | 11          | 11          | 209          |
| 22-23          | 7           | 10          | 15          | 5           | 6           | 13          | 16          | 7           | 6           | 11          | 10          | 9           | 115          |
| 23-24          | 5           | 10          | 12          | 5           | 6           | 5           | 5           | 9           | 7           | 5           | 3           | 6           | 78           |

Daily Total: 6506

AM Peak Hour (11:00-12:00) 502

7.72 % of Daily Total

PM Peak Hour (14:20-15:20) 585

8.99 % of Daily Total

4th Highest Hour (16:00-17:00) 529

8.13 % of Daily Total

8th Highest Hour (18:00-19:00) 419

6.44 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: SOUTH BOUND  
 Date: 8/14/2  
 Day of Week: WEDNESDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 3           | 4           | 1           | 2           | 7           | 0           | 7           | 5           | 3           | 2           | 4           | 0           | 38           |
| 01-02          | 1           | 0           | 3           | 1           | 2           | 3           | 5           | 3           | 3           | 1           | 1           | 0           | 23           |
| 02-03          | 2           | 1           | 2           | 1           | 2           | 4           | 1           | 2           | 3           | 0           | 4           | 3           | 25           |
| 03-04          | 1           | 2           | 0           | 1           | 0           | 1           | 0           | 1           | 2           | 2           | 3           | 2           | 15           |
| 04-05          | 0           | 1           | 0           | 2           | 2           | 0           | 4           | 0           | 2           | 3           | 3           | 5           | 22           |
| 05-06          | 1           | 2           | 2           | 6           | 8           | 6           | 6           | 2           | 3           | 8           | 2           | 6           | 52           |
| 06-07          | 3           | 7           | 9           | 3           | 4           | 5           | 11          | 2           | 12          | 5           | 7           | 5           | 73           |
| 07-08          | 15          | 8           | 9           | 17          | 13          | 15          | 18          | 23          | 15          | 16          | 13          | 18          | 180          |
| 08-09          | 11          | 16          | 11          | 17          | 18          | 13          | 19          | 12          | 23          | 26          | 22          | 24          | 212          |
| 09-10          | 14          | 29          | 23          | 16          | 20          | 27          | 32          | 29          | 32          | 19          | 29          | 28          | 298          |
| 10-11          | 39          | 24          | 23          | 31          | 27          | 30          | 31          | 28          | 33          | 38          | 43          | 37          | 384          |
| 11-12          | 38          | 35          | 37          | 39          | 40          | 28          | 37          | 49          | 41          | 35          | 36          | 40          | 455          |
| 12-13          | 49          | 41          | 37          | 43          | 38          | 41          | 40          | 43          | 44          | 45          | 36          | 49          | 506          |
| 13-14          | 39          | 49          | 39          | 51          | 46          | 46          | 45          | 45          | 28          | 32          | 50          | 43          | 513          |
| 14-15          | 47          | 40          | 41          | 46          | 42          | 34          | 61          | 48          | 39          | 48          | 59          | 51          | 556          |
| 15-16          | 50          | 54          | 39          | 44          | 35          | 47          | 45          | 50          | 35          | 41          | 45          | 52          | 537          |
| 16-17          | 48          | 42          | 48          | 41          | 37          | 36          | 43          | 45          | 41          | 51          | 43          | 41          | 516          |
| 17-18          | 47          | 46          | 44          | 50          | 40          | 45          | 39          | 49          | 50          | 52          | 41          | 28          | 531          |
| 18-19          | 30          | 33          | 42          | 40          | 34          | 33          | 41          | 38          | 28          | 28          | 35          | 30          | 412          |
| 19-20          | 37          | 29          | 26          | 29          | 29          | 20          | 28          | 23          | 15          | 24          | 16          | 18          | 294          |
| 20-21          | 27          | 35          | 24          | 20          | 21          | 31          | 15          | 15          | 21          | 27          | 24          | 21          | 281          |
| 21-22          | 12          | 12          | 19          | 6           | 17          | 16          | 7           | 11          | 11          | 14          | 13          | 8           | 146          |
| 22-23          | 13          | 9           | 16          | 10          | 8           | 6           | 7           | 8           | 10          | 8           | 11          | 6           | 112          |
| 23-24          | 9           | 11          | 7           | 11          | 9           | 7           | 3           | 9           | 5           | 4           | 0           | 4           | 79           |

Daily Total: 6260

AM Peak Hour (10:45-11:45) 462

7.38 % of Daily Total

PM Peak Hour (14:30-15:30) 575

9.19 % of Daily Total

4th Highest Hour (16:00-17:00) 516

8.24 % of Daily Total

8th Highest Hour (18:00-19:00) 412

6.58 % of Daily Total

# ROADWAY TRAFFIC SURVEY

Roadway: EMPIRE BLVD  
 Location: SOUTH OF NEWMARK  
 Direction: SOUTH BOUND  
 Date: 8/15/2  
 Day of Week: THURSDAY  
 Axles per Vehicles: 2

Traffic Smithy  
 Traffic Survey Service

| Hour<br>of Day | :00-<br>:05 | :05-<br>:10 | :10-<br>:15 | :15-<br>:20 | :20-<br>:25 | :25-<br>:30 | :30-<br>:35 | :35-<br>:40 | :40-<br>:45 | :45-<br>:50 | :50-<br>:55 | :55-<br>:00 | Hour<br>Tot. |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 00-01          | 6           | 3           | 6           | 6           | 1           | 3           | 7           | 4           | 1           | 6           | 2           | 2           | 47           |
| 01-02          | 3           | 3           | 2           | 2           | 3           | 1           | 1           | 1           | 3           | 0           | 2           | 1           | 22           |
| 02-03          | 4           | 1           | 1           | 3           | 2           | 2           | 0           | 0           | 0           | 3           | 0           | 0           | 16           |
| 03-04          | 2           | 0           | 1           | 4           | 0           | 0           | 2           | 0           | 3           | 6           | 1           | 3           | 22           |
| 04-05          | 0           | 0           | 2           | 1           | 0           | 1           | 1           | 1           | 2           | 3           | 5           | 3           | 19           |
| 05-06          | 0           | 6           | 3           | 7           | 2           | 7           | 2           | 3           | 4           | 3           | 2           | 3           | 42           |
| 06-07          | 5           | 3           | 3           | 5           | 5           | 5           | 5           | 8           | 11          | 5           | 5           | 8           | 68           |
| 07-08          | 17          | 12          | 8           | 13          | 17          | 16          | 6           | 14          | 11          | 24          | 21          | 20          | 179          |
| 08-09          | 16          | 21          | 24          | 13          | 19          | 25          | 13          | 25          | 14          | 12          | 21          | 20          | 223          |
| 09-10          | 15          | 19          | 19          | 19          | 32          | 22          | 23          | 27          | 20          | 23          | 29          | 27          | 275          |
| 10-11          | 22          | 28          | 34          | 36          | 24          | 22          | 25          | 29          | 30          | 26          | 33          | 38          | 347          |
| 11-12          | 33          | 30          | 37          | 39          | 45          | 42          | 40          | 42          | 39          | 38          | 41          | 39          | 465          |
| 12-13          | 51          | 37          | 51          | 41          | 49          | 34          | 39          | 53          | 35          | 57          | 46          | 44          | 537          |
| 13-14          | 56          | 40          | 34          | 36          | 32          | 51          | 37          | 49          | 33          | 52          | 44          | 26          | 490          |
| 14-15          | 43          | 41          | 43          | 45          | 48          | 40          | 39          | 43          | 40          | 46          | 40          | 37          | 505          |
| 15-16          | 51          | 41          | 50          | 38          | 42          | 37          | 44          | 36          | 48          | 43          | 52          | 44          | 526          |
| 16-17          | 45          | 50          | 41          | 31          | 47          | 51          | 45          | 42          | 48          | 46          | 49          | 49          | 544          |
| 17-18          | 48          | 60          | 46          | 53          | 65          | 41          | 28          | 47          | 46          | 38          | 27          | 36          | 535          |
| 18-19          | 35          | 42          | 32          | 29          | 34          | 32          | 43          | 28          | 40          | 26          | 27          | 28          | 396          |
| 19-20          | 26          | 27          | 26          | 25          | 27          | 26          | 30          | 25          | 25          | 22          | 29          | 27          | 315          |
| 20-21          | 32          | 20          | 21          | 27          | 28          | 20          | 21          | 22          | 25          | 27          | 21          | 19          | 283          |
| 21-22          | 19          | 18          | 16          | 12          | 21          | 10          | 15          | 14          | 12          | 10          | 13          | 22          | 182          |
| 22-23          | 15          | 17          | 11          | 13          | 10          | 8           | 7           | 7           | 9           | 6           | 12          | 8           | 123          |
| 23-24          | 8           | 12          | 10          | 3           | 6           | 6           | 8           | 9           | 8           | 7           | 5           | 7           | 89           |

Daily Total: 6250

AM Peak Hour (11:00-12:00) 465

7.44 % of Daily Total

PM Peak Hour (16:25-17:25) 602

9.63 % of Daily Total

4th Highest Hour (15:00-16:00) 526

8.42 % of Daily Total

8th Highest Hour (18:00-19:00) 396

6.34 % of Daily Total

## **Level of Service Description**

## TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Level of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The *Highway Capacity Manual* provides level of service calculation methodology for both intersections and arterials.<sup>1</sup> The following three sections provide interpretations of the analysis approaches.

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<sup>1</sup> 2000 *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapters 16 and 17.

## ALL-WAY STOP CONTROLLED INTERSECTIONS

Unsignalized intersections and all-way stop controlled intersections are each subject to a separate capacity analysis methodology. All-way stop controlled intersection operations are reported by leg of the intersection.

This method calculates a delay value for each approach to the intersection. The *2000 Highway Capacity Manual* describes the detailed methodology. The following table describes the amount of delay associated with each level of service.

| Delay (Seconds) | Level of Service |
|-----------------|------------------|
| 0 - 10          | A                |
| 10 - 15         | B                |
| 15 - 25         | C                |
| 25 - 35         | D                |
| 35 - 50         | E                |
| > 50            | F                |

Source: 2000 *Highway Capacity Manual*, Transportation Research Board, Washington, D.C.

## UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The *2000 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

| Level of Service | Expected Delay                                                                      | (Sec/Veh)  |
|------------------|-------------------------------------------------------------------------------------|------------|
| A                | Little or no delay                                                                  | 0-10.0     |
| B                | Short traffic delay                                                                 | >10.1-15.0 |
| C                | Average traffic delays                                                              | >15.1-25.0 |
| D                | Long traffic delays                                                                 | >25.1-35.0 |
| E                | Very long traffic delays                                                            | >35.1-50.0 |
| F                | Extreme delays potentially affecting<br>other traffic movements in the intersection | > 50       |

Source: 2000 *Highway Capacity Manual*, Transportation Research Board Washington, D.C.

## SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The *2000 Highway Capacity Manual* provides the basis for these calculations.

| Level of Service | Delay (secs.) | Description                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A                | $\leq 10.00$  | <b>Free Flow/Insignificant Delays:</b> No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.                                                                                                                            |
| B                | 10.1-20.0     | <b>Stable Operation/Minimal Delays:</b> An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.                                                                                                                                        |
| C                | 20.1-35.0     | <b>Stable Operation/Acceptable Delays:</b> Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.                                                                     |
| D                | 35.1-55.0     | <b>Approaching Unstable/Tolerable Delays:</b> The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable. |
| E                | 55.1-80.0     | <b>Unstable Operation/Significant Delays:</b> Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.                                                         |
| F                | $\geq 80.0$   | <b>Forced Flow/Excessive Delays:</b> Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.                                   |

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C.



## **Level of Service Analysis**

---

Scenario Report  
Scenario: PM existing

Command: PM existing  
Volume: PM existing  
Geometry: Default Geometry  
Impact Fee: Default Impact Fee  
Trip Generation: Default Trip Generation  
Trip Distribution: Default Trip Distribution  
Paths: Default Paths  
Routes: Default Routes  
Configuration: Default Configuration

Impact Analysis Report  
Level Of Service

| Intersection                | Base |            | Future |            | Change<br>in |
|-----------------------------|------|------------|--------|------------|--------------|
|                             | LOS  | Del/Veh C  | LOS    | Del/Veh C  |              |
| # 1 6th at D St.            | B    | 3.7 0.000  | B      | 3.7 0.000  | + 0.000 V/C  |
| # 3 7th at Ingersoll        | A    | 8.7 0.328  | A      | 8.7 0.328  | + 0.000 V/C  |
| # 7 Hwy 101 at Flanagan     | B    | 10.4 0.635 | B      | 10.4 0.635 | + 0.000 D/V  |
| # 8 Hwy 101 at 1st          | D    | 1.0 0.000  | D      | 1.0 0.000  | + 0.000 V/C  |
| # 9 Hwy 101 at S Front St.  | F    | 0.4 0.000  | F      | 0.4 0.000  | + 0.000 V/C  |
| # 10 Broadway at Lockhart   | A    | 7.6 0.128  | A      | 7.6 0.128  | + 0.000 V/C  |
| # 11 Lockhart at 2nd        | B    | 4.4 0.000  | B      | 4.4 0.000  | + 0.000 V/C  |
| # 12 Lockhart at 7th        | B    | 3.3 0.000  | B      | 3.3 0.000  | + 0.000 V/C  |
| # 13 10th at Central        | C    | 21.9 0.601 | C      | 21.9 0.601 | + 0.000 D/V  |
| # 14 4th at Elrod           | B    | 11.3 0.409 | B      | 11.3 0.409 | + 0.000 V/C  |
| # 15 2nd at Ingersoll       | B    | 5.2 0.000  | B      | 5.2 0.000  | + 0.000 V/C  |
| # 16 Commercial at Broadway | B    | 11.7 0.529 | B      | 11.7 0.529 | + 0.000 D/V  |
| # 18 Broadway at Market     | B    | 10.3 0.513 | B      | 10.3 0.513 | + 0.000 D/V  |
| # 19 Bayshore at Market     | D    | 0.6 0.000  | D      | 0.6 0.000  | + 0.000 V/C  |
| # 20 Broadway at Hall SB    | A    | 6.7 0.476  | A      | 6.7 0.476  | + 0.000 D/V  |
| # 21 Broadway at Johnson    | B    | 17.3 0.570 | B      | 17.3 0.570 | + 0.000 D/V  |
| # 22 Johnson at Bayshore    | B    | 19.3 0.638 | B      | 19.3 0.638 | + 0.000 D/V  |
| # 23 Bayshore at Alder      | C    | 0.4 0.000  | C      | 0.4 0.000  | + 0.000 V/C  |
| # 24 Broadway at Alder      | C    | 0.6 0.000  | C      | 0.6 0.000  | + 0.000 V/C  |
| # 25 Bayshore at Commercial | A    | 0.0 0.000  | A      | 0.0 0.000  | + 0.000 V/C  |
| # 26 Bayshore at Cedar      | B    | 0.1 0.000  | B      | 0.1 0.000  | + 0.000 V/C  |
| # 27 Bayshore at Birch      | B    | 0.2 0.000  | B      | 0.2 0.000  | + 0.000 V/C  |
| # 28 Bayshore at Fir        | B    | 0.0 0.000  | B      | 0.0 0.000  | + 0.000 V/C  |
| # 29 Broadway at Fir        | C    | 0.3 0.000  | C      | 0.3 0.000  | + 0.000 V/C  |
| # 30 Hwy 101 at Koosbay     | B    | 12.5 0.560 | B      | 12.5 0.560 | + 0.000 D/V  |

| Intersection                        |   | Base |               | Future |               | Change<br>in |
|-------------------------------------|---|------|---------------|--------|---------------|--------------|
|                                     |   | LOS  | Del/<br>Veh C | LOS    | Del/<br>Veh C |              |
| # 31 Ocean Blvd. at Butler          | A | 3.7  | 0.309         | A      | 3.7 0.309     | + 0.000 D/V  |
| # 32 Hwy 101 at Newmark             | C | 29.6 | 0.743         | C      | 29.6 0.743    | + 0.000 D/V  |
| # 33 Newmark at Sherman             | C | 27.8 | 0.576         | C      | 27.8 0.576    | + 0.000 D/V  |
| # 34 Newmark at Brussels            | A | 8.5  | 0.391         | A      | 8.5 0.391     | + 0.000 D/V  |
| # 35 Pony Creek at Crowell          | B | 3.5  | 0.000         | B      | 3.5 0.000     | + 0.000 V/C  |
| # 36 Virginia at Harrison           | B | 12.1 | 0.408         | B      | 12.1 0.408    | + 0.000 D/V  |
| # 37 Virginia at Safeway entrance   | F | 3.0  | 0.000         | F      | 3.0 0.000     | + 0.000 V/C  |
| # 38 Virginia at Pony Villiage entr | E | 1.4  | 0.000         | E      | 1.4 0.000     | + 0.000 V/C  |
| # 39 Sherman at Hwy 101 South       | D | 1.3  | 0.000         | D      | 1.3 0.000     | + 0.000 V/C  |
| # 40 Virginia at Meade              | D | 4.1  | 0.000         | D      | 4.1 0.000     | + 0.000 V/C  |
| # 41 Virginia at Marion             | E | 1.6  | 0.000         | E      | 1.6 0.000     | + 0.000 V/C  |
| # 42 Virginia at Maple              | C | 2.9  | 0.000         | C      | 2.9 0.000     | + 0.000 V/C  |
| # 43 Maple at East Airport Way      | A | 2.1  | 0.000         | A      | 2.1 0.000     | + 0.000 V/C  |
| # 44 Virginia at Arthur             | A | 0.5  | 0.000         | A      | 0.5 0.000     | + 0.000 V/C  |
| # 45 Virginia at Channel St.        | B | 2.0  | 0.000         | B      | 2.0 0.000     | + 0.000 V/C  |
| # 46 Lakeshore at Crocker           | A | 5.0  | 0.000         | A      | 5.0 0.000     | + 0.000 V/C  |
| # 47 Virginia at Oak                | C | 2.0  | 0.000         | C      | 2.0 0.000     | + 0.000 V/C  |
| # 48 Newmark at Oak                 | B | 10.2 | 0.489         | B      | 10.2 0.489    | + 0.000 D/V  |
| # 49 Newmark at Morrison            | C | 1.1  | 0.000         | C      | 1.1 0.000     | + 0.000 V/C  |
| # 50 Empire Blvd. at Pacific        | C | 2.4  | 0.000         | C      | 2.4 0.000     | + 0.000 V/C  |
| # 51 Virginia at Hwy 101 North      | B | 14.1 | 0.401         | B      | 14.1 0.401    | + 0.000 D/V  |
| # 52 Virginia at Hwy 101 South      | B | 18.4 | 0.482         | B      | 18.4 0.482    | + 0.000 D/V  |
| # 53 California at Hwy 101 North    | B | 0.2  | 0.000         | B      | 0.2 0.000     | + 0.000 V/C  |
| # 54 Florida at Sherman             | C | 20.3 | 0.542         | C      | 20.3 0.542    | + 0.000 D/V  |
| # 55 Broadway at 16th               | B | 13.9 | 0.408         | B      | 13.9 0.408    | + 0.000 D/V  |
| # 56 Broadway at Newmark            | D | 52.5 | 0.955         | D      | 52.5 0.955    | + 0.000 D/V  |

| Intersection                        |   | Base |               | Future |               | Change<br>in |
|-------------------------------------|---|------|---------------|--------|---------------|--------------|
|                                     |   | LOS  | Del/<br>Veh C | LOS    | Del/<br>Veh C |              |
| # 57 Newmark at Laclair             | C | 0.8  | 0.000         | C      | 0.8 0.000     | + 0.000 V/C  |
| # 58 Newmark at Ocean Blvd.         | B | 14.3 | 0.524         | B      | 14.3 0.524    | + 0.000 D/V  |
| # 59 Thompson at Koosbay            | C | 5.0  | 0.000         | C      | 5.0 0.000     | + 0.000 V/C  |
| # 60 Woodland at Thompson           | B | 2.9  | 0.000         | B      | 2.9 0.000     | + 0.000 V/C  |
| # 61 Ocean Blvd. at Woodland        | B | 19.8 | 0.465         | B      | 19.8 0.465    | + 0.000 D/V  |
| # 62 Ocean Blvd. at Radar           | B | 3.0  | 0.000         | B      | 3.0 0.000     | + 0.000 V/C  |
| # 63 Hwy 101 at Clark               | D | 0.3  | 0.000         | D      | 0.3 0.000     | + 0.000 V/C  |
| # 64 Hwy 101 at Casino entrance     | B | 14.5 | 0.489         | B      | 14.5 0.489    | + 0.000 D/V  |
| # 65 Libby at Wilshire              | A | 3.4  | 0.000         | A      | 3.4 0.000     | + 0.000 V/C  |
| # 66 Hwy 101 at E Bay Dr.           | A | 3.1  | 0.624         | A      | 3.1 0.624     | + 0.000 D/V  |
| # 67 Hwy 101 at North Bay           | E | 2.8  | 0.000         | E      | 2.8 0.000     | + 0.000 V/C  |
| # 68 Hwy 101 at Trans Pacific       | C | 1.4  | 0.000         | C      | 1.4 0.000     | + 0.000 V/C  |
| # 70 1st at Hall NB                 | A | 3.7  | 0.356         | A      | 3.7 0.356     | + 0.000 D/V  |
| # 71 Broadway at 17th               | E | 0.6  | 0.000         | E      | 0.6 0.000     | + 0.000 V/C  |
| # 72 Virginia at Pony Villiage enta | D | 1.7  | 0.000         | D      | 1.7 0.000     | + 0.000 V/C  |
| # 73 Coos River Hwy at Olive Barber | C | 2.5  | 0.000         | C      | 2.5 0.000     | + 0.000 V/C  |
| # 74 Ocean Blve at Laclair          | B | 2.4  | 0.000         | B      | 2.4 0.000     | + 0.000 V/C  |
| # 75 Central at 7th                 | B | 7.3  | 0.602         | B      | 7.3 0.602     | + 0.000 V/C  |
| # 76 Coos River Hwy at Edwards      | B | 2.6  | 0.000         | B      | 2.6 0.000     | + 0.000 V/C  |
| # 77 Coos River Hwy at Mullen       | D | 1.0  | 0.000         | D      | 1.0 0.000     | + 0.000 V/C  |
| # 78 Hwy 101 at Edwards             | E | 0.5  | 0.000         | E      | 0.5 0.000     | + 0.000 V/C  |
| # 79 11th at Elrod                  | A | 6.7  | 0.000         | A      | 6.7 0.000     | + 0.000 V/C  |
| # 80 US 101/Coos River Hwy (Bunker  | C | 30.7 | 0.616         | C      | 30.7 0.616    | + 0.000 D/V  |

```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #1 6th at D St.
*****
Average Delay (sec/veh): 3.7 Worst Case Level Of Service:
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0
Volume Module:
Base Vol: 175 0 375 0 0 0 0 10 75 150 30 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 175 0 375 0 0 0 0 10 75 150 30 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 175 0 375 0 0 0 0 10 75 150 30 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 175 0 375 0 0 0 0 10 75 150 30 0
Critical Gap Module:
Critical Gp: 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx 6.6 6.3 7.2 6.6 xxxxx
FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 3.4 3.5 4.0 xxxxx
Capacity Module:
Conflict Vol: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 725 0 393 350 xxxxx
Potent Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 346 0 562 569 xxxxx
Move Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 346 0 549 569 xxxxx
Level Of Service Module:
Stopped Del: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2937 552 xxxxx xxxxx
Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.3 14.6 xxxxx xxxxx
Shared LOS: A * * * * *
ApproachDel: xxxxxx xxxxxx 6.3 14.6
ApproachLOS: * * A B

```

```

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #3 7th at Ingersoll
*****
Cycle (sec): 100 Critical Vol./Cap. (X): 0.328
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Stop Sign Stop Sign
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0
Volume Module:
Base Vol: 10 110 0 10 225 50 30 10 0 5 15 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 10 110 0 10 225 50 30 10 0 5 15 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 10 110 0 10 225 50 30 10 0 5 15 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 10 110 0 10 225 50 30 10 0 5 15 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 10 110 0 10 225 50 30 10 0 5 15 0
Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes: 0.08 0.92 0.00 0.03 0.79 0.18 0.75 0.25 0.00 0.25 0.75 0.00
Final Sat.: 67 737 0 30 686 152 510 170 0 171 513 0
Capacity Analysis Module:
Vol/Sat: 0.15 0.15 xxxxx 0.33 0.33 0.33 0.06 0.06 xxxxx 0.03 0.03 xxxxx
Crit Moves: **** *
Delay/Veh: 8.1 8.1 0.0 9.0 9.0 9.0 8.2 8.2 0.0 8.0 8.0 0.0
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 8.1 8.1 0.0 9.0 9.0 9.0 8.2 8.2 0.0 8.0 8.0 0.0
LOS by Move: A A * A A A A * A A *
ApproachDel: 8.1 9.0 8.2 8.0
Delay Adj: 1.00 1.00 1.00 1.00
ApprAdjDel: 8.1 9.0 8.2 8.0
LOS by Appr: A A A A
*****

```

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #7 Hwy 101 at Flanagan  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.635  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 10.4  
Optimal Cycle: 52 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Permitted   | Permitted   | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 0 1 0 0   | 0 0 1 0 0   | 1 0 1 1 0  | 1 0 1 1 0  |

| Volume Module: | North Bound    | South Bound    | East Bound     | West Bound     |
|----------------|----------------|----------------|----------------|----------------|
| Base Vol:      | 70 10 30       | 35 10 40       | 30 1530 80     | 25 1200 5      |
| Growth Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse:   | 70 10 30       | 35 10 40       | 30 1530 80     | 25 1200 5      |
| User Adj:      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:       | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:    | 70 10 30       | 35 10 40       | 30 1530 80     | 25 1200 5      |
| Reduct Vol:    | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Reduced Vol:   | 70 10 30       | 35 10 40       | 30 1530 80     | 25 1200 5      |
| PCE Adj:       | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| MLF Adj:       | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Final Vol.:    | 70 10 30       | 35 10 40       | 30 1530 80     | 25 1200 5      |

| Saturation Flow Module: | North Bound    | South Bound    | East Bound     | West Bound     |
|-------------------------|----------------|----------------|----------------|----------------|
| Sat/Lane:               | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 |
| Adjustment:             | 0.71 0.71 0.71 | 0.79 0.79 0.79 | 0.92 0.92 0.92 | 0.90 0.90 0.90 |
| Lanes:                  | 0.64 0.09 0.27 | 0.41 0.12 0.47 | 1.00 1.90 0.10 | 1.00 1.99 0.01 |
| Final Sat.:             | 858 123 368    | 615 176 703    | 1753 3308 173  | 1718 3419 14   |

| Capacity Analysis Module: | North Bound    | South Bound    | East Bound     | West Bound     |
|---------------------------|----------------|----------------|----------------|----------------|
| Vol/Sat:                  | 0.08 0.08 0.08 | 0.06 0.06 0.06 | 0.02 0.46 0.46 | 0.01 0.35 0.35 |
| Crit Moves:               | ****           | ****           | ****           | ****           |
| Green/Cycle:              | 0.13 0.13 0.13 | 0.13 0.13 0.13 | 0.03 0.73 0.73 | 0.02 0.72 0.72 |
| Volume/Cap:               | 0.63 0.63 0.63 | 0.44 0.44 0.44 | 0.49 0.63 0.63 | 0.63 0.49 0.49 |
| Uniform Del:              | 41.3 41.3 41.3 | 40.3 40.3 40.3 | 47.4 6.9 6.9   | 48.4 6.2 6.2   |
| IncrementDel:             | 7.5 7.5 7.5    | 1.6 1.6 1.6    | 6.0 0.5 0.5    | 29.4 0.2 0.2   |
| Delay Adj:                | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Delay/Veh:                | 48.9 48.9 48.9 | 41.9 41.9 41.9 | 53.4 7.4 7.4   | 77.8 6.3 6.3   |
| User DelAdj:              | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| AdjDel/Veh:               | 48.9 48.9 48.9 | 41.9 41.9 41.9 | 53.4 7.4 7.4   | 77.8 6.3 6.3   |
| DesignQueue:              | 3 0 1          | 2 0 2          | 2 26 1         | 1 21 0         |

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #8 Hwy 101 at 1st  
\*\*\*\*\*

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B  
\*\*\*\*\*

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 2 0 0    | 0 0 1 1 0    | 0 0 0 0 1  | 0 0 0 0 0  |

| Volume Module: | North Bound    | South Bound    | East Bound     | West Bound     |
|----------------|----------------|----------------|----------------|----------------|
| Base Vol:      | 85 1150 0      | 0 1670 30      | 0 0 130        | 0 0 0          |
| Growth Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse:   | 85 1150 0      | 0 1670 30      | 0 0 130        | 0 0 0          |
| User Adj:      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:       | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:    | 85 1150 0      | 0 1670 30      | 0 0 130        | 0 0 0          |
| Reduct Vol:    | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Final Vol.:    | 85 1150 0      | 0 1670 30      | 0 0 130        | 0 0 0          |

| Critical Gap Module: | North Bound                             | South Bound           | East Bound            | West Bound            |
|----------------------|-----------------------------------------|-----------------------|-----------------------|-----------------------|
| Critical Gp:         | 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx | 7.0 xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx |
| FollowUpTim:         | 2.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx |

| Capacity Module: | North Bound                              | South Bound           | East Bound            | West Bound            |
|------------------|------------------------------------------|-----------------------|-----------------------|-----------------------|
| Conflict Vol:    | 1700 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx | 850 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx |
| Potent Cap.:     | 353 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  | 298 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx |
| Move Cap.:       | 353 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  | 298 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx | 298 xxxxx xxxxx xxxxx |

| Level Of Service Module: | North Bound                              | South Bound            | East Bound             | West Bound             |
|--------------------------|------------------------------------------|------------------------|------------------------|------------------------|
| Stopped Del:             | 18.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx | 26.1 xxxxx xxxxx xxxxx | 26.1 xxxxx xxxxx xxxxx | 26.1 xxxxx xxxxx xxxxx |
| LOS by Move:             | C * * * * *                              | D * * * * *            | D * * * * *            | D * * * * *            |
| Movement:                | LT - LTR - RT                            | LT - LTR - RT          | LT - LTR - RT          | LT - LTR - RT          |
| Shared Cap.:             | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      |
| Shrd StpDel:             | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      | xxxxx xxxxx xxxxx      |
| Shared LOS:              | * * * * *                                | * * * * *              | * * * * *              | * * * * *              |
| ApproachDel:             | xxxxxx                                   | xxxxxx                 | 26.1                   | xxxxxx                 |
| ApproachLOS:             | *                                        | *                      | D                      | *                      |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #9 Hwy 101 at S Front St.

Average Delay (sec/veh): 0.4 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 0 0 0   | 0 0 1 1 0    | 1 0 2 0 0    |

| Control: | Stop Sign | Stop Sign | Uncontrolled | Uncontrolled |
|----------|-----------|-----------|--------------|--------------|
| Rights:  | Include   | Include   | Include      | Include      |
| Lanes:   | 0 0 1 0 0 | 0 0 0 0 0 | 0 0 1 1 0    | 1 0 2 0 0    |

| Control: | Stop Sign | Stop Sign | Uncontrolled | Uncontrolled |
|----------|-----------|-----------|--------------|--------------|
| Rights:  | Include   | Include   | Include      | Include      |
| Lanes:   | 0 0 1 0 0 | 0 0 0 0 0 | 0 0 1 1 0    | 1 0 2 0 0    |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 0    | 30   | 0    | 0    | 0    | 0    | 1835 | 5    | 10   | 1195 | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 0    | 30   | 0    | 0    | 0    | 0    | 1835 | 5    | 10   | 1195 | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 0    | 30   | 0    | 0    | 0    | 0    | 1835 | 5    | 10   | 1195 | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol:   | 5    | 0    | 30   | 0    | 0    | 0    | 0    | 1835 | 5    | 10   | 1195 | 0    |

## Critical Gap Module:

|              |     |      |     |      |      |      |      |      |      |     |      |      |
|--------------|-----|------|-----|------|------|------|------|------|------|-----|------|------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 4.2 | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

## Capacity Module:

|              |      |      |     |      |      |      |      |      |      |      |      |      |
|--------------|------|------|-----|------|------|------|------|------|------|------|------|------|
| Cnflct Vol:  | 2455 | xxxx | 920 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 1840 | xxxx | xxxx |
| Potent Cap.: | 25   | xxxx | 273 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 319  | xxxx | xxxx |
| Move Cap.:   | 25   | xxxx | 273 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 319  | xxxx | xxxx |

## Level Of Service Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Stopped Del: | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 16.7 | xxxx | xxxx |
| LOS by Move: | *    | *    | *    | *    | *    | *    | *    | *    | *    | C    | *    | *    |

|              |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx 112      | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx 50.9     | xxxx          | xxxx          | xxxx          |
| Shared LOS:  | * F *         | *             | *             | *             |

|              |      |        |        |        |
|--------------|------|--------|--------|--------|
| ApproachDel: | 50.9 | xxxxxx | xxxxxx | xxxxxx |
| ApproachLOS: | F    | *      | *      | *      |

## Level Of Service Computation Report

## 2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #10 Broadway at Lockhart

Cycle (sec): 100 Critical Vol./Cap. (X): 0.128

Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 7.6

Optimal Cycle: 0 Level Of Service: A

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Stop Sign   | Stop Sign   | Stop Sign  | Stop Sign  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0  | 0 0 0 1 0  |

| Control:    | Stop Sign | Stop Sign | Stop Sign | Stop Sign |
|-------------|-----------|-----------|-----------|-----------|
| Rights:     | Include   | Include   | Include   | Include   |
| Min. Green: | 0 0 0     | 0 0 0     | 0 0 0     | 0 0 0     |
| Lanes:      | 1 0 0 0 0 | 0 0 1 0 0 | 0 1 0 0 0 | 0 0 0 1 0 |

| Control:    | Stop Sign | Stop Sign | Stop Sign | Stop Sign |
|-------------|-----------|-----------|-----------|-----------|
| Rights:     | Include   | Include   | Include   | Include   |
| Min. Green: | 0 0 0     | 0 0 0     | 0 0 0     | 0 0 0     |
| Lanes:      | 1 0 0 0 0 | 0 0 1 0 0 | 0 1 0 0 0 | 0 0 0 1 0 |

| Control:    | Stop Sign | Stop Sign | Stop Sign | Stop Sign |
|-------------|-----------|-----------|-----------|-----------|
| Rights:     | Include   | Include   | Include   | Include   |
| Min. Green: | 0 0 0     | 0 0 0     | 0 0 0     | 0 0 0     |
| Lanes:      | 1 0 0 0 0 | 0 0 1 0 0 | 0 1 0 0 0 | 0 0 0 1 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 15   | 0    | 0    | 5    | 10   | 100  | 50   | 25   | 0    | 0    | 45   | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 15   | 0    | 0    | 5    | 10   | 100  | 50   | 25   | 0    | 0    | 45   | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 15   | 0    | 0    | 5    | 10   | 100  | 50   | 25   | 0    | 0    | 45   | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 15   | 0    | 0    | 5    | 10   | 100  | 50   | 25   | 0    | 0    | 45   | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 15   | 0    | 0    | 5    | 10   | 100  | 50   | 25   | 0    | 0    | 45   | 5    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 0.00 | 0.04 | 0.09 | 0.87 | 0.67 | 0.33 | 0.00 | 0.00 | 0.90 | 0.10 |
| Final Sat.: | 738  | 0    | 0    | 39   | 78   | 784  | 523  | 262  | 0    | 0    | 743  | 83   |

## Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.02 | xxxx | xxxx | 0.13 | 0.13 | 0.13 | 0.10 | 0.10 | xxxx | xxxx | 0.06 | 0.06 |
| Crit Moves:  | **** |      |      | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Delay/Veh:   | 7.8  | 0.0  | 0.0  | 7.4  | 7.4  | 7.4  | 7.9  | 7.9  | 0.0  | 0.0  | 7.5  | 7.5  |
| Delay Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 7.8  | 0.0  | 0.0  | 7.4  | 7.4  | 7.4  | 7.9  | 7.9  | 0.0  | 0.0  | 7.5  | 7.5  |
| LOS by Move: | A    | *    | *    | A    | A    | A    | A    | A    | *    | *    | A    | A    |
| ApproachDel: | 7.8  |      |      | 7.4  |      |      | 7.9  |      |      |      | 7.5  |      |
| Delay Adj:   | 1.00 |      |      | 1.00 |      |      | 1.00 |      |      |      | 1.00 |      |
| ApprAdjDel:  | 7.8  |      |      | 7.4  |      |      | 7.9  |      |      |      | 7.5  |      |
| LOS by Appr: | A    |      |      | A    |      |      | A    |      |      |      | A    |      |

```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #11 Lockhart at 2nd
*****
Average Delay (sec/veh):      4.4      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 1! 0 0      0 0 1! 0 0      0 0 1! 0 0      0 0 1! 0 0
-----
Volume Module:
Base Vol:      20      5      5      5      5      85      70      15      20      5      25      10
Growth Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
Initial Bse:      20      5      5      5      5      85      70      15      20      5      25      10
User Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
PHF Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
PHF Volume:      20      5      5      5      5      85      70      15      20      5      25      10
Reduct Vol:      0      0      0      0      0      0      0      0      0      0      0      0
Final Vol.:      20      5      5      5      5      85      70      15      20      5      25      10
-----
Critical Gap Module:
Critical Gp:      7.1 6.5 6.2      7.2 6.6 6.3      4.1 xxxx xxxxx      4.1 xxxx xxxxx
FollowUpTim:      3.5 4.0 3.3      3.6 4.1 3.4      2.2 xxxx xxxxx      2.2 xxxx xxxxx
-----
Capacity Module:
Conflict Vol:      250 210      25 210 215      30 35 xxxx xxxxx      35 xxxx xxxxx
Potent Cap.:      708 691 1057      739 676 1033      1570 xxxx xxxxx      1557 xxxx xxxxx
Move Cap.:      621 656 1057      703 642 1033      1570 xxxx xxxxx      1557 xxxx xxxxx
-----
Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx      7.4 xxxx xxxxx      7.3 xxxx xxxxx
LOS by Move:      *      *      *      *      *      *      A      *      *      A      *      *
Movement:      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT
Shared Cap.:      xxxx 674 xxxxx xxxxx 978 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 10.6 xxxxx xxxxx 9.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS:      *      B      *      *      A      *      *      *      *      *      *      *
ApproachDel:      10.6      9.1      xxxxxx      xxxxxx
ApproachLOS:      B      A      *      *

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #12 Lockhart at 7th
*****
Average Delay (sec/veh):      3.3      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 1! 0 0      0 0 1! 0 0      0 1 0 0 0      0 0 0 1 0
-----
Volume Module:
Base Vol:      0      0      0      5      0      155      70      225      0      0      295      15
Growth Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
Initial Bse:      0      0      0      5      0      155      70      225      0      0      295      15
User Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
PHF Adj:      1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00      1.00 1.00 1.00
PHF Volume:      0      0      0      5      0      155      70      225      0      0      295      15
Reduct Vol:      0      0      0      0      0      0      0      0      0      0      0      0
Final Vol.:      0      0      0      5      0      155      70      225      0      0      295      15
-----
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx      6.4 xxxx 6.2      4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx      3.5 xxxx 3.3      2.2 xxxx xxxxx xxxxx xxxx xxxxx
-----
Capacity Module:
Conflict Vol:      xxxx xxxx xxxxx      668 xxxx 303      310 xxxx xxxxx xxxx xxxx xxxxx
Potent Cap.:      xxxx xxxx xxxxx      425 xxxx 740      1250 xxxx xxxxx xxxx xxxx xxxxx
Move Cap.:      xxxx xxxx xxxxx      406 xxxx 740      1250 xxxx xxxxx xxxx xxxx xxxxx
-----
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx      8.0 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:      *      *      *      *      *      *      A      *      *      *      *      *
Movement:      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT
Shared Cap.:      xxxx 0 xxxxx xxxx 721 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx 11.4 xxxxx      8.0 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *      *      *      *      B      *      A      *      *      *      *      *
ApproachDel:      xxxxxx      11.4      xxxxxx      xxxxxx
ApproachLOS:      *      B      *      *

```

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100 Critical Vol./Cap. (X): 0.601  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.9  
Optimal Cycle: 48 Level Of Service: C

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 0 1 0   | 1 0 0 1 0   | 0 1 0 0 1  | 0 1 0 1 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 215  | 110  | 0    | 145  | 100  | 30   | 10   | 610  | 175  | 0    | 505  | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 215  | 110  | 0    | 145  | 100  | 30   | 10   | 610  | 175  | 0    | 505  | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 215  | 110  | 0    | 145  | 100  | 30   | 10   | 610  | 175  | 0    | 505  | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 215  | 110  | 0    | 145  | 100  | 30   | 10   | 610  | 175  | 0    | 505  | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 215  | 110  | 0    | 145  | 100  | 30   | 10   | 610  | 175  | 0    | 505  | 10   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.94 | 0.99 | 1.00 | 0.93 | 0.95 | 0.95 | 0.97 | 0.97 | 0.83 | 0.95 | 0.93 | 0.93 |
| Lanes:      | 1.00 | 1.00 | 0.00 | 1.00 | 0.77 | 0.23 | 0.02 | 0.98 | 1.00 | 0.00 | 1.96 | 0.04 |
| Final Sat.: | 1787 | 1881 | 0    | 1769 | 1382 | 415  | 30   | 1814 | 1583 | 0    | 3459 | 68   |

Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.12 | 0.06 | 0.00 | 0.08 | 0.07 | 0.07 | 0.34 | 0.34 | 0.11 | 0.00 | 0.15 | 0.15 |
| Crit Moves:   | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle:  | 0.20 | 0.13 | 0.00 | 0.19 | 0.12 | 0.12 | 0.56 | 0.56 | 0.56 | 0.00 | 0.56 | 0.56 |
| Volume/Cap:   | 0.60 | 0.44 | 0.00 | 0.44 | 0.60 | 0.60 | 0.60 | 0.60 | 0.20 | 0.00 | 0.26 | 0.26 |
| Uniform Del:  | 36.4 | 39.9 | 0.0  | 36.0 | 41.7 | 41.7 | 14.6 | 14.6 | 10.9 | 0.0  | 11.4 | 11.4 |
| IncrementDel: | 2.9  | 1.2  | 0.0  | 0.9  | 4.7  | 4.7  | 1.0  | 1.0  | 0.1  | 0.0  | 0.1  | 0.1  |
| Delay Adj:    | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Delay/Veh:    | 39.2 | 41.1 | 0.0  | 36.9 | 46.4 | 46.4 | 15.6 | 15.6 | 11.0 | 0.0  | 11.4 | 11.4 |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 39.2 | 41.1 | 0.0  | 36.9 | 46.4 | 46.4 | 15.6 | 15.6 | 11.0 | 0.0  | 11.4 | 11.4 |
| DesignQueue:  | 10   | 5    | 0    | 7    | 5    | 1    | 0    | 16   | 4    | 0    | 13   | 0    |

Level Of Service Computation Report  
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #14 4th at Elrod

Cycle (sec): 100 Critical Vol./Cap. (X): 0.409  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.3  
Optimal Cycle: 0 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Stop Sign   | Stop Sign   | Stop Sign  | Stop Sign  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 0 1 0   | 1 0 0 1 0   | 0 0 0 1 0  | 0 0 1 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 60   | 120  | 50   | 230  | 235  | 25   | 0    | 75   | 30   | 50   | 55   | 70   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 60   | 120  | 50   | 230  | 235  | 25   | 0    | 75   | 30   | 50   | 55   | 70   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 60   | 120  | 50   | 230  | 235  | 25   | 0    | 75   | 30   | 50   | 55   | 70   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 60   | 120  | 50   | 230  | 235  | 25   | 0    | 75   | 30   | 50   | 55   | 70   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 60   | 120  | 50   | 230  | 235  | 25   | 0    | 75   | 30   | 50   | 55   | 70   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 0.71 | 0.29 | 1.00 | 0.90 | 0.10 | 0.00 | 0.71 | 0.29 | 0.29 | 0.31 | 0.40 |
| Final Sat.: | 537  | 425  | 177  | 578  | 575  | 61   | 0    | 404  | 162  | 171  | 188  | 239  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.11 | 0.28 | 0.28 | 0.40 | 0.41 | 0.41 | xxxx | 0.19 | 0.19 | 0.29 | 0.29 | 0.29 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Delay/Veh:   | 9.9  | 10.5 | 10.5 | 12.6 | 11.9 | 11.9 | 0.0  | 10.1 | 10.1 | 10.8 | 10.8 | 10.8 |
| Delay Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 9.9  | 10.5 | 10.5 | 12.6 | 11.9 | 11.9 | 0.0  | 10.1 | 10.1 | 10.8 | 10.8 | 10.8 |
| LOS by Move: | A    | B    | B    | B    | B    | B    | *    | B    | B    | B    | B    | B    |
| ApproachDel: | 10.4 |      |      | 12.2 |      |      |      | 10.1 |      |      | 10.8 |      |
| Delay Adj:   | 1.00 |      |      | 1.00 |      |      |      | 1.00 |      |      | 1.00 |      |
| ApprAdjDel:  | 10.4 |      |      | 12.2 |      |      |      | 10.1 |      |      | 10.8 |      |
| LOS by Appr: | B    |      |      | B    |      |      |      | B    |      |      | B    |      |



```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #15 2nd at Ingersoll
*****
Average Delay (sec/veh): 5.2 Worst Case Level Of Service:
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1:0 0 0 0 1:0 0 0 0 0 1 0 0
Volume Module:
Base Vol: 10 70 10 10 30 10 0 20 10 10 50 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 10 70 10 10 30 10 0 20 10 10 50 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 10 70 10 10 30 10 0 20 10 10 50 20
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 10 70 10 10 30 10 0 20 10 10 50 20
Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx
Capacity Module:
Conflict Vol: 125 115 25 145 110 60 xxxxx xxxxx xxxxx 30 xxxxx xxxxx
Potent Cap.: 849 775 1051 828 784 1011 xxxxx xxxxx xxxxx 1583 xxxxx xxxxx
Move Cap.: 812 770 1051 760 779 1011 xxxxx xxxxx xxxxx 1583 xxxxx xxxxx
Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.3 xxxxx xxxxx
LOS by Move: * * * * * * * * * * A * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 799 xxxxx xxxxx 812 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 10.1 xxxxx xxxxx 9.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * B * * A * * * * * * * *
ApproachDel: 10.1 9.7 xxxxxxx xxxxxxx
ApproachLOS: B A * *

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```

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
*****
Intersection #16 Commercial at Broadway
*****
Cycle (sec): 100 Critical Vol./Cap. (X): 0.529
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 11.7
Optimal Cycle: 33 Level Of Service: B
*****
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Split Phase Split Phase Split Phase Split Phase
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 0 0 0 0 0 0 2 0 1 0 0 0 0
Volume Module:
Base Vol: 0 0 0 0 1355 110 0 0 0 30 310 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 1355 110 0 0 0 30 310 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0 0 1355 110 0 0 0 30 310 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0 0 1355 110 0 0 0 30 310 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0 0 1355 110 0 0 0 30 310 0
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 1.00 0.91 0.82 1.00 1.00 1.00 0.93 0.93 1.00
Lanes: 0.00 0.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 0.18 1.82 0.00
Final Sat.: 0 0 0 0 3473 1554 0 0 0 312 3226 0
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.00 0.39 0.07 0.00 0.00 0.00 0.10 0.10 0.00
Crit Moves: ****
Green/Cycle: 0.00 0.00 0.00 0.00 0.74 0.74 0.00 0.00 0.00 0.18 0.18 0.00
Volume/Cap: 0.00 0.00 0.00 0.00 0.53 0.10 0.00 0.00 0.00 0.53 0.53 0.00
Uniform Del: 0.0 0.0 0.0 0.0 5.6 3.7 0.0 0.0 0.0 37.0 37.0 0.0
IncrementDel: 0.0 0.0 0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.8 0.8 0.0
Delay Adj: 0.00 0.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 0.00
Delay/Veh: 0.0 0.0 0.0 0.0 5.8 3.7 0.0 0.0 0.0 37.9 37.9 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 0.0 5.8 3.7 0.0 0.0 0.0 37.9 37.9 0.0
DesignQueue: 0 0 0 0 22 2 0 0 0 1 14 0
*****

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## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #18 Broadway at Market  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.513  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.3  
 Optimal Cycle: 33 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 0 0 0 0 0 1 0 1 0 0 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 25 1260 20 0 75 90 30 25 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 25 1260 20 0 75 90 30 25 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 0 0 25 1260 20 0 75 90 30 25 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 0 25 1260 20 0 75 90 30 25 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 0 0 0 25 1260 20 0 75 90 30 25 0

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 1.00 1.00 1.00 0.91 0.91 0.91 1.00 0.92 0.92 0.85 0.85 1.00  
 Lanes: 0.00 0.00 0.00 0.04 1.93 0.03 0.00 0.45 0.55 0.55 0.45 0.00  
 Final Sat.: 0 0 0 66 3340 53 0 792 950 884 737 0

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.00 0.00 0.38 0.38 0.38 0.00 0.09 0.09 0.03 0.03 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.00 0.00 0.74 0.74 0.74 0.00 0.18 0.18 0.18 0.18 0.00  
 Volume/Cap: 0.00 0.00 0.00 0.51 0.51 0.51 0.00 0.51 0.51 0.18 0.18 0.00  
 Uniform Del: 0.0 0.0 0.0 5.6 5.6 5.6 0.0 36.7 36.7 34.4 34.4 0.0  
 IncremntDel: 0.0 0.0 0.0 0.2 0.2 0.2 0.0 1.4 1.4 0.3 0.3 0.0  
 Delay Adj: 0.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00 0.00  
 Delay/Veh: 0.0 0.0 0.0 5.8 5.8 5.8 0.0 38.1 38.1 34.7 34.7 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 0.0 5.8 5.8 5.8 0.0 38.1 38.1 34.7 34.7 0.0  
 DesignQueue: 0 0 0 0 20 0 0 3 4 1 1 0

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #19 Bayshore at Market  
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0

Volume Module:  
 Base Vol: 30 1195 10 0 0 0 90 0 0 0 15 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 30 1195 10 0 0 0 90 0 0 0 15 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 30 1195 10 0 0 0 90 0 0 0 15 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 30 1195 10 0 0 0 90 0 0 0 15 0

Critical Gap Module:  
 Critical Gap: 4.1 xxxxx xxxxx xxxxx xxxxx 7.1 xxxxx xxxxx xxxxx 6.5 xxxxx  
 FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx xxxxx 4.0 xxxxx

Capacity Module:  
 Cnflct Vol: 0 xxxxx xxxxx xxxxx xxxxx xxxxx 665 xxxxx xxxxx xxxxx 1260 xxxxx  
 Potent Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx 372 xxxxx xxxxx xxxxx 172 xxxxx  
 Move Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx 347 xxxxx xxxxx xxxxx 172 xxxxx

Level Of Service Module:  
 Stopped Del: 0.0 xxxxx xxxxx xxxxx xxxxx 19.0 xxxxx xxxxx xxxxx 27.9 xxxxx  
 LOS by Move: A \* \* \* \* C \* \* \* \* D \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shared LOS: A \* \* \* \* \* \* \* \* \* \*  
 ApproachDel: xxxxxx xxxxxx 19.0 27.9  
 ApproachLOS: \* \* C D

| Level Of Service Computation Report                  |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
|------------------------------------------------------|-----------------|--------------------------|------|-------------|------|------|------------|------|------|------------|------|------|---|---|---|---|---|---|---|---|
| 2000 HCM Operations Method (Base Volume Alternative) |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| *****                                                |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Intersection #20 Broadway at Hall SB                 |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| *****                                                |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Cycle (sec):                                         | 100             | Critical Vol./Cap. (X):  |      |             |      |      |            |      |      | 0.476      |      |      |   |   |   |   |   |   |   |   |
| Loss Time (sec):                                     | 8 (Y+R = 4 sec) | Average Delay (sec/veh): |      |             |      |      |            |      |      | 6.7        |      |      |   |   |   |   |   |   |   |   |
| Optimal Cycle:                                       | 31              | Level Of Service:        |      |             |      |      |            |      |      | A          |      |      |   |   |   |   |   |   |   |   |
| *****                                                |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Approach:                                            | North Bound     |                          |      | South Bound |      |      | East Bound |      |      | West Bound |      |      |   |   |   |   |   |   |   |   |
| Movement:                                            | L               | -                        | T    | -           | R    | L    | -          | T    | -    | R          | L    | -    | T | - | R | L | - | T | - | R |
| Control:                                             | Split Phase     |                          |      | Split Phase |      |      | Permitted  |      |      | Permitted  |      |      |   |   |   |   |   |   |   |   |
| Rights:                                              | Include         |                          |      | Include     |      |      | Include    |      |      | Include    |      |      |   |   |   |   |   |   |   |   |
| Min. Green:                                          | 0               | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| Lanes:                                               | 0               | 0                        | 0    | 0           | 0    | 0    | 1          | 1    | 1    | 0          | 0    | 0    | 0 | 1 | 0 | 0 | 1 | 0 | 0 |   |
| ----- ----- ----- -----                              |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Volume Module:                                       |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Base Vol:                                            | 0               | 0                        | 0    | 30          | 1870 | 20   | 0          | 30   | 65   | 50         | 40   | 0    |   |   |   |   |   |   |   |   |
| Growth Adj:                                          | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| Initial Bse:                                         | 0               | 0                        | 0    | 30          | 1870 | 20   | 0          | 30   | 65   | 50         | 40   | 0    |   |   |   |   |   |   |   |   |
| User Adj:                                            | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| PHF Adj:                                             | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| PHF Volume:                                          | 0               | 0                        | 0    | 30          | 1870 | 20   | 0          | 30   | 65   | 50         | 40   | 0    |   |   |   |   |   |   |   |   |
| Reduct Vol:                                          | 0               | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |   |   |   |   |   |   |   |   |
| Reduced Vol:                                         | 0               | 0                        | 0    | 30          | 1870 | 20   | 0          | 30   | 65   | 50         | 40   | 0    |   |   |   |   |   |   |   |   |
| PCE Adj:                                             | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| MLF Adj:                                             | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| Final Vol.:                                          | 0               | 0                        | 0    | 30          | 1870 | 20   | 0          | 30   | 65   | 50         | 40   | 0    |   |   |   |   |   |   |   |   |
| ----- ----- ----- -----                              |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Saturation Flow Module:                              |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Sat/Lane:                                            | 1900            | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |   |   |   |   |   |   |   |   |
| Adjustment:                                          | 1.00            | 1.00                     | 1.00 | 0.88        | 0.88 | 0.88 | 1.00       | 0.90 | 0.90 | 0.86       | 0.86 | 1.00 |   |   |   |   |   |   |   |   |
| Lanes:                                               | 0.00            | 0.00                     | 0.00 | 0.05        | 2.92 | 0.03 | 0.00       | 0.32 | 0.68 | 0.56       | 0.44 | 0.00 |   |   |   |   |   |   |   |   |
| Final Sat.:                                          | 0               | 0                        | 0    | 79          | 4896 | 52   | 0          | 539  | 1169 | 908        | 726  | 0    |   |   |   |   |   |   |   |   |
| ----- ----- ----- -----                              |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Capacity Analysis Module:                            |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Vol/Sat:                                             | 0.00            | 0.00                     | 0.00 | 0.38        | 0.38 | 0.38 | 0.00       | 0.06 | 0.06 | 0.06       | 0.06 | 0.00 |   |   |   |   |   |   |   |   |
| Crit Moves:                                          |                 |                          |      | ****        |      |      | ****       |      |      |            |      |      |   |   |   |   |   |   |   |   |
| Green/Cycle:                                         | 0.00            | 0.00                     | 0.00 | 0.80        | 0.80 | 0.80 | 0.00       | 0.12 | 0.12 | 0.12       | 0.12 | 0.00 |   |   |   |   |   |   |   |   |
| Volume/Cap:                                          | 0.00            | 0.00                     | 0.00 | 0.48        | 0.48 | 0.48 | 0.00       | 0.48 | 0.48 | 0.47       | 0.47 | 0.00 |   |   |   |   |   |   |   |   |
| Uniform Del:                                         | 0.0             | 0.0                      | 0.0  | 3.1         | 3.1  | 3.1  | 0.0        | 41.3 | 41.3 | 41.3       | 41.3 | 0.0  |   |   |   |   |   |   |   |   |
| IncrcmntDel:                                         | 0.0             | 0.0                      | 0.0  | 0.1         | 0.1  | 0.1  | 0.0        | 1.8  | 1.8  | 1.8        | 1.8  | 0.0  |   |   |   |   |   |   |   |   |
| Delay Adj:                                           | 0.00            | 0.00                     | 0.00 | 1.00        | 1.00 | 1.00 | 0.00       | 1.00 | 1.00 | 1.00       | 1.00 | 0.00 |   |   |   |   |   |   |   |   |
| Delay/Veh:                                           | 0.0             | 0.0                      | 0.0  | 3.2         | 3.2  | 3.2  | 0.0        | 43.1 | 43.1 | 43.1       | 43.1 | 0.0  |   |   |   |   |   |   |   |   |
| User DelAdj:                                         | 1.00            | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |   |   |   |   |   |   |   |   |
| AdjDel/Veh:                                          | 0.0             | 0.0                      | 0.0  | 3.2         | 3.2  | 3.2  | 0.0        | 43.1 | 43.1 | 43.1       | 43.1 | 0.0  |   |   |   |   |   |   |   |   |
| DesignQueue:                                         | 0               | 0                        | 0    | 0           | 22   | 0    | 0          | 1    | 3    | 2          | 2    | 0    |   |   |   |   |   |   |   |   |
| *****                                                |                 |                          |      |             |      |      |            |      |      |            |      |      |   |   |   |   |   |   |   |   |

| Level Of Service Computation Report                  |                 |      |                          |             |      |      |            |      |       |            |      |      |
|------------------------------------------------------|-----------------|------|--------------------------|-------------|------|------|------------|------|-------|------------|------|------|
| 2000 HCM Operations Method (Base Volume Alternative) |                 |      |                          |             |      |      |            |      |       |            |      |      |
| *****                                                |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Intersection #21 Broadway at Johnson                 |                 |      |                          |             |      |      |            |      |       |            |      |      |
| *****                                                |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Cycle (sec):                                         | 100             |      | Critical Vol./Cap. (X):  |             |      |      |            |      | 0.570 |            |      |      |
| Loss Time (sec):                                     | 8 (Y+R = 4 sec) |      | Average Delay (sec/veh): |             |      |      |            |      | 17.3  |            |      |      |
| Optimal Cycle:                                       | 36              |      | Level Of Service:        |             |      |      |            |      | B     |            |      |      |
| *****                                                |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Approach:                                            | North Bound     |      |                          | South Bound |      |      | East Bound |      |       | West Bound |      |      |
| Movement:                                            | L               | T    | R                        | L           | T    | R    | L          | T    | R     | L          | T    | R    |
| ----- ----- ----- -----                              |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Control:                                             | Split Phase     |      |                          | Split Phase |      |      | Permitted  |      |       | Permitted  |      |      |
| Rights:                                              | Include         |      |                          | Include     |      |      | Include    |      |       | Include    |      |      |
| Min. Green:                                          | 0               | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Lanes:                                               | 0               | 0    | 0                        | 0           | 0    | 0    | 1          | 0    | 2     | 1          | 0    | 0    |
| ----- ----- ----- -----                              |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Volume Module:                                       |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Base Vol:                                            | 0               | 0    | 0                        | 285         | 1430 | 90   | 0          | 115  | 130   | 245        | 110  | 0    |
| Growth Adj:                                          | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| Initial Bse:                                         | 0               | 0    | 0                        | 285         | 1430 | 90   | 0          | 115  | 130   | 245        | 110  | 0    |
| User Adj:                                            | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Adj:                                             | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Volume:                                          | 0               | 0    | 0                        | 285         | 1430 | 90   | 0          | 115  | 130   | 245        | 110  | 0    |
| Reduct Vol:                                          | 0               | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Reduced Vol:                                         | 0               | 0    | 0                        | 285         | 1430 | 90   | 0          | 115  | 130   | 245        | 110  | 0    |
| PCE Adj:                                             | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| MLF Adj:                                             | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| Final Vol.:                                          | 0               | 0    | 0                        | 285         | 1430 | 90   | 0          | 115  | 130   | 245        | 110  | 0    |
| ----- ----- ----- -----                              |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Saturation Flow Module:                              |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Sat/Lane:                                            | 1900            | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900 | 1900 |
| Adjustment:                                          | 1.00            | 1.00 | 1.00                     | 0.96        | 0.88 | 0.88 | 1.00       | 0.85 | 0.85  | 0.59       | 0.99 | 1.00 |
| Lanes:                                               | 0.00            | 0.00 | 0.00                     | 1.00        | 2.82 | 0.18 | 0.00       | 1.00 | 1.00  | 1.00       | 1.00 | 0.00 |
| Final Sat.:                                          | 0               | 0    | 0                        | 1828        | 4696 | 296  | 0          | 1612 | 1612  | 1114       | 1881 | 0    |
| ----- ----- ----- -----                              |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Capacity Analysis Module:                            |                 |      |                          |             |      |      |            |      |       |            |      |      |
| Vol/Sat:                                             | 0.00            | 0.00 | 0.00                     | 0.16        | 0.30 | 0.30 | 0.00       | 0.07 | 0.08  | 0.22       | 0.06 | 0.00 |
| Crit Moves:                                          | ****            |      |                          |             |      |      | ****       |      |       |            |      |      |
| Green/Cycle:                                         | 0.00            | 0.00 | 0.00                     | 0.53        | 0.53 | 0.53 | 0.00       | 0.39 | 0.39  | 0.39       | 0.39 | 0.00 |
| Volume/Cap:                                          | 0.00            | 0.00 | 0.00                     | 0.29        | 0.57 | 0.57 | 0.00       | 0.18 | 0.21  | 0.57       | 0.15 | 0.00 |
| Uniform Del:                                         | 0.0             | 0.0  | 0.0                      | 12.9        | 15.6 | 15.6 | 0.0        | 20.3 | 20.5  | 24.2       | 20.0 | 0.0  |
| IncrcmntDel:                                         | 0.0             | 0.0  | 0.0                      | 0.2         | 0.3  | 0.3  | 0.0        | 0.1  | 0.1   | 1.8        | 0.1  | 0.0  |
| Delay Adj:                                           | 0.00            | 0.00 | 0.00                     | 1.00        | 1.00 | 1.00 | 0.00       | 1.00 | 1.00  | 1.00       | 1.00 | 0.00 |
| Delay/Veh:                                           | 0.0             | 0.0  | 0.0                      | 13.0        | 15.9 | 15.9 | 0.0        | 20.4 | 20.6  | 26.0       | 20.1 | 0.0  |
| User DelAdj:                                         | 1.00            | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:                                          | 0.0             | 0.0  | 0.0                      | 13.0        | 15.9 | 15.9 | 0.0        | 20.4 | 20.6  | 26.0       | 20.1 | 0.0  |
| DesignQueue:                                         | 0               | 0    | 0                        | 8           | 40   | 3    | 0          | 4    | 5     | 9          | 4    | 0    |
| *****                                                |                 |      |                          |             |      |      |            |      |       |            |      |      |

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #22 Johnson at Bayshore

Cycle (sec): 100 Critical Vol./Cap. (X): 0.638  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.3  
 Optimal Cycle: 42 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 1 1 0 1 0 0 0 0 0 0 1 0 1

Volume Module:  
 Base Vol: 25 1190 80 0 0 0 100 295 0 0 270 135  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 25 1190 80 0 0 0 100 295 0 0 270 135  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 25 1190 80 0 0 0 100 295 0 0 270 135  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 25 1190 80 0 0 0 100 295 0 0 270 135  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 25 1190 80 0 0 0 100 295 0 0 270 135

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.77 0.77 0.81 1.00 1.00 1.00 0.61 0.61 1.00 1.00 0.99 0.84  
 Lanes: 0.04 1.96 1.00 0.00 0.00 0.00 0.51 1.49 0.00 0.00 1.00 1.00  
 Final Sat.: 60 2861 1537 0 0 0 585 1725 0 0 1881 1599

Capacity Analysis Module:  
 Vol/Sat: 0.42 0.42 0.05 0.00 0.00 0.00 0.17 0.17 0.00 0.00 0.14 0.08  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.65 0.65 0.65 0.00 0.00 0.00 0.27 0.27 0.00 0.00 0.27 0.27  
 Volume/Cap: 0.64 0.64 0.08 0.00 0.00 0.00 0.64 0.64 0.00 0.00 0.54 0.32  
 Uniform Del: 10.4 10.4 6.4 0.0 0.0 0.0 32.3 32.3 0.0 0.0 31.3 29.3  
 IncrementDel: 0.7 0.7 0.0 0.0 0.0 0.0 2.2 2.2 0.0 0.0 1.1 0.4  
 Delay Adj: 1.00 1.00 1.00 0.00 0.00 0.00 1.00 1.00 0.00 0.00 1.00 1.00  
 Delay/Veh: 11.1 11.1 6.4 0.0 0.0 0.0 34.5 34.5 0.0 0.0 32.4 29.7  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 11.1 11.1 6.4 0.0 0.0 0.0 34.5 34.5 0.0 0.0 32.4 29.7  
 DesignQueue: 1 25 2 0 0 0 4 12 0 0 11 6

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #23 Bayshore at Alder

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0

Volume Module:  
 Base Vol: 30 1205 50 0 0 0 15 5 0 0 20 25  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 30 1205 50 0 0 0 15 5 0 0 20 25  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 30 1205 50 0 0 0 15 5 0 0 20 25  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 30 1205 50 0 0 0 15 5 0 0 20 25

Critical Gap Module:  
 Critical Gap: 4.1 xxxx xxxxxx xxxxxx xxxxxx 7.1 6.5 xxxxxx xxxxxx 6.5 6.2  
 FollowUpTim: 2.2 xxxx xxxxxx xxxxxx xxxxxx 3.5 4.0 xxxxxx xxxxxx 4.0 3.3

Capacity Module:  
 Conflict Vol: 0 xxxx xxxxxx xxxxxx xxxxxx 673 1315 xxxxxx xxxxxx 1290 628  
 Potent Cap.: 0 xxxx xxxxxx xxxxxx xxxxxx 369 158 xxxxxx xxxxxx 162 480  
 Move Cap.: 0 xxxx xxxxxx xxxxxx xxxxxx 317 158 xxxxxx xxxxxx 162 480

Level Of Service Module:  
 Stopped Del: 0.0 xxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx  
 LOS by Move: A \* \* \* \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxx xxxx xxxxxx xxxxxx xxxxxx 253 xxxx xxxxxx xxxx xxxx 256  
 Shrd StpDel: 0.0 xxxx xxxxxx xxxxxx xxxxxx 20.4 xxxx xxxxxx xxxxxx xxxx 22.0  
 Shared LOS: A \* \* \* \* \* C \* \* \* \* \* C  
 ApproachDel: xxxxxx xxxxxx 20.4 22.0  
 ApproachLOS: \* \* C C

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #24 Broadway at Alder

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound | West Bound |
|-----------|-------------|-------------|------------|------------|
| Movement: | L - T - R   | L - T - R   | L - T - R  | L - T - R  |

| Control: | Uncontrolled | Uncontrolled | Stop Sign | Stop Sign |
|----------|--------------|--------------|-----------|-----------|
| Rights:  | Include      | Include      | Include   | Include   |
| Lanes:   | 0 0 0 0 0    | 0 1 0 1 0    | 0 0 0 1 0 | 0 1 0 0 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 30   | 1295 | 5    | 0    | 10   | 10   | 70   | 10   | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 30   | 1295 | 5    | 0    | 10   | 10   | 70   | 10   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 30   | 1295 | 5    | 0    | 10   | 10   | 70   | 10   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 30   | 1295 | 5    | 0    | 10   | 10   | 70   | 10   | 0    |

## Critical Gap Module:

|              |       |      |       |     |      |       |       |     |     |     |     |       |
|--------------|-------|------|-------|-----|------|-------|-------|-----|-----|-----|-----|-------|
| Critical Gp: | xxxxx | xxxx | xxxxx | 4.1 | xxxx | xxxxx | xxxxx | 6.5 | 6.2 | 7.1 | 6.5 | xxxxx |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.2 | xxxx | xxxxx | xxxxx | 4.0 | 3.3 | 3.5 | 4.0 | xxxxx |

## Capacity Module:

|              |      |      |       |   |      |       |      |      |     |     |      |       |
|--------------|------|------|-------|---|------|-------|------|------|-----|-----|------|-------|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | 0 | xxxx | xxxxx | xxxx | 1358 | 650 | 713 | 1360 | xxxxx |
| Potent Cap.: | xxxx | xxxx | xxxxx | 0 | xxxx | xxxxx | xxxx | 150  | 473 | 346 | 148  | xxxxx |
| Move Cap.:   | xxxx | xxxx | xxxxx | 0 | xxxx | xxxxx | xxxx | 150  | 473 | 321 | 148  | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | A             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | 228           | 280           | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxx          | 22.3          | 22.9          | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | *             | A             | *             | *             | *             | *             | C             | C             | *             | *             |
| ApproachDel: | xxxxxx        | xxxxxx        |               |               |               |               |               | 22.3          |               | 22.9          |               |               |
| ApproachLOS: | *             | *             |               |               |               |               |               | C             |               | C             |               |               |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #25 Bayshore at Commercial

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound | West Bound |
|-----------|-------------|-------------|------------|------------|
| Movement: | L - T - R   | L - T - R   | L - T - R  | L - T - R  |

| Control: | Uncontrolled | Uncontrolled | Stop Sign | Stop Sign |
|----------|--------------|--------------|-----------|-----------|
| Rights:  | Include      | Include      | Include   | Include   |
| Lanes:   | 0 1 1 0 0    | 0 0 0 0 0    | 0 0 0 0 0 | 0 0 0 0 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 290  | 1170 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 290  | 1170 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 290  | 1170 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 290  | 1170 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

## Critical Gap Module:

|              |     |      |       |       |      |      |       |       |      |      |       |       |      |      |       |
|--------------|-----|------|-------|-------|------|------|-------|-------|------|------|-------|-------|------|------|-------|
| Critical Gp: | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx |
| FollowUpTim: | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx | xxxxx | xxxx | xxxx | xxxxx |

## Capacity Module:

|              |   |      |       |      |      |       |      |      |       |      |      |       |      |      |       |
|--------------|---|------|-------|------|------|-------|------|------|-------|------|------|-------|------|------|-------|
| Cnflct Vol:  | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               |               |               |               |               | xxxxxx        |               | xxxxxx        |               | xxxxxx        |               | xxxxxx        |               |
| ApproachLOS: | *             |               |               |               |               |               |               | *             |               | *             |               | *             |               | *             |               |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #26 Bayshore at Cedar  
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level Of Service:  
\*\*\*\*\*

\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 1

-----|-----|-----|-----|

Volume Module:

Base Vol: 0 1285 5 0 0 0 10 0 0 0 0 0 10

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 1285 5 0 0 0 10 0 0 0 0 0 10

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 1285 5 0 0 0 10 0 0 0 0 0 10

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 1285 5 0 0 0 10 0 0 0 0 0 10

-----|-----|-----|-----|

Critical Gap Module:

Critical Gp:xxxxx xxxxx xxxxx xxxxx 7.1 xxxxx xxxxx xxxxx xxxxx 6.2

FollowUpTim:xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx xxxxx xxxxx 3.3

-----|-----|-----|-----|

Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx xxxxx xxxxx 643 xxxxx xxxxx xxxxx xxxxx 645

Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx 390 xxxxx xxxxx xxxxx xxxxx 476

Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx 381 xxxxx xxxxx xxxxx xxxxx 476

-----|-----|-----|-----|

Level Of Service Module:

Stopped Del:xxxxx xxxxx xxxxx xxxxx 14.7 xxxxx xxxxx xxxxx xxxxx 12.7

LOS by Move: \* \* \* \* \* B \* \* \* \* \* B

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared LOS: A \* \* \* \* \* \* \* \* \* \* \*

ApproachDel: xxxxxx xxxxxx 14.7 12.7

ApproachLOS: \* \* B B

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #27 Bayshore at Birch  
\*\*\*\*\*

Average Delay (sec/veh): 0.2 Worst Case Level Of Service:  
\*\*\*\*\*

\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 1

-----|-----|-----|-----|

Volume Module:

Base Vol: 5 1195 10 0 0 0 0 0 0 0 0 50

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 5 1195 10 0 0 0 0 0 0 0 0 50

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 5 1195 10 0 0 0 0 0 0 0 0 50

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 5 1195 10 0 0 0 0 0 0 0 0 50

-----|-----|-----|-----|

Critical Gap Module:

Critical Gp: 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.2

FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.3

-----|-----|-----|-----|

Capacity Module:

Cnflct Vol: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 603

Potent Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 497

Move Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 497

-----|-----|-----|-----|

Level Of Service Module:

Stopped Del: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 13.0

LOS by Move: A \* \* \* \* \* \* \* \* \* \* \* B

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx 0 xxxxx xxxxx xxxxx xxxxx xxxxx

Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared LOS: A \* \* \* \* \* \* \* \* \* \* \*

ApproachDel: xxxxxx xxxxxx xxxxxx 13.0

ApproachLOS: \* \* B



## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #30 Hwy 101 at Koosbay  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.560  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.5  
 Optimal Cycle: 45 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound  |   |   | West Bound  |   |   |
|-------------|-------------|---|---|-------------|---|---|-------------|---|---|-------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L           | T | R | L           | T | R |
| Control:    | Protected   |   |   | Permitted   |   |   | Split Phase |   |   | Split Phase |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include     |   |   | Include     |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 |
| Lanes:      | 1           | 0 | 2 | 0           | 0 | 1 | 0           | 0 | 1 | 0           | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 90   | 1030 | 0    | 0    | 1180 | 15   | 20   | 0    | 135  | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 90   | 1030 | 0    | 0    | 1180 | 15   | 20   | 0    | 135  | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 90   | 1030 | 0    | 0    | 1180 | 15   | 20   | 0    | 135  | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 90   | 1030 | 0    | 0    | 1180 | 15   | 20   | 0    | 135  | 0    | 0    | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 90   | 1030 | 0    | 0    | 1180 | 15   | 20   | 0    | 135  | 0    | 0    | 0    |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.90 | 0.90 | 1.00 | 1.00 | 0.91 | 0.91 | 0.85 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 1.00 | 2.00 | 0.00 | 0.00 | 1.97 | 0.03 | 0.13 | 0.00 | 0.87 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 1718 | 3437 | 0    | 0    | 3422 | 44   | 209  | 0    | 1409 | 0    | 0    | 0    |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.05 | 0.30 | 0.00 | 0.00 | 0.34 | 0.34 | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 |
| Crit Moves:   | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle:  | 0.09 | 0.71 | 0.00 | 0.00 | 0.62 | 0.62 | 0.17 | 0.00 | 0.17 | 0.00 | 0.00 | 0.00 |
| Volume/Cap:   | 0.56 | 0.42 | 0.00 | 0.00 | 0.56 | 0.56 | 0.56 | 0.00 | 0.56 | 0.00 | 0.00 | 0.00 |
| Uniform Del:  | 43.4 | 6.1  | 0.0  | 0.0  | 11.3 | 11.3 | 38.0 | 0.0  | 38.0 | 0.0  | 0.0  | 0.0  |
| IncrementDel: | 4.4  | 0.1  | 0.0  | 0.0  | 0.3  | 0.3  | 2.6  | 0.0  | 2.6  | 0.0  | 0.0  | 0.0  |
| Delay Adj:    | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Delay/Veh:    | 47.8 | 6.2  | 0.0  | 0.0  | 11.6 | 11.6 | 40.6 | 0.0  | 40.6 | 0.0  | 0.0  | 0.0  |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 47.8 | 6.2  | 0.0  | 0.0  | 11.6 | 11.6 | 40.6 | 0.0  | 40.6 | 0.0  | 0.0  | 0.0  |
| DesignQueue:  | 5    | 18   | 0    | 0    | 27   | 0    | 1    | 0    | 6    | 0    | 0    | 0    |

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #31 Ocean Blvd. at Butler  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.309  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.7  
 Optimal Cycle: 24 Level Of Service: A

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 0 | 0 | 1           | 0 | 0 | 0          | 1 | 0 | 0          | 1 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 5    | 0    | 50   | 50   | 695  | 20   | 50   | 680  | 20   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 5    | 0    | 50   | 50   | 695  | 20   | 50   | 680  | 20   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 5    | 0    | 50   | 50   | 695  | 20   | 50   | 680  | 20   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 5    | 0    | 50   | 50   | 695  | 20   | 50   | 680  | 20   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 5    | 0    | 50   | 50   | 695  | 20   | 50   | 680  | 20   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.94 | 1.00 | 0.84 | 0.79 | 0.79 | 0.79 | 0.78 | 0.78 | 0.78 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.13 | 1.82 | 0.05 | 0.13 | 1.82 | 0.05 |
| Final Sat.: | 0    | 0    | 0    | 1787 | 0    | 1599 | 197  | 2743 | 79   | 198  | 2697 | 79   |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Crit Moves:   |      |      |      |      |      | **** | **** |      |      |      |      |      |
| Green/Cycle:  | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.10 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Volume/Cap:   | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Uniform Del:  | 0.0  | 0.0  | 0.0  | 40.5 | 0.0  | 41.7 | 2.2  | 2.2  | 2.2  | 2.2  | 2.2  | 2.2  |
| IncrementDel: | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 1.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  |
| Delay Adj:    | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh:    | 0.0  | 0.0  | 0.0  | 40.6 | 0.0  | 42.8 | 2.3  | 2.3  | 2.3  | 2.3  | 2.3  | 2.3  |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 0.0  | 0.0  | 0.0  | 40.6 | 0.0  | 42.8 | 2.3  | 2.3  | 2.3  | 2.3  | 2.3  | 2.3  |
| DesignQueue:  | 0    | 0    | 0    | 0    | 0    | 3    | 1    | 7    | 0    | 1    | 7    | 0    |



| Level Of Service Computation Report                  |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
|------------------------------------------------------|------------------|--------------------------|------|-------------|------|------|------------|------|-------|------------|------|------|---|---|---|
| 2000 HCM Operations Method (Base Volume Alternative) |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| *****                                                |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Intersection #32 Hwy 101 at Newmark                  |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| *****                                                |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Cycle (sec):                                         | 120              | Critical Vol./Cap. (X):  |      |             |      |      |            |      | 0.743 |            |      |      |   |   |   |
| Loss Time (sec):                                     | 12 (Y+R = 4 sec) | Average Delay (sec/veh): |      |             |      |      |            |      | 29.6  |            |      |      |   |   |   |
| Optimal Cycle:                                       | 69               | Level Of Service:        |      |             |      |      |            |      | C     |            |      |      |   |   |   |
| *****                                                |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Approach:                                            | North Bound      |                          |      | South Bound |      |      | East Bound |      |       | West Bound |      |      |   |   |   |
| Movement:                                            | L                | -                        | T    | -           | R    | L    | -          | T    | -     | R          | L    | -    | T | - | R |
| ----- ----- ----- -----                              |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Control:                                             | Protected        |                          |      | Protected   |      |      | Permitted  |      |       | Permitted  |      |      |   |   |   |
| Rights:                                              | Include          |                          |      | Include     |      |      | Include    |      |       | Include    |      |      |   |   |   |
| Min. Green:                                          | 0                | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    | 0 | 0 |   |
| Lanes:                                               | 1                | 0                        | 1    | 1           | 0    | 1    | 0          | 2    | 0     | 1          | 1    | 0    | 0 | 1 | 0 |
| ----- ----- ----- -----                              |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Volume Module:                                       |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Base Vol:                                            | 335              | 940                      | 5    | 0           | 950  | 85   | 140        | 0    | 315   | 5          | 5    | 5    |   |   |   |
| Growth Adj:                                          | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Initial Bse:                                         | 335              | 940                      | 5    | 0           | 950  | 85   | 140        | 0    | 315   | 5          | 5    | 5    |   |   |   |
| User Adj:                                            | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| PHF Adj:                                             | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| PHF Volume:                                          | 335              | 940                      | 5    | 0           | 950  | 85   | 140        | 0    | 315   | 5          | 5    | 5    |   |   |   |
| Reduct Vol:                                          | 0                | 0                        | 0    | 0           | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |   |   |   |
| Reduced Vol:                                         | 335              | 940                      | 5    | 0           | 950  | 85   | 140        | 0    | 315   | 5          | 5    | 5    |   |   |   |
| PCE Adj:                                             | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| MLF Adj:                                             | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Final Vol.:                                          | 335              | 940                      | 5    | 0           | 950  | 85   | 140        | 0    | 315   | 5          | 5    | 5    |   |   |   |
| ----- ----- ----- -----                              |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Saturation Flow Module:                              |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Sat/Lane:                                            | 1900             | 1900                     | 1900 | 1900        | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900 | 1900 |   |   |   |
| Adjustment:                                          | 0.91             | 0.91                     | 0.91 | 1.00        | 0.90 | 0.81 | 0.74       | 1.00 | 0.83  | 0.81       | 0.81 | 0.81 |   |   |   |
| Lanes:                                               | 1.00             | 1.99                     | 0.01 | 1.00        | 2.00 | 1.00 | 1.00       | 0.00 | 1.00  | 0.34       | 0.33 | 0.33 |   |   |   |
| Final Sat.:                                          | 1736             | 3451                     | 18   | 1900        | 3437 | 1537 | 1408       | 0    | 1583  | 512        | 512  | 512  |   |   |   |
| ----- ----- ----- -----                              |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Capacity Analysis Module:                            |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |
| Vol/Sat:                                             | 0.19             | 0.27                     | 0.27 | 0.00        | 0.28 | 0.06 | 0.10       | 0.00 | 0.20  | 0.01       | 0.01 | 0.01 |   |   |   |
| Crit Moves:                                          | ****             |                          |      | ****        |      |      | ****       |      |       |            |      |      |   |   |   |
| Green/Cycle:                                         | 0.26             | 0.63                     | 0.63 | 0.00        | 0.37 | 0.37 | 0.27       | 0.00 | 0.27  | 0.27       | 0.27 | 0.27 |   |   |   |
| Volume/Cap:                                          | 0.74             | 0.43                     | 0.43 | 0.00        | 0.74 | 0.15 | 0.37       | 0.00 | 0.74  | 0.04       | 0.04 | 0.04 |   |   |   |
| Uniform Del:                                         | 40.7             | 11.2                     | 11.2 | 0.0         | 32.7 | 25.0 | 35.7       | 0.0  | 40.1  | 32.5       | 32.5 | 32.5 |   |   |   |
| IncrementDel:                                        | 6.5              | 0.1                      | 0.1  | 0.0         | 2.4  | 0.1  | 0.6        | 0.0  | 6.9   | 0.0        | 0.0  | 0.0  |   |   |   |
| Delay Adj:                                           | 1.00             | 1.00                     | 1.00 | 0.00        | 1.00 | 1.00 | 1.00       | 0.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Delay/Veh:                                           | 47.3             | 11.3                     | 11.3 | 0.0         | 35.1 | 25.2 | 36.3       | 0.0  | 47.1  | 32.5       | 32.5 | 32.5 |   |   |   |
| User DelAdj:                                         | 1.00             | 1.00                     | 1.00 | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| AdjDel/Veh:                                          | 47.3             | 11.3                     | 11.3 | 0.0         | 35.1 | 25.2 | 36.3       | 0.0  | 47.1  | 32.5       | 32.5 | 32.5 |   |   |   |
| DesignQueue:                                         | 17               | 25                       | 0    | 0           | 43   | 4    | 7          | 0    | 16    | 0          | 0    | 0    |   |   |   |
| *****                                                |                  |                          |      |             |      |      |            |      |       |            |      |      |   |   |   |

| Level Of Service Computation Report                  |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
|------------------------------------------------------|------------------|------|------|--------------------------|------|------|------------|------|-------|------------|------|------|---|---|---|
| 2000 HCM Operations Method (Base Volume Alternative) |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| *****                                                |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Intersection #33 Newmark at Sherman                  |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| *****                                                |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Cycle (sec):                                         | 100              |      |      | Critical Vol./Cap. (X):  |      |      |            |      | 0.576 |            |      |      |   |   |   |
| Loss Time (sec):                                     | 16 (Y+R = 4 sec) |      |      | Average Delay (sec/veh): |      |      |            |      | 27.8  |            |      |      |   |   |   |
| Optimal Cycle:                                       | 55               |      |      | Level Of Service:        |      |      |            |      | C     |            |      |      |   |   |   |
| *****                                                |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Approach:                                            | North Bound      |      |      | South Bound              |      |      | East Bound |      |       | West Bound |      |      |   |   |   |
| Movement:                                            | L                | -    | T    | -                        | R    | L    | -          | T    | -     | R          | L    | -    | T | - | R |
| ----- ----- ----- -----                              |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Control:                                             | Protected        |      |      | Protected                |      |      | Protected  |      |       | Protected  |      |      |   |   |   |
| Rights:                                              | Include          |      |      | Include                  |      |      | Include    |      |       | Include    |      |      |   |   |   |
| Min. Green:                                          | 0                | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |   |   |   |
| Lanes:                                               | 1                | 0    | 0    | 1                        | 0    | 1    | 0          | 1    | 0     | 1          | 1    | 0    | 0 | 1 | 0 |
| ----- ----- ----- -----                              |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Volume Module:                                       |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Base Vol:                                            | 225              | 135  | 30   | 10                       | 110  | 65   | 65         | 460  | 190   | 10         | 415  | 5    |   |   |   |
| Growth Adj:                                          | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Initial Bse:                                         | 225              | 135  | 30   | 10                       | 110  | 65   | 65         | 460  | 190   | 10         | 415  | 5    |   |   |   |
| User Adj:                                            | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| PHF Adj:                                             | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| PHF Volume:                                          | 225              | 135  | 30   | 10                       | 110  | 65   | 65         | 460  | 190   | 10         | 415  | 5    |   |   |   |
| Reduct Vol:                                          | 0                | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |   |   |   |
| Reduced Vol:                                         | 225              | 135  | 30   | 10                       | 110  | 65   | 65         | 460  | 190   | 10         | 415  | 5    |   |   |   |
| PCE Adj:                                             | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| MLF Adj:                                             | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Final Vol.:                                          | 225              | 135  | 30   | 10                       | 110  | 65   | 65         | 460  | 190   | 10         | 415  | 5    |   |   |   |
| ----- ----- ----- -----                              |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Saturation Flow Module:                              |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Sat/Lane:                                            | 1900             | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900 | 1900 |   |   |   |
| Adjustment:                                          | 0.94             | 0.96 | 0.96 | 0.95                     | 0.94 | 0.94 | 0.94       | 0.99 | 0.84  | 0.94       | 0.99 | 0.99 |   |   |   |
| Lanes:                                               | 1.00             | 0.82 | 0.18 | 1.00                     | 0.63 | 0.37 | 1.00       | 1.00 | 1.00  | 1.00       | 0.99 | 0.01 |   |   |   |
| Final Sat.:                                          | 1787             | 1497 | 333  | 1805                     | 1127 | 666  | 1787       | 1881 | 1599  | 1787       | 1855 | 22   |   |   |   |
| ----- ----- ----- -----                              |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Capacity Analysis Module:                            |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |
| Vol/Sat:                                             | 0.13             | 0.09 | 0.09 | 0.01                     | 0.10 | 0.10 | 0.04       | 0.24 | 0.12  | 0.01       | 0.22 | 0.22 |   |   |   |
| Crit Moves:                                          | ****             |      |      | ****                     |      |      | ****       |      |       | ****       |      |      |   |   |   |
| Green/Cycle:                                         | 0.22             | 0.37 | 0.37 | 0.02                     | 0.17 | 0.17 | 0.06       | 0.44 | 0.44  | 0.01       | 0.39 | 0.39 |   |   |   |
| Volume/Cap:                                          | 0.58             | 0.25 | 0.25 | 0.25                     | 0.58 | 0.58 | 0.58       | 0.55 | 0.27  | 0.55       | 0.58 | 0.58 |   |   |   |
| Uniform Del:                                         | 34.9             | 22.1 | 22.1 | 48.0                     | 38.2 | 38.2 | 45.5       | 20.6 | 17.7  | 49.3       | 24.1 | 24.1 |   |   |   |
| IncrementDel:                                        | 2.1              | 0.2  | 0.2  | 3.2                      | 2.7  | 2.7  | 7.1        | 0.8  | 0.2   | 32.5       | 1.1  | 1.1  |   |   |   |
| Delay Adj:                                           | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| Delay/Veh:                                           | 37.0             | 22.3 | 22.3 | 51.2                     | 40.9 | 40.9 | 52.7       | 21.4 | 17.9  | 81.8       | 25.2 | 25.2 |   |   |   |
| User DelAdj:                                         | 1.00             | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |   |   |   |
| AdjDel/Veh:                                          | 37.0             | 22.3 | 22.3 | 51.2                     | 40.9 | 40.9 | 52.7       | 21.4 | 17.9  | 81.8       | 25.2 | 25.2 |   |   |   |
| DesignQueue:                                         | 10               | 5    | 1    | 1                        | 5    | 3    | 3          | 15   | 6     | 1          | 15   | 0    |   |   |   |
| *****                                                |                  |      |      |                          |      |      |            |      |       |            |      |      |   |   |   |

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #34 Newmark at Brussels  
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Cycle (sec): 100 Critical Vol./Cap. (X): 0.391  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.5  
 Optimal Cycle: 27 Level Of Service: A

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Permitted   | Permitted   | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 1 0 0   | 0 0 0 0 0   | 0 0 0 0 0  | 0 0 0 0 0  |
| Lanes:      | 0 0 1 0 0   | 0 1 0 0 1   | 0 1 0 1 0  | 0 1 0 1 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 0    | 10   | 105  | 0    | 45   | 110  | 650  | 5    | 5    | 450  | 150  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 0    | 10   | 105  | 0    | 45   | 110  | 650  | 5    | 5    | 450  | 150  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 0    | 10   | 105  | 0    | 45   | 110  | 650  | 5    | 5    | 450  | 150  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 5    | 0    | 10   | 105  | 0    | 45   | 110  | 650  | 5    | 5    | 450  | 150  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 5    | 0    | 10   | 105  | 0    | 45   | 110  | 650  | 5    | 5    | 450  | 150  |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.85 | 1.00 | 0.85 | 0.70 | 1.00 | 0.84 | 0.72 | 0.72 | 0.72 | 0.86 | 0.86 | 0.86 |
| Lanes:      | 0.33 | 0.00 | 0.67 | 1.00 | 0.00 | 1.00 | 0.29 | 1.70 | 0.01 | 0.02 | 1.49 | 0.49 |
| Final Sat.: | 539  | 0    | 1078 | 1322 | 0    | 1599 | 393  | 2321 | 18   | 27   | 2432 | 811  |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.01 | 0.00 | 0.01 | 0.08 | 0.00 | 0.03 | 0.28 | 0.28 | 0.28 | 0.19 | 0.19 | 0.19 |
| Crit Moves:   | **** |      |      | **** |      |      |      |      |      |      |      |      |
| Green/Cycle:  | 0.20 | 0.00 | 0.20 | 0.20 | 0.00 | 0.20 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 | 0.72 |
| Volume/Cap:   | 0.05 | 0.00 | 0.05 | 0.39 | 0.00 | 0.14 | 0.39 | 0.39 | 0.39 | 0.26 | 0.26 | 0.26 |
| Uniform Del:  | 32.0 | 0.0  | 32.0 | 34.5 | 0.0  | 32.7 | 5.6  | 5.6  | 5.6  | 4.9  | 4.9  | 4.9  |
| IncrementDel: | 0.1  | 0.0  | 0.1  | 0.9  | 0.0  | 0.2  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  |
| Delay Adj:    | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Delay/Veh:    | 32.1 | 0.0  | 32.1 | 35.4 | 0.0  | 32.9 | 5.7  | 5.7  | 5.7  | 5.0  | 5.0  | 5.0  |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 32.1 | 0.0  | 32.1 | 35.4 | 0.0  | 32.9 | 5.7  | 5.7  | 5.7  | 5.0  | 5.0  | 5.0  |
| DesignQueue:  | 0    | 0    | 0    | 5    | 0    | 2    | 2    | 11   | 0    | 0    | 7    | 2    |

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## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #35 Pony Creek at Crowell  
\*\*\*\*\*

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: A

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 0 0    | 0 0 0 1 0    | 0 0 1 0 0  | 0 0 0 0 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 50   | 285  | 0    | 0    | 190  | 50   | 60   | 0    | 55   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 50   | 285  | 0    | 0    | 190  | 50   | 60   | 0    | 55   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 50   | 285  | 0    | 0    | 190  | 50   | 60   | 0    | 55   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 50   | 285  | 0    | 0    | 190  | 50   | 60   | 0    | 55   | 0    | 0    | 0    |

## Critical Gap Module:

|              |     |      |       |       |      |       |     |      |     |       |      |       |
|--------------|-----|------|-------|-------|------|-------|-----|------|-----|-------|------|-------|
| Critical Gp: | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 | xxxxx | xxxx | xxxxx |
| FollowUpTim: | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |       |      |      |       |     |      |     |      |      |       |
|--------------|------|------|-------|------|------|-------|-----|------|-----|------|------|-------|
| Cnflct Vol:  | 240  | xxxx | xxxxx | xxxx | xxxx | xxxxx | 600 | xxxx | 215 | xxxx | xxxx | xxxxx |
| Potent Cap.: | 1327 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 462 | xxxx | 822 | xxxx | xxxx | xxxxx |
| Move Cap.:   | 1327 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 449 | xxxx | 822 | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 7.8           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | 573           | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | 7.8           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | 12.9          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | B             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               | 12.9          |               |               | xxxxxx        |               |               |
| ApproachLOS: | *             |               |               | *             |               |               | B             |               |               | *             |               |               |

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #36 Virginia at Harrison

Cycle (sec): 100 Critical Vol./Cap. (X): 0.408  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.1  
 Optimal Cycle: 36 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Permitted   | Permitted   | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 1 0 0 1   | 0 0 1 0 0   | 1 0 1 1 0  | 1 0 1 1 0  |

| Volume Module: | Base Vol: | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Reduced Vol: | PCE Adj:       | MLF Adj:       | Final Vol.: |
|----------------|-----------|----------------|--------------|----------------|----------------|-------------|-------------|--------------|----------------|----------------|-------------|
|                | 85 5 100  | 1.00 1.00 1.00 | 85 5 100     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 85 5 100    | 0 0 0       | 85 5 100     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 85 5 100    |
|                | 15 10 10  | 1.00 1.00 1.00 | 15 10 10     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 15 10 10    | 0 0 0       | 15 10 10     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 15 10 10    |
|                | 25 890 55 | 1.00 1.00 1.00 | 25 890 55    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 25 890 55   | 0 0 0       | 25 890 55    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 25 890 55   |
|                | 35 860 5  | 1.00 1.00 1.00 | 35 860 5     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 35 860 5    | 0 0 0       | 35 860 5     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 35 860 5    |

| Saturation Flow Module: | Sat/Lane:      | Adjustment:    | Lanes:         | Final Sat.:   |
|-------------------------|----------------|----------------|----------------|---------------|
|                         | 1900 1900 1900 | 0.68 0.68 0.83 | 0.94 0.06 1.00 | 1223 72 1568  |
|                         | 1900 1900 1900 | 0.85 0.85 0.85 | 0.43 0.29 0.28 | 691 461 461   |
|                         | 1900 1900 1900 | 0.93 0.92 0.92 | 1.00 1.88 0.12 | 1769 3302 204 |
|                         | 1900 1900 1900 | 0.91 0.91 0.91 | 1.00 1.99 0.01 | 1736 3449 20  |

| Capacity Analysis Module: | Vol/Sat:       | Crit Moves: | Green/Cycle:   | Volume/Cap:    | Uniform Del:   | IncrementDel: | Delay Adj:     | Delay/Veh:     | User DelAdj:   | AdjDel/Veh:    | DesignQueue: |
|---------------------------|----------------|-------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|--------------|
|                           | 0.07 0.07 0.06 | ****        | 0.17 0.17 0.17 | 0.41 0.41 0.37 | 37.0 37.0 36.8 | 1.2 1.2 0.9   | 1.00 1.00 1.00 | 38.2 38.2 37.7 | 1.00 1.00 1.00 | 38.2 38.2 37.7 | 4 0 5        |
|                           | 0.02 0.02 0.02 | ****        | 0.17 0.17 0.17 | 0.13 0.13 0.13 | 35.2 35.2 35.2 | 0.2 0.2 0.2   | 1.00 1.00 1.00 | 35.4 35.4 35.4 | 1.00 1.00 1.00 | 35.4 35.4 35.4 | 1 0 0        |
|                           | 0.01 0.27 0.27 | ****        | 0.04 0.66 0.66 | 0.37 0.41 0.41 | 46.9 7.9 7.9   | 3.4 0.1 0.1   | 1.00 1.00 1.00 | 50.4 8.0 8.0   | 1.00 1.00 1.00 | 50.4 8.0 8.0   | 1 18 1       |
|                           | 0.02 0.25 0.25 | ****        | 0.05 0.67 0.67 | 0.41 0.37 0.37 | 46.1 7.2 7.2   | 3.1 0.1 0.1   | 1.00 1.00 1.00 | 49.3 7.3 7.3   | 1.00 1.00 1.00 | 49.3 7.3 7.3   | 2 17 0       |

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #37 Virginia at Safeway entrance

Average Delay (sec/veh): 3.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 1   | 0 0 1 0 0   | 0 1 0 1 0    | 1 0 2 0 0    |

| Volume Module: | Base Vol: | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Final Vol.: |
|----------------|-----------|----------------|--------------|----------------|----------------|-------------|-------------|-------------|
|                | 0 0 105   | 1.00 1.00 1.00 | 0 0 105      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 0 105     | 0 0 0       | 0 0 105     |
|                | 0 5 0     | 1.00 1.00 1.00 | 0 5 0        | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 5 0       | 0 0 0       | 0 5 0       |
|                | 5 800 55  | 1.00 1.00 1.00 | 5 800 55     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 5 800 55    | 0 0 0       | 5 800 55    |
|                | 115 805 0 | 1.00 1.00 1.00 | 115 805 0    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 115 805 0   | 0 0 0       | 115 805 0   |

| Critical Gap Module: | Critical Gp:    | FollowUpTim:    |
|----------------------|-----------------|-----------------|
|                      | 6.9 6.5 4.1 4.2 | 3.3 4.0 2.2 2.2 |

| Capacity Module: | Cnflct Vol: | Potent Cap.: | Move Cap.:  |
|------------------|-------------|--------------|-------------|
|                  | 428 578 578 | 1900 70 59   | 805 815 815 |

| Level Of Service Module: | Stopped Del:       | LOS by Move:        | Movement:                                               | Shared Cap.:             | Shrd StpDel:             | Shared LOS: | ApproachDel: | ApproachLOS: |
|--------------------------|--------------------|---------------------|---------------------------------------------------------|--------------------------|--------------------------|-------------|--------------|--------------|
|                          | 12.6 71.3 9.4 10.5 | * * B * F * A * B * | LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT | xxxx xxxx xxxx xxxx xxxx | xxxx xxxx xxxx xxxx xxxx | * * * * *   | 12.6 71.3    | B F          |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #38 Virginia at Pony Villiage entrance A  
\*\*\*\*\*

Average Delay (sec/veh): 1.4 Worst Case Level Of Service:

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 0 | 0            | 0 | 1 | 1            | 0 | 2 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 815  | 90   | 50   | 835  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 815  | 90   | 50   | 835  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 815  | 90   | 50   | 835  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 815  | 90   | 50   | 835  | 0    |

## Critical Gap Module:

|              |     |      |     |      |      |      |      |      |     |      |      |
|--------------|-----|------|-----|------|------|------|------|------|-----|------|------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

## Capacity Module:

|              |      |      |     |      |      |      |      |      |     |      |      |
|--------------|------|------|-----|------|------|------|------|------|-----|------|------|
| Cnflct Vol:  | 1378 | xxxx | 453 | xxxx | xxxx | xxxx | xxxx | xxxx | 905 | xxxx | xxxx |
| Potent Cap.: | 137  | xxxx | 557 | xxxx | xxxx | xxxx | xxxx | xxxx | 760 | xxxx | xxxx |
| Move Cap.:   | 130  | xxxx | 557 | xxxx | xxxx | xxxx | xxxx | xxxx | 760 | xxxx | xxxx |

## Level Of Service Module:

|              |      |      |      |        |      |      |        |      |      |        |      |      |
|--------------|------|------|------|--------|------|------|--------|------|------|--------|------|------|
| Stopped Del: | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 10.1   | xxxx | xxxx |
| LOS by Move: | *    | *    | *    | *      | *    | *    | *      | *    | *    | B      | *    | *    |
| Movement:    | LT   | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   |
| Shared Cap.: | xxxx | 164  | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shrd StpDel: | xxxx | 44.4 | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shared LOS:  | *    | E    | *    | *      | *    | *    | *      | *    | *    | *      | *    | *    |
| ApproachDel: | 44.4 |      |      | xxxxxx |      |      | xxxxxx |      |      | xxxxxx |      |      |
| ApproachLOS: | E    |      |      | *      |      |      | *      |      |      | *      |      |      |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #39 Sherman at Hwy 101 South  
\*\*\*\*\*

Average Delay (sec/veh): 1.3 Worst Case Level Of Service:

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 0            | 0 | 0 | 1            | 0 | 1 | 0          | 1 | 0 | 0          | 0 | 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 20   | 880  | 230  | 25   | 70   | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 20   | 880  | 230  | 25   | 70   | 0    | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 20   | 880  | 230  | 25   | 70   | 0    | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 20   | 880  | 230  | 25   | 70   | 0    | 0    | 0    | 0    |

## Critical Gap Module:

|              |      |      |      |     |      |      |     |     |      |      |      |      |
|--------------|------|------|------|-----|------|------|-----|-----|------|------|------|------|
| Critical Gp: | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx | 6.4 | 6.5 | xxxx | xxxx | xxxx | xxxx |
| FollowUpTim: | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx | 3.5 | 4.0 | xxxx | xxxx | xxxx | xxxx |

## Capacity Module:

|              |      |      |      |   |      |      |      |      |      |      |      |      |
|--------------|------|------|------|---|------|------|------|------|------|------|------|------|
| Cnflct Vol:  | xxxx | xxxx | xxxx | 0 | xxxx | xxxx | 1035 | 1035 | xxxx | xxxx | xxxx | xxxx |
| Potent Cap.: | xxxx | xxxx | xxxx | 0 | xxxx | xxxx | 259  | 234  | xxxx | xxxx | xxxx | xxxx |
| Move Cap.:   | xxxx | xxxx | xxxx | 0 | xxxx | xxxx | 259  | 234  | xxxx | xxxx | xxxx | xxxx |

## Level Of Service Module:

|              |        |      |      |        |      |      |      |      |      |        |      |      |
|--------------|--------|------|------|--------|------|------|------|------|------|--------|------|------|
| Stopped Del: | xxxx   | xxxx | xxxx | 0.0    | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx |
| LOS by Move: | *      | *    | *    | A      | *    | *    | *    | *    | *    | *      | *    | *    |
| Movement:    | LT     | LTR  | RT   | LT     | LTR  | RT   | LT   | LTR  | RT   | LT     | LTR  | RT   |
| Shared Cap.: | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 240  | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shrd StpDel: | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 29.5 | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shared LOS:  | *      | *    | *    | *      | *    | *    | D    | *    | *    | *      | *    | *    |
| ApproachDel: | xxxxxx |      |      | xxxxxx |      |      | 29.5 |      |      | xxxxxx |      |      |
| ApproachLOS: | *      |      |      | *      |      |      | D    |      |      | *      |      |      |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #40 Virginia at Meade

Average Delay (sec/veh): 4.1 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 1 0 0 1 0   | 0 0 1 0 0   | 0 1 1 0 0    | 0 0 1 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 5    | 0    | 15   | 5    | 0    | 135  | 270  | 605  | 0    | 0    | 775  | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 5    | 0    | 15   | 5    | 0    | 135  | 270  | 605  | 0    | 0    | 775  | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 5    | 0    | 15   | 5    | 0    | 135  | 270  | 605  | 0    | 0    | 775  | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 5    | 0    | 15   | 5    | 0    | 135  | 270  | 605  | 0    | 0    | 775  | 10   |

## Critical Gap Module:

|              |     |      |     |     |      |     |     |      |       |       |       |       |
|--------------|-----|------|-----|-----|------|-----|-----|------|-------|-------|-------|-------|
| Critical Gp: | 7.5 | xxxx | 6.9 | 7.5 | xxxx | 6.9 | 4.1 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | 3.5 | xxxx | 3.3 | 2.2 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |     |     |      |       |       |       |       |
|--------------|------|------|-----|------|------|-----|-----|------|-------|-------|-------|-------|
| Cnflct Vol:  | 1533 | xxxx | 303 | 1623 | xxxx | 393 | 785 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Potent Cap.: | 81   | xxxx | 700 | 69   | xxxx | 609 | 829 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Move Cap.:   | 44   | xxxx | 700 | 47   | xxxx | 609 | 829 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 96.2          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | 11.4          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | F             | *             | *             | *             | *             | *             | B             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | 700           | xxxx          | 428           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | 10.3          | xxxxx         | 17.5          | xxxxx         | 11.4          | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | B             | *             | C             | *             | B             | *             | *             | *             | *             | *             |
| ApproachDel: | 31.7          |               |               | 17.5          |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | D             |               |               | C             |               |               | *             |               |               | *             |               |               |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #41 Virginia at Marion

Average Delay (sec/veh): 1.6 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 1 0 0   | 1 0 1 1 0    | 1 0 1 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 5    | 90   | 20   | 5    | 10   | 0    | 790  | 60   | 30   | 800  | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 5    | 90   | 20   | 5    | 10   | 0    | 790  | 60   | 30   | 800  | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 5    | 90   | 20   | 5    | 10   | 0    | 790  | 60   | 30   | 800  | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 5    | 90   | 20   | 5    | 10   | 0    | 790  | 60   | 30   | 800  | 5    |

## Critical Gap Module:

|              |     |     |     |     |     |     |       |      |       |       |     |      |       |
|--------------|-----|-----|-----|-----|-----|-----|-------|------|-------|-------|-----|------|-------|
| Critical Gp: | 7.5 | 6.5 | 6.9 | 7.5 | 6.5 | 6.9 | xxxxx | xxxx | xxxxx | xxxxx | 4.1 | xxxx | xxxxx |
| FollowUpTim: | 3.5 | 4.0 | 3.3 | 3.5 | 4.0 | 3.3 | xxxxx | xxxx | xxxxx | xxxxx | 2.2 | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |     |      |      |       |       |     |      |       |
|--------------|------|------|-----|------|------|-----|------|------|-------|-------|-----|------|-------|
| Cnflct Vol:  | 1283 | 1685 | 425 | 1260 | 1713 | 403 | xxxx | xxxx | xxxxx | xxxxx | 850 | xxxx | xxxxx |
| Potent Cap.: | 123  | 94   | 580 | 129  | 91   | 603 | xxxx | xxxx | xxxxx | xxxxx | 784 | xxxx | xxxxx |
| Move Cap.:   | 113  | 90   | 580 | 102  | 88   | 603 | xxxx | xxxx | xxxxx | xxxxx | 784 | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | 9.8           | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | A             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 262           | xxxxx         | xxxx          | 129           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | 30.6          | xxxxx         | xxxxx         | 42.8          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | D             | *             | *             | E             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 30.6          |               |               | 42.8          |               |               | xxxxxx        |               | xxxxxx        |               | xxxxxx        |               |               |
| ApproachLOS: | D             |               |               | E             |               |               | *             |               | *             |               | *             |               |               |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #42 Virginia at Maple\*\*\*\*\*  
Average Delay (sec/veh): 2.9 Worst Case Level Of Service:\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 0 1 0 0 1 0 0 0 0 1 0 1

## Volume Module:

Base Vol: 0 0 0 150 0 10 0 285 0 0 375 125  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 150 0 10 0 285 0 0 375 125  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 150 0 10 0 285 0 0 375 125  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 150 0 10 0 285 0 0 375 125

## Critical Gap Module:

Critical Gp:xxxxx xxxxx xxxxx 6.4 xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx

## Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx 660 xxxxx 375 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 430 xxxxx 674 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 430 xxxxx 674 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

## Level Of Service Module:

Stopped Del:xxxxx xxxxx xxxxx 17.8 xxxxx 10.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* C \* B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx 17.4 xxxxxx xxxxxx  
ApproachLOS: \* C \* \*

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #43 Maple at East Airport Way\*\*\*\*\*  
Average Delay (sec/veh): 2.1 Worst Case Level Of Service:\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 1 0

## Volume Module:

Base Vol: 0 0 0 10 0 10 5 110 0 0 110 30  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 10 0 10 5 110 0 0 110 30  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 10 0 10 5 110 0 0 110 30  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 10 0 10 5 110 0 0 110 30

## Critical Gap Module:

Critical Gp:xxxxx xxxxx xxxxx 6.4 xxxxx 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

## Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx 245 xxxxx 125 140 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 746 xxxxx 928 1456 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 744 xxxxx 928 1456 xxxxx xxxxx xxxxx xxxxx xxxxx

## Level Of Service Module:

Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 826 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx 9.5 xxxxx 7.5 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx 9.5 xxxxxx xxxxxx  
ApproachLOS: \* A \* \*

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #44 Virginia at Arthur

Average Delay (sec/veh): 0.5 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 0 1 0 0    | 0 0 0 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 10   | 0    | 15   | 0    | 95   | 0    | 0    | 200  | 15   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 10   | 0    | 15   | 0    | 95   | 0    | 0    | 200  | 15   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 10   | 0    | 15   | 0    | 95   | 0    | 0    | 200  | 15   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 10   | 0    | 15   | 0    | 95   | 0    | 0    | 200  | 15   |

## Critical Gap Module:

|               |       |      |       |     |       |     |       |      |       |       |      |       |
|---------------|-------|------|-------|-----|-------|-----|-------|------|-------|-------|------|-------|
| Critical Gap: | xxxxx | xxxx | xxxxx | 6.4 | xxxxx | 6.2 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim:  | xxxxx | xxxx | xxxxx | 3.5 | xxxxx | 3.3 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |       |     |      |     |      |      |       |      |      |       |
|--------------|------|------|-------|-----|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | 303 | xxxx | 208 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx | xxxx | xxxxx | 693 | xxxx | 838 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx | xxxx | xxxxx | 693 | xxxx | 838 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | 773           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | 9.8           | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | A             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | 9.8           |               | xxxxxx        |               |               | xxxxxx        |               |               |               |
| ApproachLOS: | *             |               |               | A             |               | *             |               |               | *             |               |               | *             |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #45 Virginia at Channel St.

Average Delay (sec/veh): 2.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 1 0 0   | 0 1 0 0 0    | 0 0 0 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 15   | 0    | 10   | 20   | 110  | 0    | 0    | 170  | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 15   | 0    | 10   | 20   | 110  | 0    | 0    | 170  | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 15   | 0    | 10   | 20   | 110  | 0    | 0    | 170  | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 15   | 0    | 10   | 20   | 110  | 0    | 0    | 170  | 5    |

## Critical Gap Module:

|               |       |      |       |     |       |     |     |      |       |       |      |       |
|---------------|-------|------|-------|-----|-------|-----|-----|------|-------|-------|------|-------|
| Critical Gap: | xxxxx | xxxx | xxxxx | 6.4 | xxxxx | 6.2 | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim:  | xxxxx | xxxx | xxxxx | 3.5 | xxxxx | 3.3 | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |       |     |      |     |      |      |       |      |      |       |
|--------------|------|------|-------|-----|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | 323 | xxxx | 173 | 175  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx | xxxx | xxxxx | 675 | xxxx | 876 | 1401 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx | xxxx | xxxxx | 668 | xxxx | 876 | 1401 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 7.6           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | A             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 0             | xxxxx         | xxxx          | 738           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | 10.0          | xxxxx         | 7.6           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | B             | *             | A             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | 10.0          |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |
| ApproachLOS: | *             |               |               | B             |               | *             |               |               | *             |               |               | *             |

```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #46 Lakeshore at Crocker
*****
Average Delay (sec/veh):      5.0      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 0 1 0      0 0 1! 0 0      0 1 0 0 0      0 0 0 1 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      0 10      5      25 5 55      50 70 0      0 30 5
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 10      5      25 5 55      50 70 0      0 30 5
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 10      5      25 5 55      50 70 0      0 30 5
Reduct Vol: 0 0      0      0 0 0      0 0 0      0 0 0
Final Vol.: 0 10      5      25 5 55      50 70 0      0 30 5
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp:xxxxx 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Cnflict Vol: xxxxx 205 70 210 203 33 35 xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx 695 998 745 692 1038 1576 xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx 672 998 715 669 1038 1576 xxxxx xxxxx xxxxx xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx 754 xxxxx 891 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx xxxxx 9.9 xxxxx 9.5 xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * A * * A * * * * *
ApproachDel: 9.9 9.5 xxxxxxx xxxxxxx
ApproachLOS: A A * *

```

```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #47 Virginia at Oak
*****
Average Delay (sec/veh):      2.0      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 1! 0 0      0 0 1! 0 0      1 0 0 1 0      1 0 0 1 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      5 15 50      15 30 10      5 180 20      70 250 20
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 5 15 50      15 30 10      5 180 20      70 250 20
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 5 15 50      15 30 10      5 180 20      70 250 20
Reduct Vol: 0 0 0      0 0 0      0 0 0      0 0 0
Final Vol.: 5 15 50      15 30 10      5 180 20      70 250 20
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx 2.2 xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Cnflict Vol: 620 610 190 633 610 260 270 xxxxx xxxxx 200 xxxxx xxxxx
Potent Cap.: 400 409 852 396 412 784 1288 xxxxx xxxxx 1378 xxxxx xxxxx
Move Cap.: 357 387 852 346 389 784 1288 xxxxx xxxxx 1378 xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.8 xxxxx xxxxx 7.8 xxxxx xxxxx
LOS by Move: * * * * * A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 628 xxxxx xxxxx 413 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx 11.5 xxxxx 15.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * B * * C * * * * *
ApproachDel: 11.5 15.0 xxxxxxx xxxxxxx
ApproachLOS: B C * *

```



## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #48 Newmark at Oak

Cycle (sec): 100 Critical Vol./Cap. (X): 0.489  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 10.2  
 Optimal Cycle: 40 Level Of Service: B

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Protected Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 0 0 0 0 0 0 1 0 0 0 0

Volume Module:  
 Base Vol: 0 0 0 50 0 70 75 1015 0 0 1035 75  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 50 0 70 75 1015 0 0 1035 75  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 0 0 50 0 70 75 1015 0 0 1035 75  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 0 50 0 70 75 1015 0 0 1035 75  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 0 0 0 50 0 70 75 1015 0 0 1035 75

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 1.00 1.00 1.00 0.89 1.00 0.89 0.93 0.93 1.00 1.00 0.92 0.92  
 Lanes: 0.00 0.00 0.00 0.42 0.00 0.58 1.00 2.00 0.00 0.00 1.86 0.14  
 Final Sat.: 0 0 0 707 0 990 1769 3538 0 0 3266 237

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.00 0.00 0.07 0.00 0.07 0.04 0.29 0.00 0.00 0.32 0.32  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.00 0.00 0.14 0.00 0.14 0.09 0.74 0.00 0.00 0.65 0.65  
 Volume/Cap: 0.00 0.00 0.00 0.49 0.00 0.49 0.49 0.39 0.00 0.00 0.49 0.49  
 Uniform Del: 0.0 0.0 0.0 39.4 0.0 39.4 43.5 4.9 0.0 0.0 9.0 9.0  
 IncremntDel: 0.0 0.0 0.0 1.5 0.0 1.5 2.4 0.1 0.0 0.0 0.2 0.2  
 Delay Adj: 0.00 0.00 0.00 1.00 0.00 1.00 1.00 1.00 0.00 0.00 1.00 1.00  
 Delay/Veh: 0.0 0.0 0.0 40.9 0.0 40.9 46.0 5.0 0.0 0.0 9.2 9.2  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 0.0 40.9 0.0 40.9 46.0 5.0 0.0 0.0 9.2 9.2  
 DesignQueue: 0 0 0 2 0 3 4 16 0 0 22 2

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #49 Newmark at Morrison

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: B

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 1 0

Volume Module:  
 Base Vol: 15 0 115 0 0 0 0 715 20 150 825 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 15 0 115 0 0 0 0 715 20 150 825 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 15 0 115 0 0 0 0 715 20 150 825 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 15 0 115 0 0 0 0 715 20 150 825 0

Critical Gap Module:  
 Critical Gp: 6.8 xxxx 6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
 FollowUpTim: 3.5 xxxx 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:  
 Cnflct Vol: 1438 xxxx 368 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 735 xxxx xxxxx  
 Potent Cap.: 124 xxxx 630 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 866 xxxx xxxxx  
 Move Cap.: 108 xxxx 630 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 866 xxxx xxxxx

Level Of Service Module:  
 Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 10.0 xxxx xxxxx  
 LOS by Move: \* \* \* \* \* B \* \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxx 404 xxxxx xxxx 0 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
 Shrd StpDel:xxxxx 18.1 xxxxx xxxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx xxxx xxxxx  
 Shared LOS: \* C \* \* \* \* \* \* \* \* \*  
 ApproachDel: 18.1 xxxxxx xxxxxx xxxxxx  
 ApproachLOS: C \* \* \*

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #50 Empire Blvd. at Pacific  
\*\*\*\*\*

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 0 1 0    | 0 1 0 0 0    | 0 0 0 0 0  | 0 0 1 0 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 515  | 25   | 5    | 560  | 0    | 0    | 0    | 20   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 515  | 25   | 5    | 560  | 0    | 0    | 0    | 20   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 515  | 25   | 5    | 560  | 0    | 0    | 0    | 20   | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 515  | 25   | 5    | 560  | 0    | 0    | 0    | 20   | 0    | 10   |

## Critical Gap Module:

|                               |     |      |       |       |      |       |     |      |     |
|-------------------------------|-----|------|-------|-------|------|-------|-----|------|-----|
| Critical Gap:xxxxx xxxx xxxxx | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 |
| FollowUpTim:xxxxx xxxx xxxxx  | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 |

## Capacity Module:

|                              |      |      |       |      |      |       |      |      |     |
|------------------------------|------|------|-------|------|------|-------|------|------|-----|
| Cnflct Vol: xxxx xxxx xxxxx  | 540  | xxxx | xxxxx | xxxx | xxxx | xxxxx | 1098 | xxxx | 528 |
| Potent Cap.: xxxx xxxx xxxxx | 1023 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 234  | xxxx | 547 |
| Move Cap.: xxxx xxxx xxxxx   | 1023 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 233  | xxxx | 547 |

## Level Of Service Module:

|                              |               |               |               |               |               |               |               |               |               |
|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del:xxxxx xxxx xxxxx | 8.5           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxxx        |
| LOS by Move: * * *           | A             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement: LT - LTR - RT      | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: xxxx xxxx xxxxx | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | 288           | xxxxxx        |
| Shrd StpDel:xxxxx xxxx xxxxx | 8.5           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxxx        | 19.0          | xxxxxx        |
| Shared LOS: * * *            | A             | *             | *             | *             | *             | *             | *             | C             | *             |
| ApproachDel: xxxxxx          | xxxxxx        |               |               | xxxxxx        |               |               |               | 19.0          |               |
| ApproachLOS: *               | *             |               |               | *             |               |               |               | C             |               |

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #51 Virginia at Hwy 101 North  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.401

Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.1

Optimal Cycle: 27 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 0 1 1 1 0   | 0 0 0 0 0   | 1 0 1 0 0  | 0 0 1 1 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 335  | 790  | 5    | 0    | 0    | 0    | 175  | 30   | 0    | 0    | 50   | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 335  | 790  | 5    | 0    | 0    | 0    | 175  | 30   | 0    | 0    | 50   | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 335  | 790  | 5    | 0    | 0    | 0    | 175  | 30   | 0    | 0    | 50   | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 335  | 790  | 5    | 0    | 0    | 0    | 175  | 30   | 0    | 0    | 50   | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 335  | 790  | 5    | 0    | 0    | 0    | 175  | 30   | 0    | 0    | 50   | 10   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 | 1.00 | 0.67 | 0.94 | 1.00 | 1.00 | 0.88 | 0.88 |
| Lanes:      | 0.89 | 2.10 | 0.01 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.67 | 0.33 |
| Final Sat.: | 1447 | 3413 | 22   | 0    | 0    | 0    | 1277 | 1777 | 0    | 0    | 2792 | 558  |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.23 | 0.23 | 0.23 | 0.00 | 0.00 | 0.00 | 0.14 | 0.02 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:   | **** |      |      | **** |      |      |      |      |      |      |      |      |
| Green/Cycle:  | 0.58 | 0.58 | 0.58 | 0.00 | 0.00 | 0.00 | 0.34 | 0.34 | 0.00 | 0.00 | 0.34 | 0.34 |
| Volume/Cap:   | 0.40 | 0.40 | 0.40 | 0.00 | 0.00 | 0.00 | 0.40 | 0.05 | 0.00 | 0.00 | 0.05 | 0.05 |
| Uniform Del:  | 11.6 | 11.6 | 11.6 | 0.0  | 0.0  | 0.0  | 25.1 | 22.0 | 0.0  | 0.0  | 22.0 | 22.0 |
| IncrementDel: | 0.1  | 0.1  | 0.1  | 0.0  | 0.0  | 0.0  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Delay Adj:    | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Delay/Veh:    | 11.7 | 11.7 | 11.7 | 0.0  | 0.0  | 0.0  | 25.7 | 22.0 | 0.0  | 0.0  | 22.1 | 22.1 |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 11.7 | 11.7 | 11.7 | 0.0  | 0.0  | 0.0  | 25.7 | 22.0 | 0.0  | 0.0  | 22.1 | 22.1 |
| DesignQueue:  | 8    | 20   | 0    | 0    | 0    | 0    | 7    | 1    | 0    | 0    | 2    | 0    |

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #52 Virginia at Hwy 101 South  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.482  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 18.4  
 Optimal Cycle: 31 Level Of Service: B

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 0 0 0 1 0 1 1 1 0 0 0 1 1 0 0 0 0

Volume Module:  
 Base Vol: 0 0 5 10 640 350 0 150 330 50 250 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 5 10 640 350 0 150 330 50 250 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 0 5 10 640 350 0 150 330 50 250 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 5 10 640 350 0 150 330 50 250 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 0 0 5 10 640 350 0 150 330 50 250 0

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 1.00 1.00 0.87 0.81 0.81 0.81 1.00 0.82 0.82 0.76 0.76 1.00  
 Lanes: 0.00 0.00 1.00 0.03 1.97 1.00 0.00 1.00 1.00 0.33 1.67 0.00  
 Final Sat.: 0 0 1644 47 3018 1533 0 1558 1558 479 2393 0

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.00 0.00 0.21 0.21 0.23 0.00 0.10 0.21 0.10 0.10 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.00 0.01 0.47 0.47 0.47 0.00 0.44 0.44 0.44 0.44 0.00  
 Volume/Cap: 0.00 0.00 0.48 0.45 0.45 0.48 0.00 0.22 0.48 0.24 0.24 0.00  
 Uniform Del: 0.0 0.0 49.5 17.6 17.6 17.9 0.0 17.4 19.9 17.5 17.5 0.0  
 IncremntDel: 0.0 0.0 31.3 0.1 0.1 0.2 0.0 0.1 0.4 0.1 0.1 0.0  
 Delay Adj: 0.00 0.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00 0.00  
 Delay/Veh: 0.0 0.0 80.8 17.7 17.7 18.1 0.0 17.4 20.3 17.6 17.6 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 80.8 17.7 17.7 18.1 0.0 17.4 20.3 17.6 17.6 0.0  
 DesignQueue: 0 0 0 0 20 11 0 5 11 2 8 0

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #53 California at Hwy 101 North  
\*\*\*\*\*

Average Delay (sec/veh): 0.2 Worst Case Level Of Service:

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0

Volume Module:  
 Base Vol: 70 805 0 0 0 0 10 5 0 0 5 10  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 70 805 0 0 0 0 10 5 0 0 5 10  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 70 805 0 0 0 0 10 5 0 0 5 10  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 70 805 0 0 0 0 10 5 0 0 5 10

Critical Gap Module:  
 Critical Gp: 4.1 XXXX XXXX XXXX XXXX XXXX 7.2 6.6 XXXX XXXX 6.6 6.3  
 FollowUpTim: 2.2 XXXX XXXX XXXX XXXX XXXX 3.6 4.1 XXXX XXXX 4.0 3.3

Capacity Module:  
 Cnflct Vol: 0 XXXX XXXX XXXX XXXX XXXX 411 945 XXXX XXXX 945 268  
 Potent Cap.: 0 XXXX XXXX XXXX XXXX XXXX 534 252 XXXX XXXX 259 763  
 Move Cap.: 0 XXXX XXXX XXXX XXXX XXXX 519 252 XXXX XXXX 259 763

Level Of Service Module:  
 Stopped Del: 0.0 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 LOS by Move: A \* \* \* \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd StpDel: 0.0 XXXX XXXX XXXX XXXX XXXX 14.8 XXXX XXXX XXXX XXXX  
 Shared LOS: A \* \* \* \* \* B \* \* \* \* \*  
 ApproachDel: XXXXXX XXXXXX 14.8 13.0  
 ApproachLOS: \* \* B B

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 Florida at Sherman

\*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.542  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.3  
 Optimal Cycle: 34 Level Of Service: C  
 \*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 0 | 1           | 0 | 0 | 0          | 0 | 1 | 0          | 0 | 0 |

Volume Module:  
 Base Vol: 5 780 0 0 760 5 310 5 15 70 10 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 5 780 0 0 760 5 310 5 15 70 10 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 5 780 0 0 760 5 310 5 15 70 10 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 5 780 0 0 760 5 310 5 15 70 10 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 5 780 0 0 760 5 310 5 15 70 10 0

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.87 0.87 0.95 0.95 0.90 0.90 0.66 0.66 0.66 0.63 0.63 1.00  
 Lanes: 0.01 1.99 0.00 0.00 1.99 0.01 0.94 0.01 0.05 0.87 0.13 0.00  
 Final Sat.: 21 3285 0 0 3411 22 1186 19 57 1040 149 0

Capacity Analysis Module:  
 Vol/Sat: 0.24 0.24 0.00 0.00 0.22 0.22 0.26 0.26 0.26 0.07 0.07 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.44 0.44 0.00 0.00 0.44 0.44 0.48 0.48 0.48 0.48 0.48 0.00  
 Volume/Cap: 0.54 0.54 0.00 0.00 0.51 0.51 0.54 0.54 0.54 0.14 0.14 0.00  
 Uniform Del: 20.7 20.7 0.0 0.0 20.3 20.3 18.2 18.2 18.2 14.4 14.4 0.0  
 IncremntDel: 0.4 0.4 0.0 0.0 0.3 0.3 1.0 1.0 1.0 0.1 0.1 0.0  
 Delay Adj: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00  
 Delay/Veh: 21.1 21.1 0.0 0.0 20.6 20.6 19.2 19.2 19.2 14.5 14.5 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 21.1 21.1 0.0 0.0 20.6 20.6 19.2 19.2 19.2 14.5 14.5 0.0  
 DesignQueue: 0 26 0 0 25 0 9 0 0 2 0 0

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #55 Broadway at 16th

\*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.408  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 13.9  
 Optimal Cycle: 36 Level Of Service: B  
 \*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 1           | 0 | 0 | 0          | 0 | 1 | 0          | 0 | 0 |

Volume Module:  
 Base Vol: 10 805 30 5 665 25 30 0 10 135 15 10  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 10 805 30 5 665 25 30 0 10 135 15 10  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 10 805 30 5 665 25 30 0 10 135 15 10  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 10 805 30 5 665 25 30 0 10 135 15 10  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 10 805 30 5 665 25 30 0 10 135 15 10

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.93 0.93 0.93 0.93 0.93 0.93 0.75 1.00 0.75 0.71 0.71 0.71  
 Lanes: 1.00 1.93 0.07 1.00 1.93 0.07 0.75 0.00 0.25 0.85 0.09 0.06  
 Final Sat.: 1769 3394 126 1769 3393 128 1066 0 355 1134 126 84

Capacity Analysis Module:  
 Vol/Sat: 0.01 0.24 0.24 0.00 0.20 0.20 0.03 0.00 0.03 0.12 0.12 0.12  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.02 0.58 0.58 0.01 0.57 0.57 0.29 0.00 0.29 0.29 0.29 0.29  
 Volume/Cap: 0.34 0.41 0.41 0.41 0.34 0.34 0.10 0.00 0.10 0.41 0.41 0.41  
 Uniform Del: 48.6 11.5 11.5 49.4 11.4 11.4 25.8 0.0 25.8 28.5 28.5 28.5  
 IncremntDel: 6.9 0.1 0.1 20.7 0.1 0.1 0.1 0.0 0.1 0.7 0.7 0.7  
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00 1.00  
 Delay/Veh: 55.6 11.6 11.6 70.1 11.5 11.5 25.9 0.0 25.9 29.2 29.2 29.2  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 55.6 11.6 11.6 70.1 11.5 11.5 25.9 0.0 25.9 29.2 29.2 29.2  
 DesignQueue: 1 20 1 0 17 1 1 0 0 5 1 0

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #56 Broadway at Newmark  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.955  
 Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 52.5  
 Optimal Cycle: 143 Level Of Service: D

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Protected Protected Protected Protected  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 1 0 0 1 0 1 0 0 1 0 1 0

Volume Module:  
 Base Vol: 130 330 30 70 240 355 430 420 130 35 315 130  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 130 330 30 70 240 355 430 420 130 35 315 130  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 130 330 30 70 240 355 430 420 130 35 315 130  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 130 330 30 70 240 355 430 420 130 35 315 130  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 130 330 30 70 240 355 430 420 130 35 315 130

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.94 0.98 0.98 0.92 0.88 0.88 0.93 0.90 0.90 0.93 0.89 0.89  
 Lanes: 1.00 0.92 0.08 1.00 0.40 0.60 1.00 1.53 0.47 1.00 1.42 0.58  
 Final Sat.: 1787 1704 155 1753 677 1002 1769 2607 807 1769 2394 988

Capacity Analysis Module:  
 Vol/Sat: 0.07 0.19 0.19 0.04 0.35 0.35 0.24 0.16 0.16 0.02 0.13 0.13  
 Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\*  
 Green/Cycle: 0.08 0.37 0.37 0.08 0.37 0.37 0.25 0.35 0.35 0.04 0.14 0.14  
 Volume/Cap: 0.95 0.52 0.52 0.52 0.95 0.95 0.95 0.46 0.46 0.46 0.95 0.95  
 Uniform Del: 46.0 24.5 24.5 44.4 30.6 30.6 36.7 25.2 25.2 46.7 42.8 42.8  
 IncrementDel: 63.0 0.7 0.7 3.7 25.2 25.2 31.0 0.3 0.3 4.4 30.3 30.3  
 Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Delay/Veh: 109.1 25.3 25.3 48.1 55.8 55.8 67.7 25.5 25.5 51.1 73.1 73.1  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 109.1 25.3 25.3 48.1 55.8 55.8 67.7 25.5 25.5 51.1 73.1 73.1  
 DesignQueue: 7 12 1 4 9 14 19 16 5 2 16 6

\*\*\*\*\*

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #57 Newmark at Laclair  
\*\*\*\*\*

Average Delay (sec/veh): 0.8 Worst Case Level Of Service:

\*\*\*\*\*  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 1 0

Volume Module:  
 Base Vol: 15 0 80 0 0 0 0 685 15 35 735 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 15 0 80 0 0 0 0 685 15 35 735 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 15 0 80 0 0 0 0 685 15 35 735 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 15 0 80 0 0 0 0 685 15 35 735 0

Critical Gap Module:  
 Critical Gp: 6.4 xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx  
 FollowUpTim: 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:  
 Conflict Vol: 1498 xxxxx 693 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 700 xxxxx xxxxx  
 Potent Cap.: 136 xxxxx 445 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 897 xxxxx xxxxx  
 Move Cap.: 132 xxxxx 445 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 897 xxxxx xxxxx

Level Of Service Module:  
 Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.2 xxxxx xxxxx  
 LOS by Move: \* \* \* \* \* A \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxxx 324 xxxxx xxxxx 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shrd StpDel: xxxxx 20.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shared LOS: \* C \* \* \* \* \* \* \*  
 ApproachDel: 20.7 xxxxxx xxxxxx xxxxxx  
 ApproachLOS: C \* \* \*

```

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)
*****
Intersection #58 Newmark at Ocean Blvd.
*****
Cycle (sec):      100      Critical Vol./Cap. (X):      0.524
Loss Time (sec):   8 (Y+R = 4 sec) Average Delay (sec/veh): 14.3
Optimal Cycle:     33      Level Of Service:      B
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
Control:      Split Phase      Split Phase      Permitted      Permitted
Rights:      Include      Include      Include      Include
Min. Green:      0 0 0 0      0 0 0 0      0 0 0 0      0 0 0 0
Lanes:      2 0 0 0 1      0 0 0 0 1      1 0 1 0 2      0 0 1 1 0
Volume Module:
Base Vol:      510 0 35 0 0 0 0 0 615 325 0 680 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 510 0 35 0 0 0 0 0 615 325 0 680 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 510 0 35 0 0 0 0 0 615 325 0 680 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 510 0 35 0 0 0 0 0 615 325 0 680 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 510 0 35 0 0 0 0 0 615 325 0 680 0
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.90 1.00 0.83 1.00 1.00 1.00 1.00 0.97 0.73 1.00 0.93 0.95
Lanes: 2.00 0.00 1.00 0.00 0.00 1.00 1.00 1.00 2.00 0.00 2.00 0.00
Final Sat.: 3432 0 1583 0 0 1900 1900 1845 2760 0 3538 0
Capacity Analysis Module:
Vol/Sat: 0.15 0.00 0.02 0.00 0.00 0.00 0.00 0.33 0.12 0.00 0.19 0.00
Crit Moves: ****
Green/Cycle: 0.28 0.00 0.28 0.00 0.00 0.00 0.00 0.64 0.64 0.00 0.64 0.00
Volume/Cap: 0.52 0.00 0.08 0.00 0.00 0.00 0.00 0.52 0.19 0.00 0.30 0.00
Uniform Del: 30.1 0.0 26.2 0.0 0.0 0.0 0.0 9.9 7.5 0.0 8.2 0.0
IncrementDel: 0.5 0.0 0.1 0.0 0.0 0.0 0.0 0.4 0.1 0.0 0.1 0.0
Delay Adj: 1.00 0.00 1.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 1.00 0.00
Delay/Veh: 30.7 0.0 26.3 0.0 0.0 0.0 0.0 10.4 7.5 0.0 8.3 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 30.7 0.0 26.3 0.0 0.0 0.0 0.0 10.4 7.5 0.0 8.3 0.0
DesignQueue: 21 0 1 0 0 0 0 14 7 0 14 0
*****

```

```

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #59 Thompson at Koosbay
*****
Average Delay (sec/veh): 5.0 Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      1 0 1 0 0      0 0 0 1 0      0 0 1 0 0      0 0 0 0 0
Volume Module:
Base Vol:      150 250 0 0 280 25 85 0 175 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 150 250 0 0 280 25 85 0 175 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 150 250 0 0 280 25 85 0 175 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 150 250 0 0 280 25 85 0 175 0 0 0
Critical Gap Module:
Critical Gap: 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxx 6.2 xxxxx xxxxx xxxxx
FollowUpTim: 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxx 3.3 xxxxx xxxxx xxxxx
Capacity Module:
Conflict Vol: 305 xxxx xxxxx xxxxx xxxxx xxxxx 843 xxxx 293 xxxx xxxxx xxxxx
Potent Cap.: 1262 xxxx xxxxx xxxxx xxxxx xxxxx 336 xxxx 749 xxxx xxxxx xxxxx
Move Cap.: 1262 xxxx xxxxx xxxxx xxxxx xxxxx 305 xxxx 749 xxxx xxxxx xxxxx
Level Of Service Module:
Stopped Del: 8.2 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: A * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxxx xxxxx xxxxx 508 xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 19.3 xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * C * * * * *
ApproachDel: xxxxxx xxxxxx 19.3 xxxxxx
ApproachLOS: * * * * * C *

```

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #60 Woodland at Thompson

Average Delay (sec/veh): 2.9 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 1 0 0 0 1

## Volume Module:

Base Vol: 0 290 20 115 425 0 0 0 0 30 0 210  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 290 20 115 425 0 0 0 0 30 0 210  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 290 20 115 425 0 0 0 0 30 0 210  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 290 20 115 425 0 0 0 0 30 0 210

## Critical Gap Module:

Critical Gap: 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1  
FollowUpTim: 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2

## Capacity Module:

Conflict Vol: 310 310 310 310 310 310 310 310 310 310 310 310  
Potent Cap.: 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250  
Move Cap.: 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250

## Level Of Service Module:

Stopped Del: 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2  
LOS by Move: A A A A A A A A A A A A  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
Shrd StpDel: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
Shared LOS: A A A A A A A A A A A A  
ApproachDel: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
ApproachLOS: A A A A A A A A A A A A

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

Intersection #61 Ocean Blvd. at Woodland

Cycle (sec): 100 Critical Vol./Cap. (X): 0.465  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.8  
Optimal Cycle: 39 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 0 0 0 0 0 1 0 0 0 1 1 0 2 0 0 0 0 1 1 0

## Volume Module:

Base Vol: 0 0 0 285 0 110 70 545 0 0 510 195  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 285 0 110 70 545 0 0 510 195  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 285 0 110 70 545 0 0 510 195  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 285 0 110 70 545 0 0 510 195  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 285 0 110 70 545 0 0 510 195

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.92 0.92 1.00 1.00 0.89 0.89  
Lanes: 0.00 0.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.45 0.55  
Final Sat.: 0 0 0 1769 0 1583 1753 3505 0 0 2452 937

## Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.16 0.00 0.07 0.04 0.16 0.00 0.00 0.21 0.21  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.35 0.00 0.35 0.09 0.53 0.00 0.00 0.45 0.45  
Volume/Cap: 0.00 0.00 0.00 0.46 0.00 0.20 0.46 0.29 0.00 0.00 0.46 0.46  
Uniform Del: 0.0 0.0 0.0 25.4 0.0 22.9 43.5 12.9 0.0 0.0 19.3 19.3  
IncrementDel: 0.0 0.0 0.0 0.6 0.0 0.2 2.3 0.1 0.0 0.0 0.2 0.2  
Delay Adj: 0.00 0.00 0.00 1.00 0.00 1.00 1.00 1.00 0.00 0.00 1.00 1.00  
Delay/Veh: 0.0 0.0 0.0 26.0 0.0 23.1 45.8 13.0 0.0 0.0 19.5 19.5  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 26.0 0.0 23.1 45.8 13.0 0.0 0.0 19.5 19.5  
DesignQueue: 0 0 0 11 0 4 4 15 0 0 16 6

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #60 Woodland at Thompson

Average Delay (sec/veh): 2.9 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 1 0 0 0 1

## Volume Module:

Base Vol: 0 290 20 115 425 0 0 0 0 30 0 210  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 290 20 115 425 0 0 0 0 30 0 210  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 290 20 115 425 0 0 0 0 30 0 210  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 290 20 115 425 0 0 0 0 30 0 210

## Critical Gap Module:

Critical Gap: 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1  
FollowUpTim: 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2

## Capacity Module:

Conflict Vol: 310 310 310 310 310 310 310 310 310 310 310 310  
Potent Cap.: 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250  
Move Cap.: 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250 1250

## Level Of Service Module:

Stopped Del: 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2 8.2  
LOS by Move: A A A A A A A A A A A A  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
Shrd StpDel: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
Shared LOS: A A A A A A A A A A A A  
ApproachDel: 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8 12.8  
ApproachLOS: A A A A A A A A A A A A

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

Intersection #61 Ocean Blvd. at Woodland

Cycle (sec): 100 Critical Vol./Cap. (X): 0.465  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 19.8  
Optimal Cycle: 39 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 0 0 0 0 0 1 0 0 0 1 1 0 2 0 0 0 0 1 1 0 0 0

## Volume Module:

Base Vol: 0 0 0 285 0 110 70 545 0 0 510 195  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 285 0 110 70 545 0 0 510 195  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 285 0 110 70 545 0 0 510 195  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 285 0 110 70 545 0 0 510 195  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 285 0 110 70 545 0 0 510 195

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 0.93 1.00 0.83 0.92 0.92 1.00 1.00 0.89 0.89  
Lanes: 0.00 0.00 0.00 1.00 0.00 1.00 1.00 2.00 0.00 0.00 1.45 0.55  
Final Sat.: 0 0 0 1769 0 1583 1753 3505 0 0 2452 937

## Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.16 0.00 0.07 0.04 0.16 0.00 0.00 0.21 0.21  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.35 0.00 0.35 0.09 0.53 0.00 0.00 0.45 0.45  
Volume/Cap: 0.00 0.00 0.00 0.46 0.00 0.20 0.46 0.29 0.00 0.00 0.46 0.46  
Uniform Del: 0.0 0.0 0.0 25.4 0.0 22.9 43.5 12.9 0.0 0.0 19.3 19.3  
IncrementDel: 0.0 0.0 0.0 0.6 0.0 0.2 2.3 0.1 0.0 0.0 0.2 0.2  
Delay Adj: 0.00 0.00 0.00 1.00 0.00 1.00 1.00 1.00 0.00 0.00 1.00 1.00  
Delay/Veh: 0.0 0.0 0.0 26.0 0.0 23.1 45.8 13.0 0.0 0.0 19.5 19.5  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 26.0 0.0 23.1 45.8 13.0 0.0 0.0 19.5 19.5  
DesignQueue: 0 0 0 11 0 4 4 15 0 0 16 6



## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #62 Ocean Blvd. at Radar

Average Delay (sec/veh): 3.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 0 0 0   | 0 0 1 1 0    | 0 1 1 0 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 0    | 70   | 0    | 0    | 0    | 0    | 390  | 50   | 75   | 560  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 0    | 70   | 0    | 0    | 0    | 0    | 390  | 50   | 75   | 560  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 0    | 70   | 0    | 0    | 0    | 0    | 390  | 50   | 75   | 560  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 10   | 0    | 70   | 0    | 0    | 0    | 0    | 390  | 50   | 75   | 560  | 0    |

## Critical Gap Module:

|              |     |      |     |      |      |      |      |      |      |     |      |      |
|--------------|-----|------|-----|------|------|------|------|------|------|-----|------|------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

## Capacity Module:

|              |     |      |     |      |      |      |      |      |      |      |      |      |
|--------------|-----|------|-----|------|------|------|------|------|------|------|------|------|
| Cnflct Vol:  | 845 | xxxx | 220 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 440  | xxxx | xxxx |
| Potent Cap.: | 302 | xxxx | 784 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 1116 | xxxx | xxxx |
| Move Cap.:   | 286 | xxxx | 784 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 1116 | xxxx | xxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 8.5           | xxxx          | xxxx          |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | A             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 644           | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx          | 11.4          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 8.5           | xxxx          | xxxx          |
| Shared LOS:  | *             | B             | *             | *             | *             | *             | *             | *             | *             | A             | *             | *             |
| ApproachDel: | 11.4          |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |
| ApproachLOS: | B             |               | *             |               |               | *             |               |               | *             |               |               | *             |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #63 Hwy 101 at Clark

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 2 0 0    | 0 0 1 1 0    | 0 0 1 0 0  | 0 0 0 0 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 1065 | 0    | 0    | 1035 | 5    | 10   | 0    | 15   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 1065 | 0    | 0    | 1035 | 5    | 10   | 0    | 15   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 1065 | 0    | 0    | 1035 | 5    | 10   | 0    | 15   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 1065 | 0    | 0    | 1035 | 5    | 10   | 0    | 15   | 0    | 0    | 0    |

## Critical Gap Module:

|              |     |      |      |      |      |      |     |      |     |      |      |      |
|--------------|-----|------|------|------|------|------|-----|------|-----|------|------|------|
| Critical Gp: | 4.2 | xxxx | xxxx | xxxx | xxxx | xxxx | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx |
| FollowUpTim: | 2.2 | xxxx | xxxx | xxxx | xxxx | xxxx | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx |

## Capacity Module:

|              |      |      |      |      |      |      |      |      |     |      |      |      |
|--------------|------|------|------|------|------|------|------|------|-----|------|------|------|
| Cnflct Vol:  | 1040 | xxxx | xxxx | xxxx | xxxx | xxxx | 1630 | xxxx | 520 | xxxx | xxxx | xxxx |
| Potent Cap.: | 658  | xxxx | xxxx | xxxx | xxxx | xxxx | 94   | xxxx | 506 | xxxx | xxxx | xxxx |
| Move Cap.:   | 658  | xxxx | xxxx | xxxx | xxxx | xxxx | 91   | xxxx | 506 | xxxx | xxxx | xxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 10.7          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| LOS by Move: | B             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 179           | xxxx          | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 28.3          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | *             | D             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               | 28.3          |               |               | xxxxxx        |               |               |
| ApproachLOS: | *             |               |               | *             |               |               | D             |               |               | *             |               | *             |

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #64 Hwy 101 at Casino entrance  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.489  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.5  
 Optimal Cycle: 40 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 2 0 1   | 1 0 1 1 0   | 0 0 1 0 0  | 0 0 1 0 0  |

Volume Module:

|              | North Bound    | South Bound    | East Bound     | West Bound     |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Reduced Vol: | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| PCE Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| MLF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Final Vol.:  | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |

Saturation Flow Module:

|             | North Bound    | South Bound    | East Bound     | West Bound     |
|-------------|----------------|----------------|----------------|----------------|
| Sat/Lane:   | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 |
| Adjustment: | 0.91 0.91 0.82 | 0.91 0.91 0.95 | 0.90 0.90 0.90 | 0.72 0.72 0.72 |
| Lanes:      | 1.00 2.00 1.00 | 1.00 2.00 0.00 | 0.25 0.50 0.25 | 0.65 0.06 0.29 |
| Final Sat.: | 1736 3473 1554 | 1736 3473 0    | 428 856 428    | 880 80 400     |

Capacity Analysis Module:

|               | North Bound    | South Bound    | East Bound     | West Bound     |
|---------------|----------------|----------------|----------------|----------------|
| Vol/Sat:      | 0.00 0.28 0.07 | 0.03 0.25 0.00 | 0.02 0.02 0.02 | 0.13 0.13 0.13 |
| Crit Moves:   | ****           | ****           | ****           | ****           |
| Green/Cycle:  | 0.01 0.57 0.57 | 0.06 0.62 0.00 | 0.26 0.26 0.26 | 0.26 0.26 0.26 |
| Volume/Cap:   | 0.40 0.49 0.13 | 0.49 0.40 0.00 | 0.09 0.09 0.09 | 0.49 0.49 0.49 |
| Uniform Del:  | 49.4 13.1 10.2 | 45.6 9.7 0.0   | 28.4 28.4 28.4 | 31.7 31.7 31.7 |
| IncrementDel: | 19.8 0.2 0.1   | 3.6 0.1 0.0    | 0.1 0.1 0.1    | 1.1 1.1 1.1    |
| Delay Adj:    | 1.00 1.00 1.00 | 1.00 1.00 0.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Delay/Veh:    | 69.3 13.2 10.2 | 49.2 9.9 0.0   | 28.5 28.5 28.5 | 32.7 32.7 32.7 |
| User DelAdj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| AdjDel/Veh:   | 69.3 13.2 10.2 | 49.2 9.9 0.0   | 28.5 28.5 28.5 | 32.7 32.7 32.7 |
| DesignQueue:  | 0 25 3         | 3 19 0         | 0 1 0          | 5 0 2          |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #65 Libby at Wilshire  
\*\*\*\*\*

Average Delay (sec/veh): 3.4 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0    | 0 0 0 1 0    |

Volume Module:

|              | North Bound    | South Bound    | East Bound     | West Bound     |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Final Vol.:  | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |

Critical Gap Module:

|              | North Bound       | South Bound   | East Bound      | West Bound        |
|--------------|-------------------|---------------|-----------------|-------------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 6.4 xxxxx 6.2 | 4.1 xxxxx xxxxx | xxxxx xxxxx xxxxx |
| FollowUpTim: | xxxxx xxxxx xxxxx | 3.5 xxxxx 3.3 | 2.2 xxxxx xxxxx | xxxxx xxxxx xxxxx |

Capacity Module:

|              | North Bound      | South Bound   | East Bound       | West Bound       |
|--------------|------------------|---------------|------------------|------------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 230 xxxxx 90  | 120 xxxxx xxxxx  | xxxx xxxxx xxxxx |
| Potent Cap.: | xxxx xxxxx xxxxx | 758 xxxxx 968 | 1480 xxxxx xxxxx | xxxx xxxxx xxxxx |
| Move Cap.:   | xxxx xxxxx xxxxx | 748 xxxxx 968 | 1480 xxxxx xxxxx | xxxx xxxxx xxxxx |

Level Of Service Module:

|              | North Bound       | South Bound       | East Bound       | West Bound        |
|--------------|-------------------|-------------------|------------------|-------------------|
| Stopped Del: | xxxxx xxxxx xxxxx | xxxxx xxxxx xxxxx | 7.5 xxxxx xxxxx  | xxxxx xxxxx xxxxx |
| LOS by Move: | * * *             | * * *             | A * *            | * * *             |
| Movement:    | LT - LTR - RT     | LT - LTR - RT     | LT - LTR - RT    | LT - LTR - RT     |
| Shared Cap.: | xxxx xxxxx xxxxx  | xxxx 814 xxxxx    | xxxx xxxxx xxxxx | xxxx xxxxx xxxxx  |
| Shrd StpDel: | xxxxx xxxxx xxxxx | 9.8 xxxxx         | 7.5 xxxxx xxxxx  | xxxxx xxxxx xxxxx |
| Shared LOS:  | * * *             | A *               | A *              | * * *             |
| ApproachDel: | xxxxxx            | 9.8               | xxxxxx           | xxxxxx            |
| ApproachLOS: | *                 | A                 | *                | *                 |

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

Intersection #66 Hwy 101 at E Bay Dr.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.624  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.1  
 Optimal Cycle: 40 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Permitted Permitted Split Phase Split Phase  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 0 1 0 1 0 1 0 0 0 0 0

Volume Module:  
 Base Vol: 0 995 210 15 660 0 0 0 0 30 0 10  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 995 210 15 660 0 0 0 0 30 0 10  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 995 210 15 660 0 0 0 0 30 0 10  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 995 210 15 660 0 0 0 0 30 0 10  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 0 995 210 15 660 0 0 0 0 30 0 10

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 1.00 0.95 0.81 0.91 0.91 1.00 1.00 1.00 1.00 0.89 1.00 0.89  
 Lanes: 0.00 1.00 1.00 0.02 0.98 0.00 0.00 0.00 0.00 0.75 0.00 0.25  
 Final Sat.: 0 1809 1537 38 1682 0 0 0 0 1263 0 421

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.55 0.14 0.39 0.39 0.00 0.00 0.00 0.00 0.02 0.00 0.02  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.88 0.88 0.88 0.88 0.00 0.00 0.00 0.00 0.04 0.00 0.04  
 Volume/Cap: 0.00 0.62 0.15 0.44 0.44 0.00 0.00 0.00 0.00 0.62 0.00 0.62  
 Uniform Del: 0.0 1.5 0.8 1.1 1.1 0.0 0.0 0.0 0.0 47.4 0.0 47.4  
 IncremntDel: 0.0 0.8 0.1 0.2 0.2 0.0 0.0 0.0 0.0 17.6 0.0 17.6  
 Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00  
 Delay/Veh: 0.0 2.3 0.9 1.4 1.4 0.0 0.0 0.0 0.0 65.0 0.0 65.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 2.3 0.9 1.4 1.4 0.0 0.0 0.0 0.0 65.0 0.0 65.0  
 DesignQueue: 0 8 1 0 5 0 0 0 0 2 0 1

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #67 Hwy 101 at North Bay

Average Delay (sec/veh): 2.8 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 0 0 1 0 0 1 0 0 0 0 1 0 0 0 0

Volume Module:  
 Base Vol: 0 700 130 5 710 0 0 0 0 35 0 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 700 130 5 710 0 0 0 0 35 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 700 130 5 710 0 0 0 0 35 0 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 0 700 130 5 710 0 0 0 0 35 0 0

Critical Gap Module:  
 Critical Gap: 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2  
 FollowUpTim: 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3

Capacity Module:  
 Cnflct Vol: 830 830 830 830 830 830 830 830 830 830 830  
 Potent Cap.: 785 785 785 785 785 785 785 785 785 785 785  
 Move Cap.: 785 785 785 785 785 785 785 785 785 785 785

Level Of Service Module:  
 Stopped Del: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 LOS by Move: A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 Shrd StpDel: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 Shared LOS: A A A A A A A A A A A  
 ApproachDel: 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7  
 ApproachLOS: E E E E E E E E E E E

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #68 Hwy 101 at Trans Pacific

Average Delay (sec/veh): 1.4 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 1 0 0    | 0 0 1 0 1    | 0 0 1 0 0  | 0 0 0 0 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |

## Critical Gap Module:

|               |     |      |      |      |      |      |     |      |     |      |      |      |
|---------------|-----|------|------|------|------|------|-----|------|-----|------|------|------|
| Critical Gap: | 4.1 | xxxx | xxxx | xxxx | xxxx | xxxx | 6.5 | xxxx | 6.3 | xxxx | xxxx | xxxx |
| FollowUpTim:  | 2.2 | xxxx | xxxx | xxxx | xxxx | xxxx | 3.6 | xxxx | 3.4 | xxxx | xxxx | xxxx |

## Capacity Module:

|               |     |      |      |      |      |      |      |      |     |      |      |      |
|---------------|-----|------|------|------|------|------|------|------|-----|------|------|------|
| Conflict Vol: | 575 | xxxx | xxxx | xxxx | xxxx | xxxx | 1275 | xxxx | 575 | xxxx | xxxx | xxxx |
| Potent Cap.:  | 988 | xxxx | xxxx | xxxx | xxxx | xxxx | 176  | xxxx | 501 | xxxx | xxxx | xxxx |
| Move Cap.:    | 988 | xxxx | xxxx | xxxx | xxxx | xxxx | 172  | xxxx | 501 | xxxx | xxxx | xxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 8.8           | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 421           | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 16.2          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | C             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | 16.2          | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        |
| ApproachLOS: | *             | *             | *             | *             | *             | *             | C             | *             | *             | *             | *             | *             |

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #70 1st at Hall NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.356

Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.7

Optimal Cycle: 26 Level Of Service: A

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 0 1 1 1 0   | 0 0 0 0 0   | 0 1 0 0 0  | 0 0 0 0 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.69 | 0.69 | 1.00 | 1.00 | 1.00 | 0.81 |
| Lanes:      | 0.14 | 2.85 | 0.01 | 0.00 | 0.00 | 0.00 | 0.89 | 0.11 | 0.00 | 0.00 | 0.00 | 1.00 |
| Final Sat.: | 238  | 4734 | 17   | 0    | 0    | 0    | 1165 | 146  | 0    | 0    | 0    | 1537 |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.29 | 0.29 | 0.29 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 |
| Crit Moves:   | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle:  | 0.82 | 0.82 | 0.82 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 |
| Volume/Cap:   | 0.36 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.07 |
| Uniform Del:  | 2.2  | 2.2  | 2.2  | 0.0  | 0.0  | 0.0  | 42.3 | 42.3 | 0.0  | 0.0  | 0.0  | 41.1 |
| IncrementDel: | 0.1  | 0.1  | 0.1  | 0.0  | 0.0  | 0.0  | 1.7  | 1.7  | 0.0  | 0.0  | 0.0  | 0.2  |
| Delay Adj:    | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Delay/Veh:    | 2.3  | 2.3  | 2.3  | 0.0  | 0.0  | 0.0  | 44.0 | 44.0 | 0.0  | 0.0  | 0.0  | 41.3 |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 2.3  | 2.3  | 2.3  | 0.0  | 0.0  | 0.0  | 44.0 | 44.0 | 0.0  | 0.0  | 0.0  | 41.3 |
| DesignQueue:  | 1    | 15   | 0    | 0    | 0    | 0    | 2    | 0    | 0    | 0    | 0    | 1    |

\*\*\*\*\*

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #71 Broadway at 17th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 1 1 0    | 1 0 1 1 0    | 0 0 1! 0 0 | 0 0 1! 0 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |

## Critical Gap Module:

|              |     |      |       |     |      |       |     |      |     |     |     |     |
|--------------|-----|------|-------|-----|------|-------|-----|------|-----|-----|-----|-----|
| Critical Gp: | 4.1 | xxxx | xxxxx | 4.1 | xxxx | xxxxx | 7.5 | xxxx | 6.9 | 7.5 | 6.5 | 6.9 |
| FollowUpTim: | 2.2 | xxxx | xxxxx | 2.2 | xxxx | xxxxx | 3.5 | xxxx | 3.3 | 3.5 | 4.0 | 3.3 |

## Capacity Module:

|              |     |      |       |     |      |       |      |      |     |      |      |     |
|--------------|-----|------|-------|-----|------|-------|------|------|-----|------|------|-----|
| Cnflct Vol:  | 800 | xxxx | xxxxx | 815 | xxxx | xxxxx | 1270 | xxxx | 400 | 1275 | 1690 | 408 |
| Potent Cap.: | 819 | xxxx | xxxxx | 808 | xxxx | xxxxx | 127  | xxxx | 605 | 126  | 94   | 599 |
| Move Cap.:   | 819 | xxxx | xxxxx | 808 | xxxx | xxxxx | 116  | xxxx | 605 | 116  | 90   | 599 |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 9.6           | xxxx          | xxxxx         | 9.5           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | A             | *             | *             | A             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | 275           | xxxxx         | xxxx          | 133           | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | 20.0          | xxxxx         | xxxxx         | 36.7          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | *             | C             | *             | *             | E             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               |               | 20.0          |               |               | 36.7          |               |
| ApproachLOS: | *             |               |               | *             |               |               |               | C             |               |               | E             |               |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #72 Virginia at Pony Villiage entance B

Average Delay (sec/veh): 1.7 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1! 0 0  | 0 0 0 0 0   | 0 0 1 1 0    | 1 0 2 0 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |

## Critical Gap Module:

|              |     |      |     |       |      |       |       |      |       |     |      |       |
|--------------|-----|------|-----|-------|------|-------|-------|------|-------|-----|------|-------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 4.1 | xxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 2.2 | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |       |      |      |       |     |      |       |
|--------------|------|------|-----|------|------|-------|------|------|-------|-----|------|-------|
| Cnflct Vol:  | 1375 | xxxx | 398 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | 795 | xxxx | xxxxx |
| Potent Cap.: | 136  | xxxx | 602 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | 822 | xxxx | xxxxx |
| Move Cap.:   | 124  | xxxx | 602 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | 822 | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 9.9           | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | A             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 302           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | 26.3          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | D             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 26.3          |               |               | xxxxxx        |               |               | xxxxxx        |               | xxxxxx        |               | xxxxxx        |               |
| ApproachLOS: | D             |               |               | *             |               |               | *             |               | *             |               | *             |               |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #73 Coos River Hwy at Olive Barber Rd

Average Delay (sec/veh): 2.5 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 0 1 0    | 0 1 0 0 0    | 0 0 0 0 0  | 1 0 0 0 1  |

## Volume Module:

|              |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Final Vol.:  | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |

## Critical Gap Module:

|              |                   |                                   |               |
|--------------|-------------------|-----------------------------------|---------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx | 6.5 xxxxx 6.3 |
| FollowUpTim: | xxxxx xxxxx xxxxx | 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx | 3.6 xxxxx 3.4 |

## Capacity Module:

|              |                  |                                   |               |
|--------------|------------------|-----------------------------------|---------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 735 xxxxx xxxxx xxxxx xxxxx xxxxx | 973 xxxxx 663 |
| Potent Cap.: | xxxx xxxxx xxxxx | 866 xxxxx xxxxx xxxxx xxxxx xxxxx | 275 xxxxx 455 |
| Move Cap.:   | xxxx xxxxx xxxxx | 866 xxxxx xxxxx xxxxx xxxxx xxxxx | 273 xxxxx 455 |

## Level Of Service Module:

|              |                   |                                           |                   |
|--------------|-------------------|-------------------------------------------|-------------------|
| Stopped Del: | xxxxx xxxxx xxxxx | 9.2 xxxxx xxxxx xxxxx xxxxx xxxxx         | 24.6 xxxxx 13.1   |
| LOS by Move: | * * *             | A * * * * *                               | C * * B           |
| Movement:    | LT - LTR - RT     | LT - LTR - RT LT - LTR - RT LT - LTR - RT | LT - LTR - RT     |
| Shared Cap.: | xxxx xxxxx xxxxx  | xxxx xxxxx xxxxx xxxxx xxxxx xxxxx        | xxxx xxxxx xxxxx  |
| Shrd StpDel: | xxxxx xxxxx xxxxx | 9.2 xxxxx xxxxx xxxxx xxxxx xxxxx         | xxxxx xxxxx xxxxx |
| Shared LOS:  | * * *             | A * * * * *                               | * * *             |
| ApproachDel: | xxxxxx            | xxxxxx                                    | xxxxxx 23.4       |
| ApproachLOS: | *                 | *                                         | C                 |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #74 Ocean Blve at Laclair

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 1 0 0    | 0 0 1 1 0    |

## Volume Module:

|              |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0 0        |
| Final Vol.:  | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |

## Critical Gap Module:

|              |                   |               |                                   |
|--------------|-------------------|---------------|-----------------------------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 6.8 xxxxx 6.9 | 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx |
| FollowUpTim: | xxxxx xxxxx xxxxx | 3.5 xxxxx 3.3 | 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx |

## Capacity Module:

|              |                  |               |                                   |
|--------------|------------------|---------------|-----------------------------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 863 xxxxx 315 | 630 xxxxx xxxxx xxxxx xxxxx xxxxx |
| Potent Cap.: | xxxx xxxxx xxxxx | 294 xxxxx 681 | 942 xxxxx xxxxx xxxxx xxxxx xxxxx |
| Move Cap.:   | xxxx xxxxx xxxxx | 287 xxxxx 681 | 942 xxxxx xxxxx xxxxx xxxxx xxxxx |

## Level Of Service Module:

|              |                                           |                                    |
|--------------|-------------------------------------------|------------------------------------|
| Stopped Del: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx       | 8.9 xxxxx xxxxx xxxxx xxxxx xxxxx  |
| LOS by Move: | * * * * *                                 | A * * * * *                        |
| Movement:    | LT - LTR - RT LT - LTR - RT LT - LTR - RT | LT - LTR - RT LT - LTR - RT        |
| Shared Cap.: | xxxx xxxxx xxxxx xxxxx 467 xxxxx          | xxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| Shrd StpDel: | xxxxx xxxxx xxxxx xxxxx 14.2 xxxxx        | 8.9 xxxxx xxxxx xxxxx xxxxx xxxxx  |
| Shared LOS:  | * * * * *                                 | A * * * * *                        |
| ApproachDel: | xxxxxx                                    | 14.2 xxxxx xxxxx                   |
| ApproachLOS: | *                                         | B                                  |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #75 Central at 7th
*****
Cycle (sec):      1      Critical Vol./Cap. (X):      0.602
Loss Time (sec):  0 (Y+R = 4 sec) Average Delay (sec/veh):      7.3
Optimal Cycle:    0      Level Of Service:      B
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Yield Sign      Yield Sign      Stop Sign      Stop Sign
Rights:      Include      Channel      Channel      Include
Lanes:      0 0 0 0 0      0 1 0 0 2      0 0 0 0 2      0 1 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      0 0 0 0      5 95 480      0 0 620      10 60 0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  0 0 0 0      5 95 480      0 0 620      10 60 0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:  0 0 0 0      5 95 480      0 0 620      10 60 0
Reduct Vol:  0 0 0 0      0 0 0 0      0 0 0 0      0 0 0 0
Final Vol.:  0 0 0 0      5 95 480      0 0 620      10 60 0
-----|-----|-----|-----|
Saturation Flow Module:
Sat/Lane:      0 0 0      0 0 0      0 0 0      0 0 0
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:      0.00 0.00 0.00 0.05 0.95 2.00 0.00 0.00 2.00 0.14 0.86 0.00
Final Sat.:  0 0 0      22 419 882      0 0 1030      120 723 0
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:      0.00 0.00 0.00 0.23 0.23 0.54 0.00 0.00 0.60 0.08 0.08 0.00
Crit Moves:      ****      ****      ****      ****
Green/Cycle:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Volume/Cap:  0.00 0.00 0.00 0.23 0.23 0.54 0.00 0.00 0.60 0.08 0.08 0.00
Delay/Veh:    0.0 0.0 0.0 2.4 2.4 7.9 0.0 0.0 9.8 1.4 1.4 0.0
Delay Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0 0.0 0.0 2.4 2.4 7.9 0.0 0.0 9.8 1.4 1.4 0.0
DesignQueue:  0 0 0      0 0 0      0 0 0      0 0 0
*****

```

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #76 Coos River Hwy at Edwards
*****
Average Delay (sec/veh):      2.6      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 0 0 1      0 0 0 0 0      0 0 1 0 1      0 1 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      0 0 5      0 0 0      0 755 25      45 365 0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  0 0 5      0 0 0      0 755 25      45 365 0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:  0 0 5      0 0 0      0 755 25      45 365 0
Reduct Vol:  0 0 0      0 0 0      0 0 0      0 0 0
Final Vol.:  0 0 5      0 0 0      0 755 25      45 365 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gap:xxxxx xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim:xxxxx xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Conflict Vol: xxxxx xxxxx 755 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 780 xxxxx xxxxx
Potent Cap.: xxxxx xxxxx 412 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 824 xxxxx xxxxx
Move Cap.: xxxxx xxxxx 412 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 824 xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
Stopped Del:xxxxx xxxxx 13.8 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.6 xxxxx xxxxx
LOS by Move:  * * B      * * *      * * *      * * *
Movement:      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.6 xxxxx xxxxx
Shared LOS:  * * *      * * *      * * *      * * *
ApproachDel:  13.8      xxxxxx      xxxxxx      xxxxxx
ApproachLOS:  B      *      *      *

```

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #77 Coos River Hwy at Mullen  
\*\*\*\*\*

Average Delay (sec/veh): 1.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 1 0   | 1 0 0 0 0   | 1 0 1 0 0    | 0 0 1 0 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |

## Critical Gap Module:

|              |       |     |     |     |      |       |     |      |       |       |      |       |
|--------------|-------|-----|-----|-----|------|-------|-----|------|-------|-------|------|-------|
| Critical Gp: | xxxxx | 6.6 | 6.3 | 7.3 | xxxx | xxxxx | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | xxxxx | 4.1 | 3.4 | 3.7 | xxxx | xxxxx | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |       |      |      |       |      |      |       |
|--------------|------|------|-----|------|------|-------|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxx | 1095 | 715 | 1120 | xxxx | xxxxx | 370  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx | 209  | 422 | 167  | xxxx | xxxxx | 1189 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx | 208  | 422 | 146  | xxxx | xxxxx | 1189 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | 31.4          | xxxx          | xxxxx         | 8.0           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | D             | *             | *             | A             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | 383           | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | 15.8          | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | C             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 15.8          |               |               | 31.4          |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | C             |               |               | D             |               |               | *             |               |               | *             |               |               |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #78 Hwy 101 at Edwards  
\*\*\*\*\*

Average Delay (sec/veh): 0.5 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 1 0 0 | 0 0 1 1 0 0 | 0 0 1 1 0    | 0 1 1 0 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |

## Critical Gap Module:

|              |     |      |     |     |      |     |       |      |       |       |       |       |
|--------------|-----|------|-----|-----|------|-----|-------|------|-------|-------|-------|-------|
| Critical Gp: | 7.5 | xxxx | 6.9 | 7.7 | xxxx | 7.1 | xxxxx | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | 3.6 | xxxx | 3.4 | xxxxx | xxxx | xxxxx | xxxxx | xxxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |     |      |      |       |      |      |       |
|--------------|------|------|-----|------|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | 1488 | xxxx | 550 | 1330 | xxxx | 393 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | 88   | xxxx | 484 | 103  | xxxx | 579 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | 87   | xxxx | 484 | 101  | xxxx | 579 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 147           | xxxxx         | xxxx          | 121           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | 33.2          | xxxxx         | xxxxx         | 42.3          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | 0.0           | xxxxx         |
| Shared LOS:  | *             | D             | *             | *             | E             | *             | *             | *             | *             | *             | A             | *             |
| ApproachDel: | 33.2          |               |               | 42.3          |               |               | xxxxxx        |               | xxxxxx        |               | xxxxxx        |               |
| ApproachLOS: | D             |               |               | E             |               |               | *             |               | *             |               | *             |               |



## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #62 Ocean Blvd. at Radar\*\*\*\*\*  
Average Delay (sec/veh): 3.0 Worst Case Level Of Service:\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
-----  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 0 0 0 0 1 1 0 0 0 1 1 0 0  
-----

## Volume Module:

Base Vol: 10 0 70 0 0 0 0 390 50 75 560 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 10 0 70 0 0 0 0 390 50 75 560 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 10 0 70 0 0 0 0 390 50 75 560 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 10 0 70 0 0 0 0 390 50 75 560 0  
-----

## Critical Gap Module:

Critical Gp: 6.8 xxxx 6.9 xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx 4.1 xxxx xxxxxx  
FollowUpTim: 3.5 xxxx 3.3 xxxxxx xxxx xxxxxx xxxxxx xxxx xxxxxx 2.2 xxxx xxxxxx  
-----

## Capacity Module:

Cnflct Vol: 845 xxxx 220 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 440 xxxx xxxxxx  
Potent Cap.: 302 xxxx 784 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 1116 xxxx xxxxxx  
Move Cap.: 286 xxxx 784 xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx 1116 xxxx xxxxxx  
-----

## Level Of Service Module:

Stopped Del:xxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxxx 8.5 xxxxx xxxxxx  
LOS by Move: \* \* \* \* \* A \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx 644 xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx  
Shrd StpDel:xxxxx 11.4 xxxxxx xxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx 8.5 xxxxx xxxxxx  
Shared LOS: \* B \* \* \* \* A \* \* \*  
ApproachDel: 11.4 xxxxxx xxxxxx xxxxxx  
ApproachLOS: B \* \* \*

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #63 Hwy 101 at Clark\*\*\*\*\*  
Average Delay (sec/veh): 0.3 Worst Case Level Of Service:\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
-----  
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 2 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0  
-----

## Volume Module:

Base Vol: 30 1065 0 0 1035 5 10 0 15 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 1065 0 0 1035 5 10 0 15 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 1065 0 0 1035 5 10 0 15 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 30 1065 0 0 1035 5 10 0 15 0 0 0  
-----

## Critical Gap Module:

Critical Gp: 4.2 xxxx xxxxxx xxxxxx xxxx xxxxxx 6.8 xxxx 6.9 xxxxxx xxxx xxxxxx  
FollowUpTim: 2.2 xxxx xxxxxx xxxxxx xxxx xxxxxx 3.5 xxxx 3.3 xxxxxx xxxx xxxxxx  
-----

## Capacity Module:

Cnflct Vol: 1040 xxxx xxxxxx xxxxx xxxxx xxxxxx 1630 xxxxx 520 xxxxx xxxxx xxxxxx  
Potent Cap.: 658 xxxx xxxxxx xxxxx xxxxx xxxxxx 94 xxxxx 506 xxxxx xxxxx xxxxxx  
Move Cap.: 658 xxxx xxxxxx xxxxx xxxxx xxxxxx 91 xxxxx 506 xxxxx xxxxx xxxxxx  
-----

## Level Of Service Module:

Stopped Del: 10.7 xxxx xxxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx  
LOS by Move: B \* \* \* \* \* A \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx 179 xxxxxx xxxxx xxxxx xxxxxx  
Shrd StpDel:xxxxx xxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx 28.3 xxxxxx xxxxx xxxxx xxxxxx  
Shared LOS: \* \* \* \* \* D \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 28.3 xxxxxx  
ApproachLOS: \* \* D \*

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #64 Hwy 101 at Casino entrance  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.489  
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.5  
 Optimal Cycle: 40 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 2 0 1   | 1 0 1 1 0   | 0 0 1 0 0  | 0 0 1 0 0  |

Volume Module:

|              | North Bound    | South Bound    | East Bound     | West Bound     |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Reduced Vol: | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |
| PCE Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| MLF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Final Vol.:  | 5 960 110      | 50 860 0       | 10 20 10       | 110 10 50      |

Saturation Flow Module:

|             | North Bound    | South Bound    | East Bound     | West Bound     |
|-------------|----------------|----------------|----------------|----------------|
| Sat/Lane:   | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 | 1900 1900 1900 |
| Adjustment: | 0.91 0.91 0.82 | 0.91 0.91 0.95 | 0.90 0.90 0.90 | 0.72 0.72 0.72 |
| Lanes:      | 1.00 2.00 1.00 | 1.00 2.00 0.00 | 0.25 0.50 0.25 | 0.65 0.06 0.29 |
| Final Sat.: | 1736 3473 1554 | 1736 3473 0    | 428 856 428    | 880 80 400     |

Capacity Analysis Module:

|               | North Bound    | South Bound    | East Bound     | West Bound     |
|---------------|----------------|----------------|----------------|----------------|
| Vol/Sat:      | 0.00 0.28 0.07 | 0.03 0.25 0.00 | 0.02 0.02 0.02 | 0.13 0.13 0.13 |
| Crit Moves:   | ****           | ****           | ****           | ****           |
| Green/Cycle:  | 0.01 0.57 0.57 | 0.06 0.62 0.00 | 0.26 0.26 0.26 | 0.26 0.26 0.26 |
| Volume/Cap:   | 0.40 0.49 0.13 | 0.49 0.40 0.00 | 0.09 0.09 0.09 | 0.49 0.49 0.49 |
| Uniform Del:  | 49.4 13.1 10.2 | 45.6 9.7 0.0   | 28.4 28.4 28.4 | 31.7 31.7 31.7 |
| IncrementDel: | 19.8 0.2 0.1   | 3.6 0.1 0.0    | 0.1 0.1 0.1    | 1.1 1.1 1.1    |
| Delay Adj:    | 1.00 1.00 1.00 | 1.00 1.00 0.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Delay/Veh:    | 69.3 13.2 10.2 | 49.2 9.9 0.0   | 28.5 28.5 28.5 | 32.7 32.7 32.7 |
| User DelAdj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| AdjDel/Veh:   | 69.3 13.2 10.2 | 49.2 9.9 0.0   | 28.5 28.5 28.5 | 32.7 32.7 32.7 |
| DesignQueue:  | 0 25 3         | 3 19 0         | 0 1 0          | 5 0 2          |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #65 Libby at Wilshire  
\*\*\*\*\*

Average Delay (sec/veh): 3.4 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0    | 0 0 0 1 0    |

Volume Module:

|              | North Bound    | South Bound    | East Bound     | West Bound     |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Final Vol.:  | 0 0 0          | 45 0 25        | 25 90 0        | 0 60 60        |

Critical Gap Module:

|              | North Bound       | South Bound   | East Bound      | West Bound        |
|--------------|-------------------|---------------|-----------------|-------------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 6.4 xxxxx 6.2 | 4.1 xxxxx xxxxx | xxxxx xxxxx xxxxx |
| FollowUpTim: | xxxxx xxxxx xxxxx | 3.5 xxxxx 3.3 | 2.2 xxxxx xxxxx | xxxxx xxxxx xxxxx |

Capacity Module:

|              | North Bound      | South Bound   | East Bound       | West Bound       |
|--------------|------------------|---------------|------------------|------------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 230 xxxxx 90  | 120 xxxxx xxxxx  | xxxx xxxxx xxxxx |
| Potent Cap.: | xxxx xxxxx xxxxx | 758 xxxxx 968 | 1480 xxxxx xxxxx | xxxx xxxxx xxxxx |
| Move Cap.:   | xxxx xxxxx xxxxx | 748 xxxxx 968 | 1480 xxxxx xxxxx | xxxx xxxxx xxxxx |

Level Of Service Module:

|              | North Bound       | South Bound       | East Bound       | West Bound        |
|--------------|-------------------|-------------------|------------------|-------------------|
| Stopped Del: | xxxxx xxxxx xxxxx | xxxxx xxxxx xxxxx | 7.5 xxxxx xxxxx  | xxxxx xxxxx xxxxx |
| LOS by Move: | * * *             | * * *             | A * *            | * * *             |
| Movement:    | LT - LTR - RT     | LT - LTR - RT     | LT - LTR - RT    | LT - LTR - RT     |
| Shared Cap.: | xxxx xxxxx xxxxx  | xxxx 814 xxxxx    | xxxx xxxxx xxxxx | xxxx xxxxx xxxxx  |
| Shrd StpDel: | xxxxx xxxxx xxxxx | 9.8 xxxxx         | 7.5 xxxxx xxxxx  | xxxxx xxxxx xxxxx |
| Shared LOS:  | * * *             | A *               | A *              | * * *             |
| ApproachDel: | xxxxxx            | 9.8               | xxxxxx           | xxxxxx            |
| ApproachLOS: | *                 | A                 | *                | *                 |

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

Intersection #66 Hwy 101 at E Bay Dr.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.624  
 Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.1  
 Optimal Cycle: 40 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Permitted Permitted Split Phase Split Phase  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 0 0 1 0 1 0 1 0 0 0 0 0

Volume Module:  
 Base Vol: 0 995 210 15 660 0 0 0 0 30 0 10  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 995 210 15 660 0 0 0 0 30 0 10  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 995 210 15 660 0 0 0 0 30 0 10  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 995 210 15 660 0 0 0 0 30 0 10  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Vol.: 0 995 210 15 660 0 0 0 0 30 0 10

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 1.00 0.95 0.81 0.91 0.91 1.00 1.00 1.00 1.00 0.89 1.00 0.89  
 Lanes: 0.00 1.00 1.00 0.02 0.98 0.00 0.00 0.00 0.00 0.75 0.00 0.25  
 Final Sat.: 0 1809 1537 38 1682 0 0 0 0 1263 0 421

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.55 0.14 0.39 0.39 0.00 0.00 0.00 0.00 0.02 0.00 0.02  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.88 0.88 0.88 0.88 0.00 0.00 0.00 0.00 0.04 0.00 0.04  
 Volume/Cap: 0.00 0.62 0.15 0.44 0.44 0.00 0.00 0.00 0.00 0.62 0.00 0.62  
 Uniform Del: 0.0 1.5 0.8 1.1 1.1 0.0 0.0 0.0 0.0 47.4 0.0 47.4  
 IncremntDel: 0.0 0.8 0.1 0.2 0.2 0.0 0.0 0.0 0.0 17.6 0.0 17.6  
 Delay Adj: 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 1.00 0.00 1.00  
 Delay/Veh: 0.0 2.3 0.9 1.4 1.4 0.0 0.0 0.0 0.0 65.0 0.0 65.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 2.3 0.9 1.4 1.4 0.0 0.0 0.0 0.0 65.0 0.0 65.0  
 DesignQueue: 0 8 1 0 5 0 0 0 0 2 0 1

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #67 Hwy 101 at North Bay

Average Delay (sec/veh): 2.8 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 0 0 1 0 0 1 0 0 0 0 1 0 0 0 0

Volume Module:  
 Base Vol: 0 700 130 5 710 0 0 0 0 35 0 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 700 130 5 710 0 0 0 0 35 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 700 130 5 710 0 0 0 0 35 0 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Vol.: 0 700 130 5 710 0 0 0 0 35 0 0

Critical Gap Module:  
 Critical Gap: 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2  
 FollowUpTim: 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3

Capacity Module:  
 Cnflct Vol: 830 830 830 830 830 830 830 830 830 830 830 830  
 Potent Cap.: 785 785 785 785 785 785 785 785 785 785 785 785  
 Move Cap.: 785 785 785 785 785 785 785 785 785 785 785 785

Level Of Service Module:  
 Stopped Del: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 LOS by Move: A A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 Shrd StpDel: 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6  
 Shared LOS: A A A A A A A A A A A A  
 ApproachDel: 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7 39.7  
 ApproachLOS: E E E E E E E E E E E E

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #68 Hwy 101 at Trans Pacific

Average Delay (sec/veh): 1.4 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 1 0 0    | 0 0 1 0 1    | 0 0 1 0 0  | 0 0 0 0 0  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 640  | 0    | 0    | 575  | 0    | 10   | 0    | 90   | 0    | 0    | 0    |

## Critical Gap Module:

|               |     |      |      |      |      |      |     |      |     |      |      |      |
|---------------|-----|------|------|------|------|------|-----|------|-----|------|------|------|
| Critical Gap: | 4.1 | xxxx | xxxx | xxxx | xxxx | xxxx | 6.5 | xxxx | 6.3 | xxxx | xxxx | xxxx |
| FollowUpTim:  | 2.2 | xxxx | xxxx | xxxx | xxxx | xxxx | 3.6 | xxxx | 3.4 | xxxx | xxxx | xxxx |

## Capacity Module:

|               |     |      |      |      |      |      |      |      |     |      |      |      |
|---------------|-----|------|------|------|------|------|------|------|-----|------|------|------|
| Conflict Vol: | 575 | xxxx | xxxx | xxxx | xxxx | xxxx | 1275 | xxxx | 575 | xxxx | xxxx | xxxx |
| Potent Cap.:  | 988 | xxxx | xxxx | xxxx | xxxx | xxxx | 176  | xxxx | 501 | xxxx | xxxx | xxxx |
| Move Cap.:    | 988 | xxxx | xxxx | xxxx | xxxx | xxxx | 172  | xxxx | 501 | xxxx | xxxx | xxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 8.8           | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 421           | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shrd StpDel: | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          | 16.2          | xxxx          | xxxx          | xxxx          | xxxx          | xxxx          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | C             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | 16.2          | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        |
| ApproachLOS: | *             | *             | *             | *             | *             | *             | C             | *             | *             | *             | *             | *             |

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

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Intersection #70 1st at Hall NB

Cycle (sec): 100 Critical Vol./Cap. (X): 0.356

Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.7

Optimal Cycle: 26 Level Of Service: A

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 0 1 1 1 0   | 0 0 0 0 0   | 0 1 0 0 0  | 0 0 0 0 1  |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 70   | 1390 | 5    | 0    | 0    | 0    | 40   | 5    | 0    | 0    | 0    | 10   |

## Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.69 | 0.69 | 1.00 | 1.00 | 1.00 | 0.81 |
| Lanes:      | 0.14 | 2.85 | 0.01 | 0.00 | 0.00 | 0.00 | 0.89 | 0.11 | 0.00 | 0.00 | 0.00 | 1.00 |
| Final Sat.: | 238  | 4734 | 17   | 0    | 0    | 0    | 1165 | 146  | 0    | 0    | 0    | 1537 |

## Capacity Analysis Module:

|               |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:      | 0.29 | 0.29 | 0.29 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | 0.01 |
| Crit Moves:   | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle:  | 0.82 | 0.82 | 0.82 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.10 |
| Volume/Cap:   | 0.36 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.36 | 0.36 | 0.00 | 0.00 | 0.00 | 0.07 |
| Uniform Del:  | 2.2  | 2.2  | 2.2  | 0.0  | 0.0  | 0.0  | 42.3 | 42.3 | 0.0  | 0.0  | 0.0  | 41.1 |
| IncrementDel: | 0.1  | 0.1  | 0.1  | 0.0  | 0.0  | 0.0  | 1.7  | 1.7  | 0.0  | 0.0  | 0.0  | 0.2  |
| Delay Adj:    | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Delay/Veh:    | 2.3  | 2.3  | 2.3  | 0.0  | 0.0  | 0.0  | 44.0 | 44.0 | 0.0  | 0.0  | 0.0  | 41.3 |
| User DelAdj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:   | 2.3  | 2.3  | 2.3  | 0.0  | 0.0  | 0.0  | 44.0 | 44.0 | 0.0  | 0.0  | 0.0  | 41.3 |
| DesignQueue:  | 1    | 15   | 0    | 0    | 0    | 0    | 2    | 0    | 0    | 0    | 0    | 1    |

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## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #71 Broadway at 17th

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 1 1 0    | 1 0 1 1 0    | 0 0 1! 0 0 | 0 0 1! 0 0 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 805  | 10   | 10   | 770  | 30   | 10   | 0    | 25   | 10   | 5    | 5    |

## Critical Gap Module:

|              |     |      |       |     |      |       |     |      |     |     |     |     |
|--------------|-----|------|-------|-----|------|-------|-----|------|-----|-----|-----|-----|
| Critical Gp: | 4.1 | xxxx | xxxxx | 4.1 | xxxx | xxxxx | 7.5 | xxxx | 6.9 | 7.5 | 6.5 | 6.9 |
| FollowUpTim: | 2.2 | xxxx | xxxxx | 2.2 | xxxx | xxxxx | 3.5 | xxxx | 3.3 | 3.5 | 4.0 | 3.3 |

## Capacity Module:

|              |     |      |       |     |      |       |      |      |     |      |      |     |
|--------------|-----|------|-------|-----|------|-------|------|------|-----|------|------|-----|
| Cnflct Vol:  | 800 | xxxx | xxxxx | 815 | xxxx | xxxxx | 1270 | xxxx | 400 | 1275 | 1690 | 408 |
| Potent Cap.: | 819 | xxxx | xxxxx | 808 | xxxx | xxxxx | 127  | xxxx | 605 | 126  | 94   | 599 |
| Move Cap.:   | 819 | xxxx | xxxxx | 808 | xxxx | xxxxx | 116  | xxxx | 605 | 116  | 90   | 599 |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 9.6           | xxxx          | xxxxx         | 9.5           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | A             | *             | *             | A             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | 275           | xxxxx         | xxxx          | 133           | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxxx         | 20.0          | xxxxx         | xxxxx         | 36.7          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | *             | C             | *             | *             | E             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               | 20.0          |               |               | 36.7          |               |               |
| ApproachLOS: | *             |               |               | *             |               |               | C             |               |               | E             |               |               |

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #72 Virginia at Pony Villiage entance B

Average Delay (sec/veh): 1.7 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1! 0 0  | 0 0 0 0 0   | 0 0 1 1 0    | 1 0 2 0 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 725  | 70   | 95   | 850  | 0    |

## Critical Gap Module:

|              |     |      |     |       |       |       |       |       |       |     |      |       |
|--------------|-----|------|-----|-------|-------|-------|-------|-------|-------|-----|------|-------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 4.1 | xxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 2.2 | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |       |       |       |       |       |       |     |      |       |
|--------------|------|------|-----|-------|-------|-------|-------|-------|-------|-----|------|-------|
| Cnflct Vol:  | 1375 | xxxx | 398 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 795 | xxxx | xxxxx |
| Potent Cap.: | 136  | xxxx | 602 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 822 | xxxx | xxxxx |
| Move Cap.:   | 124  | xxxx | 602 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 822 | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | 9.9           | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | A             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | 302           | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | xxxxx         | 26.3          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | *             | D             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 26.3          |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | D             |               |               | *             |               |               | *             |               |               | *             |               |               |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

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Intersection #73 Coos River Hwy at Olive Barber Rd

Average Delay (sec/veh): 2.5 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 0 1 0    | 0 1 0 0 0    | 0 0 0 0 0  | 1 0 0 0 1  |

## Volume Module:

|              |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0          |
| Final Vol.:  | 0 590 145      | 10 290 0       | 0 0 0          | 90 0 10        |

## Critical Gap Module:

|              |                   |                                   |               |
|--------------|-------------------|-----------------------------------|---------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx | 6.5 xxxxx 6.3 |
| FollowUpTim: | xxxxx xxxxx xxxxx | 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx | 3.6 xxxxx 3.4 |

## Capacity Module:

|              |                  |                                   |               |
|--------------|------------------|-----------------------------------|---------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 735 xxxxx xxxxx xxxxx xxxxx xxxxx | 973 xxxxx 663 |
| Potent Cap.: | xxxx xxxxx xxxxx | 866 xxxxx xxxxx xxxxx xxxxx xxxxx | 275 xxxxx 455 |
| Move Cap.:   | xxxx xxxxx xxxxx | 866 xxxxx xxxxx xxxxx xxxxx xxxxx | 273 xxxxx 455 |

## Level Of Service Module:

|              |                   |                                           |                   |
|--------------|-------------------|-------------------------------------------|-------------------|
| Stopped Del: | xxxxx xxxxx xxxxx | 9.2 xxxxx xxxxx xxxxx xxxxx xxxxx         | 24.6 xxxxx 13.1   |
| LOS by Move: | * * *             | A * * * * C * B                           |                   |
| Movement:    | LT - LTR - RT     | LT - LTR - RT LT - LTR - RT LT - LTR - RT |                   |
| Shared Cap.: | xxxx xxxxx xxxxx  | xxxx xxxxx xxxxx xxxxx xxxxx xxxxx        | xxxx xxxxx xxxxx  |
| Shrd StpDel: | xxxxx xxxxx xxxxx | 9.2 xxxxx xxxxx xxxxx xxxxx xxxxx         | xxxxx xxxxx xxxxx |
| Shared LOS:  | * * *             | A * * * * * * * *                         |                   |
| ApproachDel: | xxxxxx            | xxxxxx xxxxxx                             | 23.4 C            |
| ApproachLOS: | *                 | * * * *                                   |                   |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #74 Ocean Blve at Laclair

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 1 0 0    | 0 0 1 1 0    |

## Volume Module:

|              |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|
| Base Vol:    | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| Growth Adj:  | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| Initial Bse: | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| User Adj:    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Adj:     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 1.00 1.00 1.00 |
| PHF Volume:  | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |
| Reduct Vol:  | 0 0 0          | 0 0 0          | 0 0 0          | 0 0 0 0        |
| Final Vol.:  | 0 0 0          | 25 0 50        | 30 420 0       | 0 0 555 75     |

## Critical Gap Module:

|              |                   |               |                                   |
|--------------|-------------------|---------------|-----------------------------------|
| Critical Gp: | xxxxx xxxxx xxxxx | 6.8 xxxxx 6.9 | 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx |
| FollowUpTim: | xxxxx xxxxx xxxxx | 3.5 xxxxx 3.3 | 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx |

## Capacity Module:

|              |                  |               |                                   |
|--------------|------------------|---------------|-----------------------------------|
| Cnflct Vol:  | xxxx xxxxx xxxxx | 863 xxxxx 315 | 630 xxxxx xxxxx xxxxx xxxxx xxxxx |
| Potent Cap.: | xxxx xxxxx xxxxx | 294 xxxxx 681 | 942 xxxxx xxxxx xxxxx xxxxx xxxxx |
| Move Cap.:   | xxxx xxxxx xxxxx | 287 xxxxx 681 | 942 xxxxx xxxxx xxxxx xxxxx xxxxx |

## Level Of Service Module:

|              |                                           |                                    |
|--------------|-------------------------------------------|------------------------------------|
| Stopped Del: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx       | 8.9 xxxxx xxxxx xxxxx xxxxx xxxxx  |
| LOS by Move: | * * * * * A * * * * *                     |                                    |
| Movement:    | LT - LTR - RT LT - LTR - RT LT - LTR - RT | LT - LTR - RT LT - LTR - RT        |
| Shared Cap.: | xxxx xxxxx xxxxx xxxxx 467 xxxxx          | xxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| Shrd StpDel: | xxxxx xxxxx xxxxx xxxxx 14.2 xxxxx        | 8.9 xxxxx xxxxx xxxxx xxxxx xxxxx  |
| Shared LOS:  | * * * * * B * * * * *                     | A * * * * * * * *                  |
| ApproachDel: | xxxxxx                                    | 14.2 B xxxxxx xxxxxx               |
| ApproachLOS: | *                                         | * * * *                            |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #75 Central at 7th
*****
Cycle (sec):      1      Critical Vol./Cap. (X):      0.602
Loss Time (sec):  0 (Y+R = 4 sec) Average Delay (sec/veh):  7.3
Optimal Cycle:    0      Level Of Service:      B
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
Control:      Yield Sign      Yield Sign      Stop Sign      Stop Sign
Rights:      Include      Channel      Channel      Include
Lanes:      0 0 0 0 0      0 1 0 0 2      0 0 0 0 2      0 1 0 0 0
*****
Volume Module:
Base Vol:      0 0 0 0      5 95 480      0 0 620      10 60 0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  0 0 0 0      5 95 480      0 0 620      10 60 0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:  0 0 0 0      5 95 480      0 0 620      10 60 0
Reduct Vol:  0 0 0 0      0 0 0 0      0 0 0 0      0 0 0 0
Final Vol.:  0 0 0 0      5 95 480      0 0 620      10 60 0
*****
Saturation Flow Module:
Sat/Lane:      0 0 0      0 0 0      0 0 0      0 0 0
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:      0.00 0.00 0.00 0.05 0.95 2.00 0.00 0.00 2.00 0.14 0.86 0.00
Final Sat.:  0 0 0      22 419 882      0 0 1030      120 723 0
*****
Capacity Analysis Module:
Vol/Sat:      0.00 0.00 0.00 0.23 0.23 0.54 0.00 0.00 0.60 0.08 0.08 0.00
Crit Moves:      ****      ****      ****      ****
Green/Cycle:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Volume/Cap:  0.00 0.00 0.00 0.23 0.23 0.54 0.00 0.00 0.60 0.08 0.08 0.00
Delay/Veh:    0.0 0.0 0.0 2.4 2.4 7.9 0.0 0.0 9.8 1.4 1.4 0.0
Delay Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0 0.0 0.0 2.4 2.4 7.9 0.0 0.0 9.8 1.4 1.4 0.0
DesignQueue:  0 0 0      0 0 0      0 0 0      0 0 0
*****

```

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

```

*****
Intersection #76 Coos River Hwy at Edwards
*****
Average Delay (sec/veh):  2.6      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 0 0 1      0 0 0 0 0      0 0 1 0 1      0 1 0 0 0
*****
Volume Module:
Base Vol:      0 0 5      0 0 0      0 755 25      45 365 0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  0 0 5      0 0 0      0 755 25      45 365 0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:  0 0 5      0 0 0      0 755 25      45 365 0
Reduct Vol:  0 0 0      0 0 0      0 0 0      0 0 0
Final Vol.:  0 0 5      0 0 0      0 755 25      45 365 0
*****
Critical Gap Module:
Critical Gap:xxxxx xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim:xxxxx xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx
*****
Capacity Module:
Conflict Vol: xxxxx xxxxx 755 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 780 xxxxx xxxxx
Potent Cap.: xxxxx xxxxx 412 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 824 xxxxx xxxxx
Move Cap.:   xxxxx xxxxx 412 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 824 xxxxx xxxxx
*****
Level Of Service Module:
Stopped Del:xxxxx xxxxx 13.8 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.6 xxxxx xxxxx
LOS by Move:  * * * B * * * * * * * * * * A * * *
Movement:      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT      LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.6 xxxxx xxxxx
Shared LOS:   * * * * * * * * * * * * * * A * * *
ApproachDel:  13.8      xxxxxx      xxxxxx      xxxxxx
ApproachLOS:  B      *      *      *

```

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #77 Coos River Hwy at Mullen  
\*\*\*\*\*

Average Delay (sec/veh): 1.0 Worst Case Level Of Service:

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 0 | 1            | 0 | 1 | 0            | 0 | 1 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 5    | 45   | 10   | 0    | 0    | 5    | 715  | 0    | 0    | 370  | 0    |

## Critical Gap Module:

|              |       |     |     |     |      |       |     |      |       |       |      |       |
|--------------|-------|-----|-----|-----|------|-------|-----|------|-------|-------|------|-------|
| Critical Gp: | xxxxx | 6.6 | 6.3 | 7.3 | xxxx | xxxxx | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | xxxxx | 4.1 | 3.4 | 3.7 | xxxx | xxxxx | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |       |      |      |       |      |      |       |
|--------------|------|------|-----|------|------|-------|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxx | 1095 | 715 | 1120 | xxxx | xxxxx | 370  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx | 209  | 422 | 167  | xxxx | xxxxx | 1189 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx | 208  | 422 | 146  | xxxx | xxxxx | 1189 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |       |      |       |       |      |       |        |      |       |        |      |       |
|--------------|-------|------|-------|-------|------|-------|--------|------|-------|--------|------|-------|
| Stopped Del: | xxxxx | xxxx | xxxxx | 31.4  | xxxx | xxxxx | 8.0    | xxxx | xxxxx | xxxxx  | xxxx | xxxxx |
| LOS by Move: | *     | *    | *     | D     | *    | *     | A      | *    | *     | *      | *    | *     |
| Movement:    | LT    | LTR  | RT    | LT    | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    |
| Shared Cap.: | xxxx  | xxxx | 383   | xxxx  | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx |
| Shrd StpDel: | xxxxx | xxxx | 15.8  | xxxxx | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx |
| Shared LOS:  | *     | *    | C     | *     | *    | *     | *      | *    | *     | *      | *    | *     |
| ApproachDel: | 15.8  |      |       | 31.4  |      |       | xxxxxx |      |       | xxxxxx |      |       |
| ApproachLOS: | C     |      |       | D     |      |       | *      |      |       | *      |      |       |

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #78 Hwy 101 at Edwards  
\*\*\*\*\*

Average Delay (sec/veh): 0.5 Worst Case Level Of Service:

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 1 | 0            | 0 | 1 | 0            | 1 | 1 |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 10   | 0    | 10   | 20   | 0    | 5    | 0    | 1090 | 10   | 0    | 785  | 0    |

## Critical Gap Module:

|              |     |      |     |     |      |     |       |      |       |       |      |       |
|--------------|-----|------|-----|-----|------|-----|-------|------|-------|-------|------|-------|
| Critical Gp: | 7.5 | xxxx | 6.9 | 7.7 | xxxx | 7.1 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | 3.6 | xxxx | 3.4 | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |      |      |     |      |      |     |      |      |       |      |      |       |
|--------------|------|------|-----|------|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | 1488 | xxxx | 550 | 1330 | xxxx | 393 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | 88   | xxxx | 484 | 103  | xxxx | 579 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | 87   | xxxx | 484 | 101  | xxxx | 579 | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |       |      |       |       |      |       |        |      |       |        |      |       |
|--------------|-------|------|-------|-------|------|-------|--------|------|-------|--------|------|-------|
| Stopped Del: | xxxxx | xxxx | xxxxx | xxxxx | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx |
| LOS by Move: | *     | *    | *     | *     | *    | *     | *      | *    | *     | *      | *    | *     |
| Movement:    | LT    | LTR  | RT    | LT    | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    |
| Shared Cap.: | xxxx  | 147  | xxxxx | xxxx  | 121  | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx |
| Shrd StpDel: | xxxxx | 33.2 | xxxxx | xxxxx | 42.3 | xxxxx | xxxxx  | xxxx | xxxxx | 0.0    | xxxx | xxxxx |
| Shared LOS:  | *     | D    | *     | *     | E    | *     | *      | *    | *     | A      | *    | *     |
| ApproachDel: | 33.2  |      |       | 42.3  |      |       | xxxxxx |      |       | xxxxxx |      |       |
| ApproachLOS: | D     |      |       | E     |      |       | *      |      |       | *      |      |       |



## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #79 11th at Elrod

```

*****
Average Delay (sec/veh):      6.7      Worst Case Level Of Service:
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 0 0 1      0 0 0 0 0      0 0 1 0 0      0 1 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      0 0 100      0 0 0      0 10 0      90 30 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 100      0 0 0      0 10 0      90 30 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 100      0 0 0      0 10 0      90 30 0
Reduct Vol: 0 0 0      0 0 0      0 0 0      0 0 0
Final Vol.: 0 0 100      0 0 0      0 10 0      90 30 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gap:xxxxx xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim:xxxxx xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Conflict Vol: xxxxx xxxxx 10 xxxxx xxxxx xxxxx xxxxx xxxxx 10 xxxxx xxxxx
Potent Cap.: xxxxx xxxxx 1071 xxxxx xxxxx xxxxx xxxxx xxxxx 1616 xxxxx xxxxx
Move Cap.: xxxxx xxxxx 1071 xxxxx xxxxx xxxxx xxxxx xxxxx 1616 xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
Stopped Del:xxxxx xxxxx 8.7 xxxxx xxxxx xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx
LOS by Move: * * A * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx
Shared LOS: * * * * * * * A * *
ApproachDel: 8.7 xxxxxxx xxxxxxx xxxxxxx
ApproachLOS: A * * *

```

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 US 101/Coos River Hwy (Bunker Hill)

```

*****
Cycle (sec):      100      Critical Vol./Cap. (X):      0.616
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 30.7
Optimal Cycle: 50      Level Of Service: C
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Protected      Protected      Protected      Protected
Rights:      Include      Include      Include      Include
Min. Green: 0 0 0      0 0 0 2      0 0 0 0      0 0 0 0
Lanes: 1 0 0 0 0      0 0 0 0 2      2 0 0 0 0      0 0 2 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol: 0 0 0      0 0 370 715 0 0 0 750 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0      0 0 370 715 0 0 0 750 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 0 0      0 0 370 715 0 0 0 750 0
Reduct Vol: 0 0 0      0 0 0 0 0 0 0 0 0
Reduced Vol: 0 0 0      0 0 370 715 0 0 0 750 0
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 0 0 0      0 0 370 715 0 0 0 750 0
-----|-----|-----|-----|
Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 1.00 1.00 1.00 1.00 1.00 0.75 0.92 1.00 1.00 1.00 0.95 1.00
Lanes: 1.00 0.00 0.00 0.00 0.00 0.00 2.00 0.00 0.00 0.00 2.00 0.00
Final Sat.: 1900 0 0 0 0 2842 3502 0 0 0 3610 0
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.13 0.20 0.00 0.00 0.00 0.21 0.00
Crit Moves: ****
Green/Cycle: 0.00 0.00 0.00 0.00 0.00 0.21 0.33 0.00 0.00 0.00 0.34 0.00
Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.62 0.62 0.00 0.00 0.00 0.62 0.00
Uniform Del: 0.0 0.0 0.0 0.0 0.0 35.8 28.1 0.0 0.0 0.0 27.7 0.0
IncrementDel: 0.0 0.0 0.0 0.0 0.0 1.9 1.0 0.0 0.0 0.0 1.0 0.0
Delay Adj: 0.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 1.00 0.00
Delay/Veh: 0.0 0.0 0.0 0.0 0.0 37.7 29.1 0.0 0.0 0.0 28.7 0.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 0.0 0.0 0.0 0.0 0.0 37.7 29.1 0.0 0.0 0.0 28.7 0.0
DesignQueue: 0 0 0 0 0 17 28 0 0 0 29 0
*****

```

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Scenario Report  
Scenario: AM existing

Command: AM existing  
Volume: AM existing  
Geometry: Default Geometry  
Impact Fee: Default Impact Fee  
Trip Generation: Default Trip Generation  
Trip Distribution: Default Trip Distribution  
Paths: Default Paths  
Routes: Default Routes  
Configuration: Default Configuration

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Impact Analysis Report  
Level Of Service

| Intersection                   | Base |               | Future |               | Change<br>in |
|--------------------------------|------|---------------|--------|---------------|--------------|
|                                | LOS  | Del/<br>Veh C | LOS    | Del/<br>Veh C |              |
| # 1 6th at D St.               | F    | 76.3 0.000    | F      | 76.3 0.000    | + 0.000 V/C  |
| # 8 Hwy 101 at 1st             | B    | 0.8 0.000     | B      | 0.8 0.000     | + 0.000 V/C  |
| # 13 10th at Central           | C    | 21.4 0.457    | C      | 21.4 0.457    | + 0.000 D/V  |
| # 16 Commercial at Broadway    | B    | 14.4 0.337    | B      | 14.4 0.337    | + 0.000 D/V  |
| # 25 Bayshore at Commercial    | A    | 0.0 0.000     | A      | 0.0 0.000     | + 0.000 V/C  |
| # 28 Bayshore at Fir           | A    | 0.0 0.000     | A      | 0.0 0.000     | + 0.000 V/C  |
| # 29 Broadway at Fir           | B    | 0.1 0.000     | B      | 0.1 0.000     | + 0.000 V/C  |
| # 36 Virginia at Harrison      | A    | 9.9 0.277     | A      | 9.9 0.277     | + 0.000 D/V  |
| # 40 Virginia at Meade         | C    | 3.5 0.000     | C      | 3.5 0.000     | + 0.000 V/C  |
| # 43 Maple at East Airport Way | B    | 0.1 0.000     | B      | 0.1 0.000     | + 0.000 V/C  |
| # 51 Virginia at Hwy 101 North | B    | 10.9 0.235    | B      | 10.9 0.235    | + 0.000 D/V  |
| # 52 Virginia at Hwy 101 South | B    | 16.9 0.364    | B      | 16.9 0.364    | + 0.000 D/V  |
| # 56 Broadway at Newmark       | C    | 34.3 0.644    | C      | 34.3 0.644    | + 0.000 D/V  |
| # 58 Newmark at Ocean Blvd.    | B    | 13.1 0.220    | B      | 13.1 0.220    | + 0.000 D/V  |
| # 61 Ocean Blvd. at Woodland   | B    | 18.3 0.382    | B      | 18.3 0.382    | + 0.000 D/V  |
| # 66 Hwy 101 at E Bay Dr.      | B    | 13.2 0.562    | B      | 13.2 0.562    | + 0.000 D/V  |

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #1 6th at D St.  
\*\*\*\*\*

Average Delay (sec/veh): 76.3 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Yield Sign |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 0 1    | 0 0 1 0 0    | 0 0 0 1 0  | 0 1 0 0 0  |

Volume Module:  
Base Vol: 215 0 90 0 10 0 0 10 220 350 40 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 215 0 90 0 10 0 0 10 220 350 40 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 215 0 90 0 10 0 0 10 220 350 40 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 215 0 90 0 10 0 0 10 220 350 40 0

Critical Gap Module:  
Critical Gp: 4.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.6 6.3 7.2 6.6 xxxxx  
FollowUpTim: 2.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 3.4 3.6 4.1 xxxxx

Capacity Module:  
Cnflct Vol: 10 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 530 10 555 440 xxxxx  
Potent Cap.: 1529 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 439 1040 436 505 xxxxx  
Move Cap.: 1529 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 369 1040 296 424 xxxxx

Level Of Service Module:  
Stopped Del: 7.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 964 305 xxxxx xxxxx  
Shrd StpDel: 7.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.9 182.7 xxxxx xxxxx  
Shared LOS: A \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 9.9 182.7  
ApproachLOS: \* \* A F

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #8 Hwy 101 at 1st  
\*\*\*\*\*

Average Delay (sec/veh): 0.8 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 2 0 0    | 0 0 1 1 0    | 0 0 0 0 1  | 0 0 0 0 0  |

Volume Module:  
Base Vol: 170 1540 0 0 670 5 0 0 75 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 170 1540 0 0 670 5 0 0 75 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 170 1540 0 0 670 5 0 0 75 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 170 1540 0 0 670 5 0 0 75 0 0 0

Critical Gap Module:  
Critical Gp: 4.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.3 xxxxx xxxxx xxxxx  
FollowUpTim: 2.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: 675 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 338 xxxxx xxxxx xxxxx  
Potent Cap.: 873 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 614 xxxxx xxxxx xxxxx  
Move Cap.: 873 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 614 xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 10.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 11.7 xxxxx xxxxx xxxxx  
LOS by Move: B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 11.7 xxxxxx  
ApproachLOS: \* \* B \*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #13 10th at Central  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.457  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.4  
Optimal Cycle: 38 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 0 1 0 1 0 0 1 0 0 1

## Volume Module:

Base Vol: 225 90 10 100 35 20 5 425 80 5 305 10  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 225 90 10 100 35 20 5 425 80 5 305 10  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 225 90 10 100 35 20 5 425 80 5 305 10  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 225 90 10 100 35 20 5 425 80 5 305 10  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 225 90 10 100 35 20 5 425 80 5 305 10

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.92 0.96 0.96 0.92 0.92 0.92 0.93 0.93 0.79 0.82 0.82 0.82  
Lanes: 1.00 0.90 0.10 1.00 0.64 0.36 0.01 0.99 1.00 0.03 1.91 0.06  
Final Sat.: 1753 1636 182 1753 1109 634 21 1752 1510 49 2982 98

## Capacity Analysis Module:

Vol/Sat: 0.13 0.06 0.06 0.06 0.03 0.03 0.24 0.24 0.05 0.10 0.10 0.10  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.28 0.17 0.17 0.18 0.07 0.07 0.53 0.53 0.53 0.53 0.53 0.53  
Volume/Cap: 0.46 0.32 0.32 0.32 0.46 0.46 0.46 0.46 0.10 0.19 0.19 0.19  
Delay/Veh: 30.4 36.9 36.9 36.4 47.5 47.5 14.9 14.9 11.7 12.3 12.3 12.3  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 30.4 36.9 36.9 36.4 47.5 47.5 14.9 14.9 11.7 12.3 12.3 12.3  
DesignQueue: 9 4 0 5 2 1 0 12 2 0 8 0

\*\*\*\*\*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #16 Commercial at Broadway  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.337  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.4  
Optimal Cycle: 25 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Split Phase Split Phase Split Phase Split Phase  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 0 0 0 0 0 0 2 0 1 0 0 0

## Volume Module:

Base Vol: 0 0 0 0 685 120 0 0 0 10 325 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 0 685 120 0 0 0 10 325 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 0 685 120 0 0 0 10 325 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 0 685 120 0 0 0 10 325 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 0 685 120 0 0 0 10 325 0

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 1.00 0.86 0.77 1.00 1.00 1.00 0.89 0.89 1.00  
Lanes: 0.00 0.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 0.06 1.94 0.00  
Final Sat.: 0 0 0 0 3253 1455 0 0 0 101 3275 0

## Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.00 0.21 0.08 0.00 0.00 0.00 0.10 0.10 0.00  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.00 0.63 0.63 0.00 0.00 0.00 0.29 0.29 0.00  
Volume/Cap: 0.00 0.00 0.00 0.00 0.34 0.13 0.00 0.00 0.00 0.34 0.34 0.00  
Delay/Veh: 0.0 0.0 0.0 0.0 9.0 7.7 0.0 0.0 0.0 27.8 27.8 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 0.0 9.0 7.7 0.0 0.0 0.0 27.8 27.8 0.0  
DesignQueue: 0 0 0 0 15 3 0 0 0 0 13 0

\*\*\*\*\*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #25 Bayshore at Commercial  
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

| Approach: | North Bound  |   |   |   | South Bound  |   |   |   | East Bound |   |   |   | West Bound |   |   |   |
|-----------|--------------|---|---|---|--------------|---|---|---|------------|---|---|---|------------|---|---|---|
| Movement: | L            | T | R |   | L            | T | R |   | L          | T | R |   | L          | T | R |   |
| Control:  | Uncontrolled |   |   |   | Uncontrolled |   |   |   | Stop Sign  |   |   |   | Stop Sign  |   |   |   |
| Rights:   | Include      |   |   |   | Include      |   |   |   | Include    |   |   |   | Include    |   |   |   |
| Lanes:    | 0            | 1 | 1 | 0 | 0            | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0          | 0 | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 305  | 1035 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 305  | 1035 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 305  | 1035 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 305  | 1035 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

Critical Gap Module:

|              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Critical Gp: | 4.2 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| FollowUpTim: | 2.3 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Capacity Module:

|              |   |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cnflct Vol:  | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Potent Cap.: | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Move Cap.:   | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | *             |               |               | *             |               |               | *             |               |               | *             |               |               | *             |               |               |

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #28 Bayshore at Fir  
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

| Approach: | North Bound  |   |   |   | South Bound  |   |   |   | East Bound |   |   |   | West Bound |   |   |   |
|-----------|--------------|---|---|---|--------------|---|---|---|------------|---|---|---|------------|---|---|---|
| Movement: | L            | T | R |   | L            | T | R |   | L          | T | R |   | L          | T | R |   |
| Control:  | Uncontrolled |   |   |   | Uncontrolled |   |   |   | Stop Sign  |   |   |   | Stop Sign  |   |   |   |
| Rights:   | Include      |   |   |   | Include      |   |   |   | Include    |   |   |   | Include    |   |   |   |
| Lanes:    | 0            | 1 | 0 | 1 | 0            | 0 | 0 | 0 | 0          | 0 | 0 | 0 | 0          | 0 | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 1030 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 1030 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 1030 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 10   | 1030 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

Critical Gap Module:

|              |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Critical Gp: | 4.2 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| FollowUpTim: | 2.3 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Capacity Module:

|              |   |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cnflct Vol:  | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Potent Cap.: | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Move Cap.:   | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | 0             |
| Shrd StpDel: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |               |               | xxxxxx        |
| ApproachLOS: | *             |               |               | *             |               |               | *             |               |               | *             |               |               | *             |               |               | *             |

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #29 Broadway at Fir  
\*\*\*\*\*  
Average Delay (sec/veh): 0.1 Worst Case Level Of Service:  
\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 0 1 1 0 0 0 0 0 1 1 0 0 0 0  
Volume Module:  
Base Vol: 0 0 0 0 835 0 0 0 0 10 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 0 835 0 0 0 0 10 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 0 835 0 0 0 0 10 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 0 835 0 0 0 0 10 0 0  
Critical Gap Module:  
Critical Gap:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.5 xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.6 xxxxx xxxxx  
Capacity Module:  
Cnflct Vol: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 418 xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 579 xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 579 xxxxx xxxxx  
Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 11.3 xxxxx xxxxx  
LOS by Move: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 11.3  
ApproachLOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #36 Virginia at Harrison  
\*\*\*\*\*  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.277  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 9.9  
Optimal Cycle: 30 Level Of Service: A  
\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Permitted Permitted Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 0 1 0 0 1 0 1 0 0 0 1 0 1 1 0 1 0 1 1 0  
Volume Module:  
Base Vol: 30 0 65 5 5 0 5 570 25 40 640 5  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 0 65 5 5 0 5 570 25 40 640 5  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 0 65 5 5 0 5 570 25 40 640 5  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 30 0 65 5 5 0 5 570 25 40 640 5  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 30 0 65 5 5 0 5 570 25 40 640 5  
Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.74 1.00 0.83 0.91 0.91 1.00 0.88 0.87 0.87 0.90 0.90 0.90  
Lanes: 1.00 0.00 1.00 0.50 0.50 0.00 1.00 1.92 0.08 1.00 1.98 0.02  
Final Sat.: 1410 0 1568 865 865 0 1671 3183 140 1718 3407 27  
Capacity Analysis Module:  
Vol/Sat: 0.02 0.00 0.04 0.01 0.01 0.00 0.00 0.18 0.18 0.02 0.19 0.19  
Crit Moves: \*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
Green/Cycle: 0.15 0.00 0.15 0.15 0.15 0.00 0.01 0.65 0.65 0.08 0.72 0.72  
Volume/Cap: 0.14 0.00 0.28 0.04 0.04 0.00 0.26 0.28 0.28 0.28 0.26 0.26  
Delay/Veh: 37.3 0.0 38.4 36.4 36.4 0.0 56.2 7.7 7.7 44.0 4.9 4.9  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 37.3 0.0 38.4 36.4 36.4 0.0 56.2 7.7 7.7 44.0 4.9 4.9  
DesignQueue: 1 0 3 0 0 0 0 12 1 2 10 0  
\*\*\*\*\*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #40 Virginia at Meade  
\*\*\*\*\*

Average Delay (sec/veh): 3.5 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 1 0 0 1 0 0 0 1 0 0 0 0 0 0 1 1 0

Volume Module:  
Base Vol: 15 0 15 10 0 120 170 405 0 0 570 10  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 15 0 15 10 0 120 170 405 0 0 570 10  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 15 0 15 10 0 120 170 405 0 0 570 10  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 15 0 15 10 0 120 170 405 0 0 570 10

Critical Gap Module:  
Critical Gp: 7.6 xxxxx 7.0 7.5 xxxxx 6.9 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim: 3.5 xxxxx 3.3 3.5 xxxxx 3.3 2.3 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: 1030 xxxxx 203 1118 xxxxx 290 580 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: 186 xxxxx 801 163 xxxxx 710 956 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: 131 xxxxx 801 136 xxxxx 710 956 xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 35.9 xxxxx xxxxx xxxxx xxxxx xxxxx 9.6 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: E \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx 801 xxxxx 536 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx xxxxx 9.6 xxxxx 13.9 xxxxx 9.6 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* A \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 22.7 13.9 xxxxxxxx xxxxxxxx  
ApproachLOS: C B \* \*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #43 Maple at East Airport Way  
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0

Volume Module:  
Base Vol: 0 0 0 5 0 0 0 110 0 0 110 30  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 5 0 0 0 110 0 0 110 30  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 5 0 0 0 110 0 0 110 30  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 5 0 0 0 110 0 0 110 30

Critical Gap Module:  
Critical Gp: xxxxx xxxxx xxxxx 6.6 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim: xxxxx xxxxx xxxxx 3.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx 235 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 721 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 721 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: xxxxx xxxxx xxxxx 10.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx 10.0 xxxxxxxx xxxxxxxx  
ApproachLOS: \* B \* \*

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #51 Virginia at Hwy 101 North  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.235  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.9  
Optimal Cycle: 22 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 1 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 230  | 405  | 40   | 0    | 0    | 0    | 80   | 50   | 0    | 0    | 10   | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 230  | 405  | 40   | 0    | 0    | 0    | 80   | 50   | 0    | 0    | 10   | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 230  | 405  | 40   | 0    | 0    | 0    | 80   | 50   | 0    | 0    | 10   | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 230  | 405  | 40   | 0    | 0    | 0    | 80   | 50   | 0    | 0    | 10   | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 230  | 405  | 40   | 0    | 0    | 0    | 80   | 50   | 0    | 0    | 10   | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.79 | 0.79 | 0.79 | 1.00 | 1.00 | 1.00 | 0.67 | 0.89 | 1.00 | 1.00 | 0.75 | 0.75 |
| Lanes:      | 1.00 | 1.82 | 0.18 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.33 | 0.67 |
| Final Sat.: | 1503 | 2735 | 270  | 0    | 0    | 0    | 1271 | 1682 | 0    | 0    | 1905 | 952  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.15 | 0.15 | 0.15 | 0.00 | 0.00 | 0.00 | 0.06 | 0.03 | 0.00 | 0.00 | 0.01 | 0.01 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.65 | 0.65 | 0.65 | 0.00 | 0.00 | 0.00 | 0.27 | 0.27 | 0.00 | 0.00 | 0.27 | 0.27 |
| Volume/Cap:  | 0.23 | 0.23 | 0.23 | 0.00 | 0.00 | 0.00 | 0.23 | 0.11 | 0.00 | 0.00 | 0.02 | 0.02 |
| Delay/Veh:   | 7.2  | 7.1  | 7.1  | 0.0  | 0.0  | 0.0  | 28.9 | 27.7 | 0.0  | 0.0  | 26.9 | 26.9 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 7.2  | 7.1  | 7.1  | 0.0  | 0.0  | 0.0  | 28.9 | 27.7 | 0.0  | 0.0  | 26.9 | 26.9 |
| DesignQueue: | 5    | 8    | 1    | 0    | 0    | 0    | 3    | 2    | 0    | 0    | 0    | 0    |

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #52 Virginia at Hwy 101 South  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.364  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.9  
Optimal Cycle: 26 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 0 | 0 | 0           | 1 | 1 | 0          | 0 | 0 | 1          | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 20   | 535  | 245  | 0    | 110  | 230  | 5    | 245  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 20   | 535  | 245  | 0    | 110  | 230  | 5    | 245  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 20   | 535  | 245  | 0    | 110  | 230  | 5    | 245  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 20   | 535  | 245  | 0    | 110  | 230  | 5    | 245  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 20   | 535  | 245  | 0    | 110  | 230  | 5    | 245  | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.77 | 0.77 | 0.77 | 1.00 | 0.80 | 0.80 | 0.86 | 0.86 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.07 | 2.01 | 0.92 | 0.00 | 1.00 | 1.00 | 0.04 | 1.96 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 109  | 2923 | 1339 | 0    | 1517 | 1517 | 65   | 3196 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.18 | 0.18 | 0.18 | 0.00 | 0.07 | 0.15 | 0.08 | 0.08 | 0.00 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.50 | 0.50 | 0.50 | 0.00 | 0.42 | 0.42 | 0.42 | 0.42 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.36 | 0.36 | 0.36 | 0.00 | 0.17 | 0.36 | 0.18 | 0.18 | 0.00 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 15.2 | 15.2 | 15.2 | 0.0  | 18.4 | 20.3 | 18.5 | 18.5 | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 15.2 | 15.2 | 15.2 | 0.0  | 18.4 | 20.3 | 18.5 | 18.5 | 0.0  |
| DesignQueue: | 0    | 0    | 0    | 1    | 15   | 7    | 0    | 4    | 8    | 0    | 8    | 0    |



Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #56 Broadway at Newmark  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.644  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 34.3  
Optimal Cycle: 62 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 0 1 0 1 0 0 1 1 0 1 0 1 1 0

## Volume Module:

Base Vol: 85 120 15 70 240 170 240 230 150 50 230 125  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 85 120 15 70 240 170 240 230 150 50 230 125  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 85 120 15 70 240 170 240 230 150 50 230 125  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 85 120 15 70 240 170 240 230 150 50 230 125  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 85 120 15 70 240 170 240 230 150 50 230 125

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.90 0.94 0.94 0.90 0.88 0.88 0.90 0.85 0.85 0.91 0.87 0.87  
Lanes: 1.00 0.89 0.11 1.00 0.59 0.41 1.00 1.21 0.79 1.00 1.30 0.70  
Final Sat.: 1718 1580 198 1702 984 697 1718 1957 1277 1736 2131 1158

## Capacity Analysis Module:

Vol/Sat: 0.05 0.08 0.08 0.04 0.24 0.24 0.14 0.12 0.12 0.03 0.11 0.11  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.08 0.30 0.30 0.16 0.38 0.38 0.22 0.31 0.31 0.08 0.17 0.17  
Volume/Cap: 0.64 0.26 0.26 0.26 0.64 0.64 0.64 0.38 0.38 0.38 0.64 0.64  
Delay/Veh: 55.3 27.1 27.1 37.3 27.8 27.8 39.5 27.3 27.3 45.8 41.5 41.5  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 55.3 27.1 27.1 37.3 27.8 27.8 39.5 27.3 27.3 45.8 41.5 41.5  
DesignQueue: 4 5 1 3 9 6 11 9 6 3 11 6

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #58 Newmark at Ocean Blvd.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.220  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 13.1  
Optimal Cycle: 22 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Split Phase Split Phase Permitted Permitted  
Rights: Include Include Ignore Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 2 0 0 0 1 0 0 0 0 0 0 1 1 0 2 0 0 1 1 0

## Volume Module:

Base Vol: 220 0 55 0 0 0 0 470 335 0 270 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 220 0 55 0 0 0 0 470 335 0 270 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00  
PHF Volume: 220 0 55 0 0 0 0 470 0 0 270 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 220 0 55 0 0 0 0 470 0 0 270 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 1.00 1.00 1.00  
Final Vol.: 220 0 55 0 0 0 0 470 0 0 270 0

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.86 1.00 0.79 1.00 1.00 1.00 0.95 0.91 0.88 1.00 0.90 0.95  
Lanes: 2.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 2.00 0.00 2.00 0.00  
Final Sat.: 3274 0 1510 0 0 0 0 3473 3344 0 3404 0

## Capacity Analysis Module:

Vol/Sat: 0.07 0.00 0.04 0.00 0.00 0.00 0.00 0.14 0.00 0.00 0.08 0.00  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.31 0.00 0.31 0.00 0.00 0.00 0.00 0.61 0.00 0.00 0.61 0.00  
Volume/Cap: 0.22 0.00 0.12 0.00 0.00 0.00 0.00 0.22 0.00 0.00 0.13 0.00  
Delay/Veh: 26.0 0.0 25.2 0.0 0.0 0.0 0.0 8.6 0.0 0.0 8.1 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 26.0 0.0 25.2 0.0 0.0 0.0 0.0 8.6 0.0 0.0 8.1 0.0  
DesignQueue: 9 0 2 0 0 0 0 10 0 0 6 0

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #61 Ocean Blvd. at Woodland  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.382  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 18.3  
Optimal Cycle: 34 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 0 | 0 | 0           | 0 | 0 | 1          | 0 | 2 | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 190  | 0    | 80   | 65   | 335  | 0    | 0    | 440  | 165  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 190  | 0    | 80   | 65   | 335  | 0    | 0    | 440  | 165  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 190  | 0    | 80   | 65   | 335  | 0    | 0    | 440  | 165  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 190  | 0    | 80   | 65   | 335  | 0    | 0    | 440  | 165  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 190  | 0    | 80   | 65   | 335  | 0    | 0    | 440  | 165  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.91 | 1.00 | 0.82 | 0.86 | 0.86 | 1.00 | 1.00 | 0.85 | 0.85 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 2.00 | 0.00 | 0.00 | 1.45 | 0.55 |
| Final Sat.: | 0    | 0    | 0    | 1736 | 0    | 1554 | 1641 | 3281 | 0    | 0    | 2354 | 883  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.05 | 0.04 | 0.10 | 0.00 | 0.00 | 0.19 | 0.19 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.29 | 0.00 | 0.29 | 0.10 | 0.59 | 0.00 | 0.00 | 0.49 | 0.49 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | 0.18 | 0.38 | 0.17 | 0.00 | 0.00 | 0.38 | 0.38 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 29.1 | 0.0  | 27.0 | 43.2 | 9.2  | 0.0  | 0.0  | 16.2 | 16.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 29.1 | 0.0  | 27.0 | 43.2 | 9.2  | 0.0  | 0.0  | 16.2 | 16.2 |
| DesignQueue: | 0    | 0    | 0    | 8    | 0    | 3    | 3    | 8    | 0    | 0    | 13   | 5    |

Coos Bay/North Bend TSP  
Existing Conditions  
AM Peak Hour

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #66 Hwy 101 at E Bay Dr.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.562  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 13.2  
Optimal Cycle: 36 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound  |   |   | West Bound  |   |   |
|-------------|-------------|---|---|-------------|---|---|-------------|---|---|-------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L           | T | R | L           | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Split Phase |   |   | Split Phase |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include     |   |   | Include     |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 |
| Lanes:      | 0           | 0 | 1 | 0           | 1 | 0 | 0           | 0 | 0 | 0           | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 350  | 30   | 10   | 640  | 0    | 0    | 0    | 0    | 210  | 0    | 25   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 350  | 30   | 10   | 640  | 0    | 0    | 0    | 0    | 210  | 0    | 25   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 350  | 30   | 10   | 640  | 0    | 0    | 0    | 0    | 210  | 0    | 25   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 350  | 30   | 10   | 640  | 0    | 0    | 0    | 0    | 210  | 0    | 25   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 350  | 30   | 10   | 640  | 0    | 0    | 0    | 0    | 210  | 0    | 25   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.86 | 0.73 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 0.90 | 1.00 | 0.90 |
| Lanes:      | 0.00 | 1.00 | 1.00 | 0.02 | 0.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.89 | 0.00 | 0.11 |
| Final Sat.: | 0    | 1638 | 1392 | 26   | 1689 | 0    | 0    | 0    | 0    | 1525 | 0    | 182  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.21 | 0.02 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.14 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.67 | 0.67 | 0.67 | 0.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 | 0.00 | 0.25 |
| Volume/Cap:  | 0.00 | 0.32 | 0.03 | 0.56 | 0.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.56 | 0.00 | 0.56 |
| Delay/Veh:   | 0.0  | 6.9  | 5.4  | 9.1  | 9.1  | 0.0  | 0.0  | 0.0  | 0.0  | 34.8 | 0.0  | 34.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 6.9  | 5.4  | 9.1  | 9.1  | 0.0  | 0.0  | 0.0  | 0.0  | 34.8 | 0.0  | 34.8 |
| DesignQueue: | 0    | 7    | 1    | 0    | 13   | 0    | 0    | 0    | 0    | 9    | 0    | 1    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Scenario Report  
Scenario: PM future

Command: PM existing  
Volume: PM existing  
Geometry: Default Geometry  
Impact Fee: Default Impact Fee  
Trip Generation: Default Trip Generation  
Trip Distribution: Default Trip Distribution  
Paths: Default Paths  
Routes: Default Routes  
Configuration: Default Configuration

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Impact Analysis Report  
Level Of Service

| Intersection                | Base |      |         | Future |      |         | Change<br>in |
|-----------------------------|------|------|---------|--------|------|---------|--------------|
|                             | LOS  | Veh  | V/<br>C | LOS    | Veh  | V/<br>C |              |
| # 1 6th at D St.            | C    | 4.1  | 0.000   | C      | 4.1  | 0.000   | + 0.000 V/C  |
| # 3 7th at Ingersoll        | A    | 9.3  | 0.405   | A      | 9.3  | 0.405   | + 0.000 V/C  |
| # 7 Hwy 101 at Flanagan     | B    | 12.0 | 0.695   | B      | 12.0 | 0.695   | + 0.000 D/V  |
| # 8 Hwy 101 at 1st          | D    | 1.2  | 0.000   | D      | 1.2  | 0.000   | + 0.000 V/C  |
| # 9 Hwy 101 at S Front St.  | F    | 0.6  | 0.000   | F      | 0.6  | 0.000   | + 0.000 V/C  |
| # 10 Broadway at Lockhart   | A    | 7.6  | 0.128   | A      | 7.6  | 0.128   | + 0.000 V/C  |
| # 11 Lockhart at 2nd        | B    | 4.2  | 0.000   | B      | 4.2  | 0.000   | + 0.000 V/C  |
| # 12 Lockhart at 7th        | C    | 7.7  | 0.000   | C      | 7.7  | 0.000   | + 0.000 V/C  |
| # 13 10th at Central        | C    | 22.0 | 0.712   | C      | 22.0 | 0.712   | + 0.000 D/V  |
| # 14 4th at Elrod           | B    | 11.5 | 0.418   | B      | 11.5 | 0.418   | + 0.000 V/C  |
| # 15 2nd at Ingersoll       | B    | 5.1  | 0.000   | B      | 5.1  | 0.000   | + 0.000 V/C  |
| # 16 Commercial at Broadway | B    | 14.1 | 0.596   | B      | 14.1 | 0.596   | + 0.000 D/V  |
| # 18 Broadway at Market     | B    | 10.1 | 0.548   | B      | 10.1 | 0.548   | + 0.000 D/V  |
| # 19 Bayshore at Market     | D    | 0.6  | 0.000   | D      | 0.6  | 0.000   | + 0.000 V/C  |
| # 20 Broadway at Hall SE    | A    | 6.5  | 0.523   | A      | 6.5  | 0.523   | + 0.000 D/V  |
| # 21 Broadway at Johnson    | B    | 17.4 | 0.628   | B      | 17.4 | 0.628   | + 0.000 D/V  |
| # 22 Johnson at Bayshore    | C    | 20.2 | 0.711   | C      | 20.2 | 0.711   | + 0.000 D/V  |
| # 23 Bayshore at Alder      | C    | 0.4  | 0.000   | C      | 0.4  | 0.000   | + 0.000 V/C  |
| # 24 Broadway at Alder      | D    | 0.6  | 0.000   | D      | 0.6  | 0.000   | + 0.000 V/C  |
| # 25 Bayshore at Commercial | A    | 0.0  | 0.000   | A      | 0.0  | 0.000   | + 0.000 V/C  |
| # 26 Bayshore at Cedar      | C    | 0.1  | 0.000   | C      | 0.1  | 0.000   | + 0.000 V/C  |
| # 27 Bayshore at Birch      | B    | 0.2  | 0.000   | B      | 0.2  | 0.000   | + 0.000 V/C  |
| # 28 Bayshore at Fir        | B    | 0.0  | 0.000   | B      | 0.0  | 0.000   | + 0.000 V/C  |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Intersection                        | Base |             |         | Future |             |         | Change<br>in |
|-------------------------------------|------|-------------|---------|--------|-------------|---------|--------------|
|                                     | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |
| # 29 Broadway at Fir                | C    | 0.3         | 0.000   | C      | 0.3         | 0.000   | + 0.000 V/C  |
| # 30 Hwy 101 at Koosbay             | B    | 12.8        | 0.599   | B      | 12.8        | 0.599   | + 0.000 D/V  |
| # 31 Ocean Blvd. at Butler          | A    | 4.3         | 0.414   | A      | 4.3         | 0.414   | + 0.000 D/V  |
| # 32 Hwy 101 at Newmark             | C    | 32.4        | 0.821   | C      | 32.4        | 0.821   | + 0.000 D/V  |
| # 33 Newmark at Sherman             | C    | 28.2        | 0.628   | C      | 28.2        | 0.628   | + 0.000 D/V  |
| # 34 Newmark at Brussels            | A    | 8.1         | 0.434   | A      | 8.1         | 0.434   | + 0.000 D/V  |
| # 35 Pony Creek at Crowell          | B    | 3.5         | 0.000   | B      | 3.5         | 0.000   | + 0.000 V/C  |
| # 36 Virginia at Harrison           | B    | 11.4        | 0.455   | B      | 11.4        | 0.455   | + 0.000 D/V  |
| # 37 Virginia at Safeway entrance   | F    | 3.1         | 0.000   | F      | 3.1         | 0.000   | + 0.000 V/C  |
| # 38 Virginia at Pony Villiage entr | F    | 1.8         | 0.000   | F      | 1.8         | 0.000   | + 0.000 V/C  |
| # 39 Sherman at Hwy 101 South       | E    | 1.6         | 0.000   | E      | 1.6         | 0.000   | + 0.000 V/C  |
| # 40 Virginia at Meade              | F    | 4.8         | 0.000   | F      | 4.8         | 0.000   | + 0.000 V/C  |
| # 41 Virginia at Marion             | F    | 2.2         | 0.000   | F      | 2.2         | 0.000   | + 0.000 V/C  |
| # 42 Virginia at Maple              | C    | 4.1         | 0.000   | C      | 4.1         | 0.000   | + 0.000 V/C  |
| # 43 Maple at East Airport Way      | A    | 2.0         | 0.000   | A      | 2.0         | 0.000   | + 0.000 V/C  |
| # 44 Virginia at Arthur             | B    | 1.8         | 0.000   | B      | 1.8         | 0.000   | + 0.000 V/C  |
| # 45 Virginia at Channel St.        | B    | 2.1         | 0.000   | B      | 2.1         | 0.000   | + 0.000 V/C  |
| # 46 Lakeshore at Crocker           | B    | 5.1         | 0.000   | B      | 5.1         | 0.000   | + 0.000 V/C  |
| # 47 Virginia at Oak                | C    | 2.4         | 0.000   | C      | 2.4         | 0.000   | + 0.000 V/C  |
| # 48 Newmark at Oak                 | B    | 12.6        | 0.584   | B      | 12.6        | 0.584   | + 0.000 D/V  |
| # 49 Newmark at Morrison            | D    | 1.3         | 0.000   | D      | 1.3         | 0.000   | + 0.000 V/C  |
| # 50 Empire Blvd. at Pacific        | C    | 2.6         | 0.000   | C      | 2.6         | 0.000   | + 0.000 V/C  |
| # 51 Virginia at Hwy 101 North      | B    | 16.4        | 0.471   | B      | 16.4        | 0.471   | + 0.000 D/V  |
| # 52 Virginia at Hwy 101 South      | B    | 19.1        | 0.556   | B      | 19.1        | 0.556   | + 0.000 D/V  |
| # 53 California at Hwy 101 North    | C    | 0.2         | 0.000   | C      | 0.2         | 0.000   | + 0.000 V/C  |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Intersection                        | Base |             |         | Future |             |         | Change<br>in |
|-------------------------------------|------|-------------|---------|--------|-------------|---------|--------------|
|                                     | LOS  | Del/<br>Veh | V/<br>C | LOS    | Del/<br>Veh | V/<br>C |              |
| # 54 Florida at Sherman             | B    | 20.0        | 0.571   | B      | 20.0        | 0.571   | + 0.000 D/V  |
| # 55 Broadway at 16th               | B    | 14.7        | 0.464   | B      | 14.7        | 0.464   | + 0.000 D/V  |
| # 56 Broadway at Newmark            | D    | 41.8        | 0.844   | D      | 41.8        | 0.844   | + 0.000 D/V  |
| # 57 Newmark at Laclair             | D    | 1.5         | 0.000   | D      | 1.5         | 0.000   | + 0.000 V/C  |
| # 58 Newmark at Ocean Blvd.         | B    | 15.4        | 0.614   | B      | 15.4        | 0.614   | + 0.000 D/V  |
| # 59 Thompson at Koosbay            | C    | 5.6         | 0.000   | C      | 5.6         | 0.000   | + 0.000 V/C  |
| # 60 Woodland at Thompson           | C    | 3.2         | 0.000   | C      | 3.2         | 0.000   | + 0.000 V/C  |
| # 61 Ocean Blvd. at Woodland        | C    | 21.5        | 0.589   | C      | 21.5        | 0.589   | + 0.000 D/V  |
| # 62 Ocean Blvd. at Radar           | B    | 3.1         | 0.000   | B      | 3.1         | 0.000   | + 0.000 V/C  |
| # 63 Hwy 101 at Clark               | D    | 0.3         | 0.000   | D      | 0.3         | 0.000   | + 0.000 V/C  |
| # 64 Hwy 101 at Casino entrance     | B    | 14.0        | 0.523   | B      | 14.0        | 0.523   | + 0.000 D/V  |
| # 65 Libby at Wilshire              | B    | 3.2         | 0.000   | B      | 3.2         | 0.000   | + 0.000 V/C  |
| # 66 Hwy 101 at E Bay Dr.           | A    | 3.5         | 0.677   | A      | 3.5         | 0.677   | + 0.000 D/V  |
| # 67 Hwy 101 at North Bay           | F    | 3.0         | 0.000   | F      | 3.0         | 0.000   | + 0.000 V/C  |
| # 68 Hwy 101 at Trans Pacific       | C    | 1.4         | 0.000   | C      | 1.4         | 0.000   | + 0.000 V/C  |
| # 70 1st at Hall NB                 | A    | 4.9         | 0.415   | A      | 4.9         | 0.415   | + 0.000 D/V  |
| # 71 Broadway at 17th               | F    | 0.8         | 0.000   | F      | 0.8         | 0.000   | + 0.000 V/C  |
| # 72 Virginia at Pony Villiage enta | D    | 1.9         | 0.000   | D      | 1.9         | 0.000   | + 0.000 V/C  |
| # 73 Coos River Hwy at Olive Barber | D    | 3.1         | 0.000   | D      | 3.1         | 0.000   | + 0.000 V/C  |
| # 74 Ocean Blve at Laclair          | C    | 3.3         | 0.000   | C      | 3.3         | 0.000   | + 0.000 V/C  |
| # 75 Central at 7th                 | C    | 12.4        | 0.754   | C      | 12.4        | 0.754   | + 0.000 V/C  |
| # 76 Coos River Hwy at Edwards      | B    | 2.8         | 0.000   | B      | 2.8         | 0.000   | + 0.000 V/C  |
| # 77 Coos River Hwy at Mullen       | E    | 1.1         | 0.000   | E      | 1.1         | 0.000   | + 0.000 V/C  |
| # 78 Hwy 101 at Edwards             | E    | 0.6         | 0.000   | E      | 0.6         | 0.000   | + 0.000 V/C  |

| Intersection                       |   | Base<br>Del/ V/<br>LOS Veh C | Future<br>Del/ V/<br>LOS Veh C | Change<br>in |
|------------------------------------|---|------------------------------|--------------------------------|--------------|
| # 79 11th at Elrod                 | A | 6.8 0.000                    | A 6.8 0.000                    | + 0.000 V/C  |
| # 80 US 101/Coos River Hwy (Bunker | C | 32.7 0.696                   | C 32.7 0.696                   | + 0.000 D/V  |
| # 81 Virginia/McPherson            | A | 8.2 0.355                    | A 8.2 0.355                    | + 0.000 D/V  |
| # 82 Virginia/Broadway             | C | 27.7 0.973                   | C 27.7 0.973                   | + 0.000 D/V  |

| Level Of Service Computation Report                    |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
|--------------------------------------------------------|---------------|---------------|-------|--------------|---------------|------------------------------|------------|---------------|-------|------------|---------------|-------|---|---|---|
| 2000 HCM Unsignalized Method (Base Volume Alternative) |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| *****                                                  |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Intersection #1 6th at D St.                           |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| *****                                                  |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Average Delay (sec/veh):                               |               |               | 4.1   |              |               | Worst Case Level Of Service: |            |               |       |            |               |       |   |   |   |
| *****                                                  |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Approach:                                              | North Bound   |               |       | South Bound  |               |                              | East Bound |               |       | West Bound |               |       |   |   |   |
| Movement:                                              | L             | T             | R     | L            | T             | R                            | L          | T             | R     | L          | T             | R     |   |   |   |
| Control:                                               | Uncontrolled  |               |       | Uncontrolled |               |                              | Stop Sign  |               |       | Stop Sign  |               |       |   |   |   |
| Rights:                                                | Include       |               |       | Include      |               |                              | Include    |               |       | Include    |               |       |   |   |   |
| Lanes:                                                 | 0             | 1             | 0     | 0            | 1             | 0                            | 0          | 0             | 0     | 1          | 0             | 0     | 1 | 0 | 0 |
| ----- ----- ----- -----                                |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Volume Module:                                         |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Base Vol:                                              | 203           | 0             | 379   | 0            | 0             | 0                            | 0          | 10            | 134   | 154        | 30            | 0     |   |   |   |
| Growth Adj:                                            | 1.00          | 1.00          | 1.00  | 1.00         | 1.00          | 1.00                         | 1.00       | 1.00          | 1.00  | 1.00       | 1.00          | 1.00  |   |   |   |
| Initial Bse:                                           | 203           | 0             | 379   | 0            | 0             | 0                            | 0          | 10            | 134   | 154        | 30            | 0     |   |   |   |
| User Adj:                                              | 1.00          | 1.00          | 1.00  | 1.00         | 1.00          | 1.00                         | 1.00       | 1.00          | 1.00  | 1.00       | 1.00          | 1.00  |   |   |   |
| PHF Adj:                                               | 1.00          | 1.00          | 1.00  | 1.00         | 1.00          | 1.00                         | 1.00       | 1.00          | 1.00  | 1.00       | 1.00          | 1.00  |   |   |   |
| PHF Volume:                                            | 203           | 0             | 379   | 0            | 0             | 0                            | 0          | 10            | 134   | 154        | 30            | 0     |   |   |   |
| Reduct Vol:                                            | 0             | 0             | 0     | 0            | 0             | 0                            | 0          | 0             | 0     | 0          | 0             | 0     |   |   |   |
| Final Vol.:                                            | 203           | 0             | 379   | 0            | 0             | 0                            | 0          | 10            | 134   | 154        | 30            | 0     |   |   |   |
| ----- ----- ----- -----                                |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Critical Gap Module:                                   |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Critical Gp:                                           | 4.1           | xxxx          | xxxxx | xxxxx        | xxxx          | xxxxx                        | xxxxx      | 6.6           | 6.3   | 7.2        | 6.6           | xxxxx |   |   |   |
| FollowUpTim:                                           | 2.2           | xxxx          | xxxxx | xxxxx        | xxxx          | xxxxx                        | xxxxx      | 4.1           | 3.4   | 3.5        | 4.0           | xxxxx |   |   |   |
| ----- ----- ----- -----                                |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Capacity Module:                                       |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Cnflct Vol:                                            | 0             | xxxx          | xxxxx | xxxx         | xxxx          | xxxxx                        | xxxx       | 785           | 0     | 478        | 406           | xxxxx |   |   |   |
| Potent Cap.:                                           | 0             | xxxx          | xxxxx | xxxx         | xxxx          | xxxxx                        | xxxx       | 319           | 0     | 493        | 530           | xxxxx |   |   |   |
| Move Cap.:                                             | 0             | xxxx          | xxxxx | xxxx         | xxxx          | xxxxx                        | xxxx       | 319           | 0     | 481        | 530           | xxxxx |   |   |   |
| ----- ----- ----- -----                                |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Level Of Service Module:                               |               |               |       |              |               |                              |            |               |       |            |               |       |   |   |   |
| Stopped Del:                                           | 0.0           | xxxx          | xxxxx | xxxxx        | xxxx          | xxxxx                        | xxxxx      | xxxx          | xxxxx | xxxxx      | xxxx          | xxxxx |   |   |   |
| LOS by Move:                                           | A             | *             | *     | *            | *             | *                            | *          | *             | *     | *          | *             | *     |   |   |   |
| Movement:                                              | LT - LTR - RT | LT - LTR - RT |       |              | LT - LTR - RT |                              |            | LT - LTR - RT |       |            | LT - LTR - RT |       |   |   |   |
| Shared Cap.:                                           | xxxx          | xxxx          | xxxxx | xxxx         | xxxx          | xxxxx                        | xxxx       | xxxx          | 4591  | 488        | xxxx          | xxxxx |   |   |   |
| Shrd StpDel:                                           | 0.0           | xxxx          | xxxxx | xxxxx        | xxxx          | xxxxx                        | xxxxx      | xxxx          | 5.8   | 16.8       | xxxx          | xxxxx |   |   |   |
| Shared LOS:                                            | A             | *             | *     | *            | *             | *                            | *          | *             | A     | C          | *             | *     |   |   |   |
| ApproachDel:                                           | xxxxxx        | xxxxxx        |       |              | xxxxxx        |                              |            | 5.8           |       |            | 16.8          |       |   |   |   |
| ApproachLOS:                                           | *             | *             |       |              | *             |                              |            | A             |       |            | C             |       |   |   |   |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #3 7th at Ingersoll  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.405  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 9.3  
Optimal Cycle: 0 Level Of Service: A

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Stop Sign   | Stop Sign   | Stop Sign  | Stop Sign  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 1 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0  | 0 0 1 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 109  | 0    | 11   | 284  | 50   | 30   | 10   | 0    | 21   | 15   | 4    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 109  | 0    | 11   | 284  | 50   | 30   | 10   | 0    | 21   | 15   | 4    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 109  | 0    | 11   | 284  | 50   | 30   | 10   | 0    | 21   | 15   | 4    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 10   | 109  | 0    | 11   | 284  | 50   | 30   | 10   | 0    | 21   | 15   | 4    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 10   | 109  | 0    | 11   | 284  | 50   | 30   | 10   | 0    | 21   | 15   | 4    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 0.08 | 0.92 | 0.00 | 0.03 | 0.83 | 0.14 | 0.75 | 0.25 | 0.00 | 0.52 | 0.38 | 0.10 |
| Final Sat.: | 65   | 713  | 0    | 27   | 702  | 124  | 489  | 163  | 0    | 348  | 248  | 66   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.15 | 0.15 | xxxx | 0.40 | 0.40 | 0.40 | 0.06 | 0.06 | xxxx | 0.06 | 0.06 | 0.06 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Delay/Veh:   | 8.3  | 8.3  | 0.0  | 9.9  | 9.9  | 9.9  | 8.4  | 8.4  | 0.0  | 8.3  | 8.3  | 8.3  |
| Delay Adj:   | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 8.3  | 8.3  | 0.0  | 9.9  | 9.9  | 9.9  | 8.4  | 8.4  | 0.0  | 8.3  | 8.3  | 8.3  |
| LOS by Move: | A    | A    | *    | A    | A    | A    | A    | A    | *    | A    | A    | A    |
| ApproachDel: | 8.3  |      |      | 9.9  |      |      | 8.4  |      |      | 8.3  |      |      |
| Delay Adj:   | 1.00 |      |      | 1.00 |      |      | 1.00 |      |      | 1.00 |      |      |
| ApprAdjDel:  | 8.3  |      |      | 9.9  |      |      | 8.4  |      |      | 8.3  |      |      |
| LOS by Appr: | A    |      |      | A    |      |      | A    |      |      | A    |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #7 Hwy 101 at Planagan  
\*\*\*\*\*

Cycle (sec): 120 Critical Vol./Cap. (X): 0.695  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.0  
Optimal Cycle: 61 Level Of Service: B

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Permitted   | Permitted   | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 0 1 0 0   | 0 0 1 0 0   | 1 0 1 1 0  | 1 0 1 1 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.69 | 0.69 | 0.69 | 0.78 | 0.78 | 0.78 | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 |
| Lanes:      | 0.62 | 0.09 | 0.29 | 0.41 | 0.12 | 0.47 | 1.00 | 1.91 | 0.09 | 1.00 | 1.99 | 0.01 |
| Final Sat.: | 814  | 115  | 378  | 608  | 174  | 694  | 1753 | 3324 | 157  | 1718 | 3421 | 13   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.09 | 0.09 | 0.09 | 0.06 | 0.06 | 0.06 | 0.02 | 0.52 | 0.52 | 0.02 | 0.40 | 0.40 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.03 | 0.75 | 0.75 | 0.02 | 0.74 | 0.74 |
| Volume/Cap:  | 0.69 | 0.69 | 0.69 | 0.46 | 0.46 | 0.46 | 0.53 | 0.69 | 0.69 | 0.69 | 0.53 | 0.53 |
| Delay/Veh:   | 62.4 | 62.4 | 62.4 | 50.5 | 50.5 | 50.5 | 66.7 | 8.6  | 8.6  | 99.6 | 6.8  | 6.8  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 62.4 | 62.4 | 62.4 | 50.5 | 50.5 | 50.5 | 66.7 | 8.6  | 8.6  | 99.6 | 6.8  | 6.8  |
| DesignQueue: | 4    | 1    | 2    | 2    | 1    | 2    | 2    | 33   | 2    | 2    | 26   | 0    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #8 Hwy 101 at 1st  
\*\*\*\*\*

Average Delay (sec/veh): 1.2 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 2 0 0 0 0 1 1 0 0 0 0 0 1 0 0 0 0 0

Volume Module:  
Base Vol: 85 1293 0 0 1877 30 0 0 130 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 85 1293 0 0 1877 30 0 0 130 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 85 1293 0 0 1877 30 0 0 130 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 85 1293 0 0 1877 30 0 0 130 0 0 0

Critical Gap Module:  
Critical Gp: 4.2 xxxx xxxxx xxxxx xxxxx xxxxx 7.0 xxxx xxxxx xxxxx  
FollowUpTim: 2.3 xxxx xxxxx xxxxx xxxxx xxxxx 3.3 xxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: 1907 xxxx xxxxx xxxxx xxxxx xxxxx 954 xxxx xxxxx xxxxx  
Potent Cap.: 292 xxxx xxxxx xxxxx xxxxx xxxxx 254 xxxx xxxxx xxxxx  
Move Cap.: 292 xxxx xxxxx xxxxx xxxxx xxxxx 254 xxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 22.3 xxxx xxxxx xxxxx xxxxx xxxxx 33.2 xxxx xxxxx xxxxx  
LOS by Move: C \* \* \* \* \* D \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx 85.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 33.2 xxxxxx  
ApproachLOS: \* \* D \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #9 Hwy 101 at S Front St.  
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1! 0 0 0 0 0 0 0 1 1 0 1 0 2 0 0

Volume Module:  
Base Vol: 5 0 32 0 0 0 0 2047 5 16 1339 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 0 32 0 0 0 0 2047 5 16 1339 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 0 32 0 0 0 0 2047 5 16 1339 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 5 0 32 0 0 0 0 2047 5 16 1339 0

Critical Gap Module:  
Critical Gp: 6.8 xxxx 6.9 xxxxx xxxxx xxxxx xxxxx 4.2 xxxx xxxxx  
FollowUpTim: 3.5 xxxx 3.3 xxxxx xxxxx xxxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:  
Cnflct Vol: 2751 xxxx 1026 xxxxx xxxxx xxxxx xxxxx 2052 xxxx xxxxx  
Potent Cap.: 16 xxxx 232 xxxxx xxxxx xxxxx xxxxx 263 xxxx xxxxx  
Move Cap.: 15 xxxx 232 xxxxx xxxxx xxxxx xxxxx 263 xxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 19.6 xxxx xxxxx  
LOS by Move: \* \* \* \* \* C \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx 79 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx 85.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* F \* \* \* \* \* \* \* \* \* \*  
ApproachDel: 85.7 xxxxxx xxxxxx xxxxxx  
ApproachLOS: F \* \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #10 Broadway at Lockhart

|                  |                 |                          |       |
|------------------|-----------------|--------------------------|-------|
| Cycle (sec):     | 100             | Critical Vol./Cap. (X):  | 0.128 |
| Loss Time (sec): | 0 (Y+R = 4 sec) | Average Delay (sec/veh): | 7.6   |
| Optimal Cycle:   | 0               | Level Of Service:        | A     |

| Approach:   | North Bound |   |   |   |   | South Bound |   |   |   |   | East Bound |   |   |   |   | West Bound |   |   |   |  |
|-------------|-------------|---|---|---|---|-------------|---|---|---|---|------------|---|---|---|---|------------|---|---|---|--|
| Movement:   | L - T - R   |   |   |   |   | L - T - R   |   |   |   |   | L - T - R  |   |   |   |   | L - T - R  |   |   |   |  |
| Control:    | Stop Sign   |   |   |   |   | Stop Sign   |   |   |   |   | Stop Sign  |   |   |   |   | Stop Sign  |   |   |   |  |
| Rights:     | Include     |   |   |   |   | Include     |   |   |   |   | Include    |   |   |   |   | Include    |   |   |   |  |
| Min. Green: | 0           | 0 | 0 | 0 | 0 | 0           | 0 | 1 | 0 | 0 | 0          | 0 | 0 | 0 | 0 | 0          | 0 | 1 | 0 |  |
| Lanes:      | 1           | 0 | 0 | 0 | 0 | 0           | 0 | 1 | 0 | 0 | 0          | 0 | 1 | 0 | 0 | 0          | 0 | 1 | 0 |  |

| Volume Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:      | 15   | 0    | 0    | 5    | 10   | 100  | 49   | 27   | 0    | 0    | 51   | 5    |
| Growth Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:   | 15   | 0    | 0    | 5    | 10   | 100  | 49   | 27   | 0    | 0    | 51   | 5    |
| User Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:    | 15   | 0    | 0    | 5    | 10   | 100  | 49   | 27   | 0    | 0    | 51   | 5    |
| Reduct Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol:   | 15   | 0    | 0    | 5    | 10   | 100  | 49   | 27   | 0    | 0    | 51   | 5    |
| PCE Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:    | 15   | 0    | 0    | 5    | 10   | 100  | 49   | 27   | 0    | 0    | 51   | 5    |

| Saturation Flow Module: |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Adjustment:             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:                  | 1.00 | 0.00 | 0.00 | 0.04 | 0.09 | 0.87 | 0.64 | 0.36 | 0.00 | 0.00 | 0.91 |
| Final Sat.:             | 734  | 0    | 0    | 39   | 78   | 781  | 506  | 279  | 0    | 0    | 750  |

| Capacity Analysis Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:                  | 0.02 | xxxx | xxxx | 0.13 | 0.13 | 0.13 | 0.10 | 0.10 | xxxx | xxxx | 0.07 | 0.07 |
| Crit Moves:               | **** |      |      |      |      | **** |      | **** |      |      |      | **** |
| Delay/Veh:                | 7.8  | 0.0  | 0.0  | 7.5  | 7.5  | 7.5  | 7.9  | 7.9  | 0.0  | 0.0  | 7.5  | 7.5  |
| Delay Adj:                | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:               | 7.8  | 0.0  | 0.0  | 7.5  | 7.5  | 7.5  | 7.9  | 7.9  | 0.0  | 0.0  | 7.5  | 7.5  |
| LOS by Move:              | A    | *    | *    | A    | A    | A    | A    | A    | *    | *    | A    | A    |
| ApproachDel:              |      | 7.8  |      |      | 7.5  |      |      | 7.9  |      |      | 7.5  |      |
| Delay Adj:                |      | 1.00 |      |      | 1.00 |      |      | 1.00 |      |      | 1.00 |      |
| ApprAdjDel:               |      | 7.8  |      |      | 7.5  |      |      | 7.9  |      |      | 7.5  |      |
| LOS by Appr:              |      | A    |      |      | A    |      |      | A    |      |      | A    |      |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #11 Lockhart at 2nd

Average Delay (sec/veh): 4.2 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound |   |   |   | South Bound |   |   |   | East Bound   |   |   |   | West Bound   |   |   |   |   |   |   |   |
|-----------|-------------|---|---|---|-------------|---|---|---|--------------|---|---|---|--------------|---|---|---|---|---|---|---|
| Movement: | L - T - R   |   |   |   | L - T - R   |   |   |   | L - T - R    |   |   |   | L - T - R    |   |   |   |   |   |   |   |
| Control:  | Stop Sign   |   |   |   | Stop Sign   |   |   |   | Uncontrolled |   |   |   | Uncontrolled |   |   |   |   |   |   |   |
| Rights:   | Include     |   |   |   | Include     |   |   |   | Include      |   |   |   | Include      |   |   |   |   |   |   |   |
| Lanes:    | 0           | 0 | 1 | 0 | 0           | 0 | 0 | 1 | 0            | 0 | 0 | 0 | 1            | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

| Volume Module: |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:      | 20   | 5    | 5    | 5    | 85   | 70   | 18   | 20   | 5    | 33   | 10   |      |
| Growth Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse:   | 20   | 5    | 5    | 5    | 85   | 70   | 18   | 20   | 5    | 33   | 10   |      |
| User Adj:      | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:       | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:    | 20   | 5    | 5    | 5    | 85   | 70   | 18   | 20   | 5    | 33   | 10   |      |
| Reduct Vol:    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |      |
| Final Vol.:    | 20   | 5    | 5    | 5    | 85   | 70   | 18   | 20   | 5    | 33   | 10   |      |

|              |         |     |     |     |     |     |     |      |       |     |      |       |  |  |  |  |
|--------------|---------|-----|-----|-----|-----|-----|-----|------|-------|-----|------|-------|--|--|--|--|
| Critical Gap | Module: |     |     |     |     |     |     |      |       |     |      |       |  |  |  |  |
| Critical Gp: | 7.1     | 6.5 | 6.2 | 7.2 | 6.6 | 6.3 | 4.1 | XXXX | XXXXX | 4.1 | XXXX | XXXXX |  |  |  |  |
| FollowUpTim: | 3.5     | 4.0 | 3.3 | 3.6 | 4.1 | 3.4 | 2.2 | XXXX | XXXXX | 2.2 | XXXX | XXXXX |  |  |  |  |

```
Capacity Module:
Cnflct Vol: 261 221 28 221 226 38 43 xxxx xxxxxx 38 xxxx xxxxxx
Potent Cap.: 696 681 1053 726 666 1023 1559 xxxxx xxxxxx 1553 xxxx xxxxxx
Move Cap.: 610 647 1053 691 633 1023 1559 xxxxx xxxxxx 1553 xxxx xxxxxx
```

```

Level Of Service Module:
Stopped Del:xxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx 7.4 xxxxx xxxxxx 7.3 xxxxx xxxxxx
LOS by Move: * * * * * * * A * * * A * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 663 xxxxxx xxxxx 967 xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx xxxxxx
Shrd StpDel:xxxxx 10.7 xxxxxx xxxxxx 9.1 xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxx xxxxxx
Shared LOS: * B * * A * * * * * * * * *
ApproachDel: 10.7 9.1 xxxxxx xxxxxx
ApproachLOS: B A * *

```



Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #12 Lockhart at 7th

Average Delay (sec/veh): 7.7 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 1 0

## Volume Module:

Base Vol: 0 0 0 5 0 492 105 224 0 0 321 15  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 5 0 492 105 224 0 0 321 15  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 5 0 492 105 224 0 0 321 15  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 5 0 492 105 224 0 0 321 15

## Critical Gap Module:

Critical Gp:xxxxx xxxxx xxxxx 6.4 xxxxx 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

## Capacity Module:

Cnflict Vol: xxxxx xxxxx xxxxx 763 xxxxx 329 336 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 374 xxxxx 715 1223 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 348 xxxxx 715 1223 xxxxx xxxxx xxxxx xxxxx xxxxx

## Level Of Service Module:

Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 8.2 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx 0 xxxxx xxxxx 708 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx 21.2 xxxxx 8.2 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* C A \* \* \* \* \*  
ApproachDel: xxxxxx 21.2 xxxxxx xxxxxx  
ApproachLOS: \* C \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #13 10th at Central

Cycle (sec): 100 Critical Vol./Cap. (X): 0.712

Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 22.0

Optimal Cycle: 61 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 0 1 0 1 0 0 1 0 0 1 0 0

## Volume Module:

Base Vol: 224 115 1 147 104 30 10 780 197 4 651 14  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 224 115 1 147 104 30 10 780 197 4 651 14  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 224 115 1 147 104 30 10 780 197 4 651 14  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 224 115 1 147 104 30 10 780 197 4 651 14  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 224 115 1 147 104 30 10 780 197 4 651 14

## Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.94 0.99 0.99 0.93 0.95 0.95 0.97 0.97 0.83 0.88 0.88 0.88  
Lanes: 1.00 0.99 0.01 1.00 0.78 0.22 0.01 0.99 1.00 0.01 1.95 0.04  
Final Sat.: 1787 1863 16 1769 1396 403 23 1827 1583 20 3268 70

## Capacity Analysis Module:

Vol/Sat: 0.13 0.06 0.06 0.08 0.07 0.07 0.43 0.43 0.12 0.20 0.20 0.20  
Crit Moves: \*\*\*\* \*\*\*\*  
Green/Cycle: 0.18 0.12 0.12 0.16 0.10 0.10 0.60 0.60 0.60 0.60 0.60 0.60  
Volume/Cap: 0.71 0.52 0.52 0.52 0.71 0.71 0.71 0.71 0.21 0.33 0.33 0.33  
Delay/Veh: 46.3 43.4 43.4 40.0 55.4 55.4 16.2 16.2 9.3 10.1 10.1 10.1  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 46.3 43.4 43.4 40.0 55.4 55.4 16.2 16.2 9.3 10.1 10.1 10.1  
DesignQueue: 11 6 0 7 5 2 0 19 5 0 15 0

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

# Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #14 4th at Elrod  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.418  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 11.5  
Optimal Cycle: 0 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Stop Sign   | Stop Sign   | Stop Sign  | Stop Sign  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 1 0 0 1 0   | 1 0 0 1 0   | 0 0 0 1 0  | 0 0 1 0 0  |

| Volume Module: | Base Vol:  | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Reduced Vol: | PCE Adj:       | MLF Adj:       | Final Vol.: |
|----------------|------------|----------------|--------------|----------------|----------------|-------------|-------------|--------------|----------------|----------------|-------------|
|                | 60 124 50  | 1.00 1.00 1.00 | 60 124 50    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 60 124 50   | 0 0 0       | 60 124 50    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 60 124 50   |
|                | 230 236 26 | 1.00 1.00 1.00 | 230 236 26   | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 230 236 26  | 0 0 0       | 230 236 26   | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 230 236 26  |
|                | 0 78 30    | 1.00 1.00 1.00 | 0 78 30      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 78 30     | 0 0 0       | 0 78 30      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 78 30     |
|                | 53 58 81   | 1.00 1.00 1.00 | 53 58 81     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 53 58 81    | 0 0 0       | 53 58 81     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 53 58 81    |

| Saturation Flow Module: | Adjustment:    | Lanes:         | Final Sat.: |
|-------------------------|----------------|----------------|-------------|
|                         | 1.00 1.00 1.00 | 1.00 0.71 0.29 | 530 422 170 |
|                         | 1.00 1.00 1.00 | 1.00 0.90 0.10 | 570 564 62  |
|                         | 1.00 1.00 1.00 | 0.00 0.72 0.28 | 0 403 155   |
|                         | 1.00 1.00 1.00 | 0.28 0.30 0.42 | 165 180 252 |

| Capacity Analysis Module: | Vol/Sat:       | Crit Moves:    | Delay/Veh:     | Delay Adj:     | AdjDel/Veh:    | LOS by Move: | ApproachDel: | Delay Adj: | ApprAdjDel: | LOS by Appr: |
|---------------------------|----------------|----------------|----------------|----------------|----------------|--------------|--------------|------------|-------------|--------------|
|                           | 0.11 0.29 0.29 | 0.40 0.42 0.42 | 10.0 10.8 10.8 | 1.00 1.00 1.00 | 10.0 10.8 10.8 | A B B        | 10.6         | 1.00       | 10.6        | B            |
|                           | 0.19 0.19 0.32 | 0.19 0.32 0.32 | 12.8 12.1 12.1 | 1.00 1.00 1.00 | 12.8 12.1 12.1 | B B B        | 12.4         | 1.00       | 12.4        | B            |
|                           | 0.32 0.32 0.32 | 0.32 0.32 0.32 | 11.1 11.1 11.1 | 1.00 1.00 1.00 | 11.1 11.1 11.1 | B B B        | 11.1         | 1.00       | 11.1        | B            |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

# Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #15 2nd at Ingersoll  
\*\*\*\*\*

Average Delay (sec/veh): 5.1 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 1 0 0   | 0 0 0 1 0    | 0 0 1 0 0    |

| Volume Module: | Base Vol: | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Final Vol.: |
|----------------|-----------|----------------|--------------|----------------|----------------|-------------|-------------|-------------|
|                | 10 74 10  | 1.00 1.00 1.00 | 10 74 10     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 10 74 10    | 0 0 0       | 10 74 10    |
|                | 10 34 10  | 1.00 1.00 1.00 | 10 34 10     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 10 34 10    | 0 0 0       | 10 34 10    |
|                | 0 26 11   | 1.00 1.00 1.00 | 0 26 11      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 26 11     | 0 0 0       | 0 26 11     |
|                | 10 52 20  | 1.00 1.00 1.00 | 10 52 20     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 10 52 20    | 0 0 0       | 10 52 20    |

| Critical Gap Module: | Critical Gp: | FollowUpTim: |
|----------------------|--------------|--------------|
|                      | 7.1 6.5 6.2  | 3.5 4.0 3.3  |
|                      | 7.1 6.5 6.2  | 3.5 4.0 3.3  |
|                      | 4.1 4.1 4.1  | 2.2 2.2 2.2  |

| Capacity Module: | Cnflict Vol: | Potent Cap.:   | Move Cap.:     |
|------------------|--------------|----------------|----------------|
|                  | 136 124 32   | 836 767 1043   | 796 762 1043   |
|                  | 156 119 62   | 816 775 1009   | 744 770 1009   |
|                  | 37 37 37     | 1574 1574 1574 | 1574 1574 1574 |

| Level Of Service Module: | Stopped Del: | LOS by Move: | Movement:     | Shared Cap.: | Shrd StpDel:   | Shared LOS: | ApproachDel: | ApproachLOS: |
|--------------------------|--------------|--------------|---------------|--------------|----------------|-------------|--------------|--------------|
|                          | 7.3 7.3 7.3  | A A A        | LT - LTR - RT | 788 800 800  | 10.2 10.2 10.2 | B B B       | 10.2 9.8     | B A          |
|                          | 7.3 7.3 7.3  | A A A        | LT - LTR - RT | 788 800 800  | 10.2 10.2 10.2 | B B B       | 10.2 9.8     | B A          |
|                          | 7.3 7.3 7.3  | A A A        | LT - LTR - RT | 788 800 800  | 10.2 10.2 10.2 | B B B       | 10.2 9.8     | B A          |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #16 Commercial at Broadway  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.596  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 14.1  
Optimal Cycle: 38 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound  | West Bound  |
|-------------|-------------|-------------|-------------|-------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R   | L - T - R   |
| Control:    | Split Phase | Split Phase | Split Phase | Split Phase |
| Rights:     | Include     | Include     | Include     | Include     |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0       | 0 0 0       |
| Lanes:      | 0 0 0 0 0   | 0 0 2 0 1   | 0 0 0 0 0   | 0 1 1 0 0   |

Volume Module:  
Base Vol: 0 0 0 0 1461 114 0 0 0 30 420 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 0 1461 114 0 0 0 30 420 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 0 1461 114 0 0 0 30 420 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 0 1461 114 0 0 0 30 420 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 0 1461 114 0 0 0 30 420 0  
\*\*\*\*\*

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 1.00 0.91 0.82 1.00 1.00 1.00 0.93 0.93 1.00  
Lanes: 0.00 0.00 0.00 0.00 2.00 1.00 0.00 0.00 0.00 0.13 1.87 0.00  
Final Sat.: 0 0 0 0 3473 1554 0 0 0 236 3302 0  
\*\*\*\*\*

Capacity Analysis Module:  
Vol/Sat: 0.00 0.00 0.00 0.00 0.42 0.07 0.00 0.00 0.00 0.13 0.13 0.00  
Crit Moves: \*\*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.00 0.71 0.71 0.00 0.00 0.00 0.21 0.21 0.00  
Volume/Cap: 0.00 0.00 0.00 0.00 0.60 0.10 0.00 0.00 0.00 0.60 0.60 0.00  
Delay/Veh: 0.0 0.0 0.0 0.0 7.8 4.7 0.0 0.0 0.0 36.7 36.7 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 0.0 7.8 4.7 0.0 0.0 0.0 36.7 36.7 0.0  
DesignQueue: 0 0 0 0 27 2 0 0 0 1 19 0  
\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #18 Broadway at Market  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.548  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 10.1  
Optimal Cycle: 35 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 0 0 0 0   | 0 1 0 1 0   | 0 0 0 1 0  | 0 1 0 0 0  |

Volume Module:  
Base Vol: 0 0 0 25 1371 20 0 75 90 30 25 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 25 1371 20 0 75 90 30 25 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 25 1371 20 0 75 90 30 25 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 25 1371 20 0 75 90 30 25 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 25 1371 20 0 75 90 30 25 0  
\*\*\*\*\*

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 0.91 0.91 0.91 1.00 0.92 0.92 0.86 0.86 1.00  
Lanes: 0.00 0.00 0.00 0.03 1.94 0.03 0.00 0.45 0.55 0.55 0.45 0.00  
Final Sat.: 0 0 0 61 3349 49 0 792 950 896 746 0  
\*\*\*\*\*

Capacity Analysis Module:  
Vol/Sat: 0.00 0.00 0.00 0.41 0.41 0.41 0.00 0.09 0.09 0.03 0.03 0.00  
Crit Moves: \*\*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.75 0.75 0.75 0.00 0.17 0.17 0.17 0.17 0.00  
Volume/Cap: 0.00 0.00 0.00 0.55 0.55 0.55 0.00 0.55 0.55 0.19 0.19 0.00  
Delay/Veh: 0.0 0.0 0.0 5.7 5.7 5.7 0.0 39.9 39.9 35.7 35.7 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 5.7 5.7 5.7 0.0 39.9 39.9 35.7 35.7 0.0  
DesignQueue: 0 0 0 0 21 0 0 4 4 1 1 0  
\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #19 Bayshore at Market  
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include

Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 30   | 1301 | 10   | 0    | 0    | 0    | 90   | 0    | 0    | 0    | 15   | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 30   | 1301 | 10   | 0    | 0    | 0    | 90   | 0    | 0    | 0    | 15   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 30   | 1301 | 10   | 0    | 0    | 0    | 90   | 0    | 0    | 0    | 15   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 30   | 1301 | 10   | 0    | 0    | 0    | 90   | 0    | 0    | 0    | 15   | 0    |

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxxx xxxxxx xxxxxx 7.1 xxxx xxxxxx xxxxxx 6.5 xxxxxx  
FollowUpTim: 2.2 xxxx xxxxxx xxxxxx xxxxxx 3.5 xxxx xxxxxx xxxxxx 4.0 xxxxxx

Capacity Module:

|              |   |      |       |      |      |       |     |      |       |      |      |       |
|--------------|---|------|-------|------|------|-------|-----|------|-------|------|------|-------|
| Cnflict Vol: | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 718 | xxxx | xxxxx | xxxx | 1366 | xxxxx |
| Potent Cap.: | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 343 | xxxx | xxxxx | xxxx | 149  | xxxxx |
| Move Cap.:   | 0 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 316 | xxxx | xxxxx | xxxx | 149  | xxxxx |

Level Of Service Module:

Stopped Del: 0.0 xxxx xxxxxx xxxxxx xxxxxx 20.8 xxxx xxxxxx xxxxxx 31.9 xxxxxx

LOS by Move: A \* \* \* \* C \* \* \* \* D \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx

Shrd StpDel: 0.0 xxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx

Shared LOS: A \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

ApproachDel: xxxxxx xxxxxx 20.8 31.9

ApproachLOS: \* \* C D

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #20 Broadway at Hall SB  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.523

Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 6.5

Optimal Cycle: 33 Level Of Service: A

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Permitted Permitted

Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 0 0 0 0 0 0 1 1 1 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 30   | 2090 | 20   | 0    | 30   | 65   | 50   | 40   | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 30   | 2090 | 20   | 0    | 30   | 65   | 50   | 40   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 30   | 2090 | 20   | 0    | 30   | 65   | 50   | 40   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 30   | 2090 | 20   | 0    | 30   | 65   | 50   | 40   | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 30   | 2090 | 20   | 0    | 30   | 65   | 50   | 40   | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 1.00 | 0.90 | 0.90 | 0.87 | 0.87 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.04 | 2.93 | 0.03 | 0.00 | 0.32 | 0.68 | 0.56 | 0.44 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 70   | 4909 | 47   | 0    | 539  | 1169 | 921  | 737  | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.43 | 0.43 | 0.43 | 0.00 | 0.06 | 0.06 | 0.05 | 0.05 | 0.00 |
| Crit Moves:  |      |      |      | **** |      |      | **** |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.81 | 0.81 | 0.81 | 0.00 | 0.11 | 0.11 | 0.11 | 0.11 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.52 | 0.52 | 0.52 | 0.00 | 0.52 | 0.52 | 0.51 | 0.51 | 0.00 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 3.1  | 3.1  | 3.1  | 0.0  | 45.0 | 45.0 | 44.7 | 44.7 | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 3.1  | 3.1  | 3.1  | 0.0  | 45.0 | 45.0 | 44.7 | 44.7 | 0.0  |
| DesignQueue: | 0    | 0    | 0    | 0    | 24   | 0    | 0    | 2    | 3    | 3    | 2    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #21 Broadway at Johnson  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.628  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 17.4  
Optimal Cycle: 41 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 0 0 0     | 1 0 2 1 0   | 0 0 1 1 0  | 1 0 1 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 285  | 1640 | 102  | 0    | 137  | 130  | 245  | 110  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 285  | 1640 | 102  | 0    | 137  | 130  | 245  | 110  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 285  | 1640 | 102  | 0    | 137  | 130  | 245  | 110  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 285  | 1640 | 102  | 0    | 137  | 130  | 245  | 110  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 285  | 1640 | 102  | 0    | 137  | 130  | 245  | 110  | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.96 | 0.88 | 0.88 | 1.00 | 0.86 | 0.86 | 0.56 | 0.99 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 1.00 | 2.82 | 0.18 | 0.00 | 1.03 | 0.97 | 1.00 | 1.00 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 1828 | 4699 | 292  | 0    | 1667 | 1582 | 1072 | 1881 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.16 | 0.35 | 0.35 | 0.00 | 0.08 | 0.08 | 0.23 | 0.06 | 0.00 |
| Crit Moves:  | **** |      |      |      |      |      |      |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.56 | 0.56 | 0.56 | 0.00 | 0.36 | 0.36 | 0.36 | 0.36 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.28 | 0.63 | 0.63 | 0.00 | 0.23 | 0.23 | 0.63 | 0.16 | 0.00 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 11.8 | 15.6 | 15.6 | 0.0  | 22.1 | 22.1 | 29.5 | 21.6 | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 11.8 | 15.6 | 15.6 | 0.0  | 22.1 | 22.1 | 29.5 | 21.6 | 0.0  |
| DesignQueue: | 0    | 0    | 0    | 7    | 44   | 3    | 0    | 5    | 5    | 9    | 4    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #22 Johnson at Bayshore  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.711  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 20.2  
Optimal Cycle: 50 Level Of Service: C  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 1 1 0 1   | 0 0 0 0 0   | 0 1 1 0 0  | 0 0 1 0 1  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.77 | 0.77 | 0.81 | 1.00 | 1.00 | 1.00 | 0.59 | 0.59 | 1.00 | 1.00 | 0.99 | 0.84 |
| Lanes:      | 0.04 | 1.96 | 1.00 | 0.00 | 0.00 | 0.00 | 0.59 | 1.41 | 0.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 53   | 2868 | 1537 | 0    | 0    | 0    | 654  | 1582 | 0    | 0    | 1881 | 1599 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.47 | 0.47 | 0.05 | 0.00 | 0.00 | 0.00 | 0.19 | 0.19 | 0.00 | 0.00 | 0.14 | 0.08 |
| Crit Moves:  | **** |      |      |      |      |      |      |      |      |      |      |      |
| Green/Cycle: | 0.66 | 0.66 | 0.66 | 0.00 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.00 | 0.26 | 0.26 |
| Volume/Cap:  | 0.71 | 0.71 | 0.08 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.00 | 0.55 | 0.32 |
| Delay/Veh:   | 12.3 | 12.3 | 6.2  | 0.0  | 0.0  | 0.0  | 37.5 | 37.5 | 0.0  | 0.0  | 33.1 | 30.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 12.3 | 12.3 | 6.2  | 0.0  | 0.0  | 0.0  | 37.5 | 37.5 | 0.0  | 0.0  | 33.1 | 30.2 |
| DesignQueue: | 1    | 28   | 2    | 0    | 0    | 0    | 5    | 12   | 0    | 0    | 11   | 6    |

\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #23 Bayshore at Alder  
\*\*\*\*\*

Average Delay (sec/veh): 0.4 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 1 0    | 0 0 0 0 0    | 0 1 0 0 0  | 0 0 0 1 0  |

Volume Module:  
Base Vol: 30 1311 50 0 0 0 15 5 0 0 20 25  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 1311 50 0 0 0 15 5 0 0 20 25  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 1311 50 0 0 0 15 5 0 0 20 25  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 30 1311 50 0 0 0 15 5 0 0 20 25

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 7.1 6.5 xxxxx xxxxx 6.5 6.2  
FollowUpTim: 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 4.0 xxxxx xxxxx 4.0 3.3

Capacity Module:  
Cnflct Vol: 0 xxxx xxxxx xxxxx xxxxx xxxxx 726 1421 xxxxx xxxxx 1396 681  
Potent Cap.: 0 xxxx xxxxx xxxxx xxxxx xxxxx 340 136 xxxxx xxxxx 140 447  
Move Cap.: 0 xxxx xxxxx xxxxx xxxxx xxxxx 286 136 xxxxx xxxxx 140 447

Level Of Service Module:  
Stopped Del: 0.0 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: A \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxxx xxxxx xxxxx xxxxx 224 xxxx xxxxx xxxxx xxxxx 226  
Shrd StpDel: 0.0 xxxx xxxxx xxxxx xxxxx xxxxx 22.6 xxxx xxxxx xxxxx xxxxx 24.8  
Shared LOS: A \* \* \* \* \* C \* \* \* \* \* C  
ApproachDel: xxxxxx xxxxxx 22.6 24.8  
ApproachLOS: \* \* C C

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #24 Broadway at Alder  
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 0 0 0 0    | 0 1 0 1 0    | 0 0 0 1 0  | 0 1 0 0 0  |

Volume Module:  
Base Vol: 0 0 0 30 1406 5 0 10 10 70 10 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 30 1406 5 0 10 10 70 10 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 30 1406 5 0 10 10 70 10 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 30 1406 5 0 10 10 70 10 0

Critical Gap Module:  
Critical Gp:xxxxx xxxxx xxxxx 4.1 xxxx xxxxx xxxxx 6.5 6.2 7.1 6.5 xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 2.2 xxxx xxxxx xxxxx 4.0 3.3 3.5 4.0 xxxxx

Capacity Module:  
Cnflct Vol: xxxx xxxxx xxxxx 0 xxxx xxxxx xxxxx 1469 706 768 1471 xxxxx  
Potent Cap.: xxxx xxxxx xxxxx 0 xxxx xxxxx xxxxx 129 440 317 126 xxxxx  
Move Cap.: xxxx xxxxx xxxxx 0 xxxx xxxxx xxxxx 129 440 292 126 xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 199 251 xxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxxx 25.1 25.9 xxxx xxxxx  
Shared LOS: \* \* \* \* \* A \* \* \* \* \* D D \* \*  
ApproachDel: xxxxxx xxxxxx 25.1 25.9  
ApproachLOS: \* \* D D

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #25 Bayshore at Commercial  
\*\*\*\*\*

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 1 0 0    | 0 0 0 0 0    | 0 0 0 0 0  | 0 0 0 0 0  |

Volume Module:

|              |           |      |      |      |      |      |      |      |      |      |      |
|--------------|-----------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 400 1276  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Growth Adj:  | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 400 1276  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| User Adj:    | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 400 1276  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduct Vol:  | 0 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 400 1276  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

Critical Gap Module:

|              |     |      |       |       |       |       |       |       |       |       |       |
|--------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Critical Gp: | 4.1 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| FollowUpTim: | 2.2 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Capacity Module:

|              |   |      |       |       |       |       |       |       |       |       |       |
|--------------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cnflct Vol:  | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Potent Cap.: | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |
| Move Cap.:   | 0 | xxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxxx       |               | xxxxxxx       |               | xxxxxxx       |               | xxxxxxx       |               | xxxxxxx       |               | xxxxxxx       |
| ApproachLOS: | *             |               | *             |               | *             |               | *             |               | *             |               | *             |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #26 Bayshore at Cedar  
\*\*\*\*\*

Average Delay (sec/veh): 0.1 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 1 0    | 0 0 0 0 0    | 1 0 0 0 0  | 0 0 0 0 1  |

Volume Module:

|              |           |      |      |      |      |      |      |      |      |      |      |
|--------------|-----------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0 1391    | 5    | 0    | 0    | 0    | 10   | 0    | 0    | 0    | 0    | 10   |
| Growth Adj:  | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 1391    | 5    | 0    | 0    | 0    | 10   | 0    | 0    | 0    | 0    | 10   |
| User Adj:    | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0 1391    | 5    | 0    | 0    | 0    | 10   | 0    | 0    | 0    | 0    | 10   |
| Reduct Vol:  | 0 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0 1391    | 5    | 0    | 0    | 0    | 10   | 0    | 0    | 0    | 0    | 10   |

Critical Gap Module:

|              |       |      |       |       |       |     |      |       |       |       |     |
|--------------|-------|------|-------|-------|-------|-----|------|-------|-------|-------|-----|
| Critical Gp: | xxxxx | xxxx | xxxxx | xxxxx | xxxxx | 7.1 | xxxx | xxxxx | xxxxx | xxxxx | 6.2 |
| FollowUpTim: | xxxxx | xxxx | xxxxx | xxxxx | xxxxx | 3.5 | xxxx | xxxxx | xxxxx | xxxxx | 3.3 |

Capacity Module:

|              |      |      |       |       |       |     |      |       |       |       |     |
|--------------|------|------|-------|-------|-------|-----|------|-------|-------|-------|-----|
| Cnflct Vol:  | xxxx | xxxx | xxxxx | xxxxx | xxxxx | 696 | xxxx | xxxxx | xxxxx | xxxxx | 698 |
| Potent Cap.: | xxxx | xxxx | xxxxx | xxxxx | xxxxx | 359 | xxxx | xxxxx | xxxxx | xxxxx | 444 |
| Move Cap.:   | xxxx | xxxx | xxxxx | xxxxx | xxxxx | 351 | xxxx | xxxxx | xxxxx | xxxxx | 444 |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxxx         | 15.6          | xxxx          | xxxxx         | xxxxx         | xxxxx         | 13.3          |
| LOS by Move: | *             | *             | *             | *             | *             | C             | *             | *             | *             | *             | B             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | 0.0           | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | A             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxxx       |               | xxxxxxx       |               | xxxxxxx       | 15.6          |               |               |               |               | 13.3          |
| ApproachLOS: | *             |               | *             |               | *             | C             |               |               |               |               | B             |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #27 Bayshore at Birch

Average Delay (sec/veh): 0.2 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 1 0    | 0 0 0 0 0    | 0 1 0 0 0  | 0 0 0 0 1  |

Volume Module:  
Base Vol: 5 1301 10 0 0 0 0 0 0 0 0 0 50  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 1301 10 0 0 0 0 0 0 0 0 0 50  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 1301 10 0 0 0 0 0 0 0 0 0 50  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 5 1301 10 0 0 0 0 0 0 0 0 0 50

Critical Gap Module:  
Critical Gp: 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.2  
FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.3

Capacity Module:  
Cnflct Vol: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 656  
Potent Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 464  
Move Cap.: 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 464

Level Of Service Module:  
Stopped Del: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 13.7  
LOS by Move: A \* \* \* \* \* \* \* \* \* \* B  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: A \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 13.7  
ApproachLOS: \* \* \* B

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #28 Bayshore at Fir

Average Delay (sec/veh): 0.0 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 0 1 0 1 0    | 0 0 0 0 0    | 0 0 0 0 0  | 0 0 0 0 1  |

Volume Module:  
Base Vol: 0 1481 5 0 0 0 0 0 0 0 0 0 5  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 1481 5 0 0 0 0 0 0 0 0 0 5  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 1481 5 0 0 0 0 0 0 0 0 0 5  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 1481 5 0 0 0 0 0 0 0 0 0 5

Critical Gap Module:  
Critical Gp: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.2  
FollowUpTim: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.3

Capacity Module:  
Cnflct Vol: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 743  
Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 418  
Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 418

Level Of Service Module:  
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 13.7  
LOS by Move: \* \* \* \* \* \* \* \* \* \* B  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: A \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 13.7  
ApproachLOS: \* \* \* B



Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #29 Broadway at Fir  
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 1 0 0 0 0

Volume Module:  
Base Vol: 0 0 0 0 1516 0 0 0 0 50 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 0 1516 0 0 0 0 50 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 0 1516 0 0 0 0 50 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 0 1516 0 0 0 0 50 0 0

Critical Gap Module:  
Critical Gp:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 758 xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 373 xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 373 xxxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 16.1 xxxxx xxxxx  
LOS by Move: \* \* \* \* \* \* \* \* \* \* C \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 16.1  
ApproachLOS: \* \* \* C

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #30 Hwy 101 at Koosbay  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.599

Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.8

Optimal Cycle: 48 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Permitted Split Phase Split Phase  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 2 0 0 0 0 1 1 0 0 0 0 0 0 0

Volume Module:  
Base Vol: 93 1125 0 0 1270 18 23 0 141 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 93 1125 0 0 1270 18 23 0 141 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 93 1125 0 0 1270 18 23 0 141 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 93 1125 0 0 1270 18 23 0 141 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 93 1125 0 0 1270 18 23 0 141 0 0 0

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.90 0.90 1.00 1.00 0.91 0.91 0.85 1.00 0.85 1.00 1.00 1.00  
Lanes: 1.00 2.00 0.00 0.00 1.97 0.03 0.14 0.00 0.86 0.00 0.00 0.00  
Final Sat.: 1718 3437 0 0 3417 48 227 0 1392 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.05 0.33 0.00 0.00 0.37 0.37 0.10 0.00 0.10 0.00 0.00 0.00  
Crit Moves: \*\*\*\* \*\*\*\* \*\*\*\*  
Green/Cycle: 0.09 0.71 0.00 0.00 0.62 0.62 0.17 0.00 0.17 0.00 0.00 0.00  
Volume/Cap: 0.60 0.46 0.00 0.00 0.60 0.60 0.60 0.00 0.60 0.00 0.00 0.00  
Delay/Veh: 50.0 6.4 0.0 0.0 11.9 11.9 42.0 0.0 42.0 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 50.0 6.4 0.0 0.0 11.9 11.9 42.0 0.0 42.0 0.0 0.0 0.0  
DesignQueue: 5 20 0 0 29 0 1 0 7 0 0 0

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #31 Ocean Blvd. at Butler  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.414  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 4.3  
Optimal Cycle: 28 Level Of Service: A  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 0 0 0 0 0   | 1 0 0 0 1   | 0 1 0 1 0  | 0 1 0 1 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 5    | 0    | 71   | 64   | 891  | 20   | 50   | 836  | 20   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 5    | 0    | 71   | 64   | 891  | 20   | 50   | 836  | 20   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 5    | 0    | 71   | 64   | 891  | 20   | 50   | 836  | 20   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 5    | 0    | 71   | 64   | 891  | 20   | 50   | 836  | 20   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 5    | 0    | 71   | 64   | 891  | 20   | 50   | 836  | 20   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 0.94 | 1.00 | 0.84 | 0.76 | 0.76 | 0.76 | 0.78 | 0.78 | 0.78 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.13 | 1.83 | 0.04 | 0.11 | 1.85 | 0.04 |
| Final Sat.: | 0    | 0    | 0    | 1787 | 0    | 1599 | 190  | 2650 | 59   | 163  | 2718 | 65   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.34 | 0.34 | 0.34 | 0.31 | 0.31 | 0.31 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.11 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.41 | 0.41 | 0.41 | 0.41 | 0.38 | 0.38 | 0.38 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 40.0 | 0.0  | 43.3 | 2.8  | 2.8  | 2.8  | 2.6  | 2.6  | 2.6  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 40.0 | 0.0  | 43.3 | 2.8  | 2.8  | 2.8  | 2.6  | 2.6  | 2.6  |
| DesignQueue: | 0    | 0    | 0    | 0    | 0    | 4    | 1    | 10   | 0    | 1    | 9    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #32 Hwy 101 at Newmark  
\*\*\*\*\*

Cycle (sec): 120 Critical Vol./Cap. (X): 0.821  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 32.4  
Optimal Cycle: 87 Level Of Service: C  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 1 0 1 1 0   | 1 0 2 0 1   | 1 0 0 1 0  | 0 0 1 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 393  | 1030 | 5    | 0    | 1031 | 86   | 154  | 0    | 336  | 5    | 5    | 5    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 393  | 1030 | 5    | 0    | 1031 | 86   | 154  | 0    | 336  | 5    | 5    | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 393  | 1030 | 5    | 0    | 1031 | 86   | 154  | 0    | 336  | 5    | 5    | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 393  | 1030 | 5    | 0    | 1031 | 86   | 154  | 0    | 336  | 5    | 5    | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 393  | 1030 | 5    | 0    | 1031 | 86   | 154  | 0    | 336  | 5    | 5    | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.91 | 0.91 | 0.91 | 1.00 | 0.90 | 0.81 | 0.74 | 1.00 | 0.83 | 0.80 | 0.80 | 0.80 |
| Lanes:      | 1.00 | 1.99 | 0.01 | 1.00 | 2.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.34 | 0.33 | 0.33 |
| Final Sat.: | 1736 | 3453 | 17   | 1900 | 3437 | 1537 | 1408 | 0    | 1583 | 510  | 510  | 510  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.23 | 0.30 | 0.30 | 0.00 | 0.30 | 0.06 | 0.11 | 0.00 | 0.21 | 0.01 | 0.01 | 0.01 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.28 | 0.64 | 0.64 | 0.00 | 0.37 | 0.37 | 0.26 | 0.00 | 0.26 | 0.26 | 0.26 | 0.26 |
| Volume/Cap:  | 0.82 | 0.47 | 0.47 | 0.00 | 0.82 | 0.15 | 0.42 | 0.00 | 0.82 | 0.04 | 0.04 | 0.04 |
| Delay/Veh:   | 51.5 | 11.2 | 11.2 | 0.0  | 38.9 | 25.7 | 37.8 | 0.0  | 54.3 | 33.3 | 33.3 | 33.3 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 51.5 | 11.2 | 11.2 | 0.0  | 38.9 | 25.7 | 37.8 | 0.0  | 54.3 | 33.3 | 33.3 | 33.3 |
| DesignQueue: | 20   | 27   | 0    | 0    | 47   | 4    | 8    | 0    | 17   | 0    | 0    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #33 Newmark at Sherman  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.628  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 28.2  
Optimal Cycle: 60 Level Of Service: C  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |  |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|--|
| Movement:   | L           | T | R |   | L           | T | R |   | L          | T | R |   | L          | T | R |  |
| Control:    | Protected   |   |   |   | Protected   |   |   |   | Protected  |   |   |   | Protected  |   |   |  |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |  |
| Min. Green: | 0           | 0 | 0 |   | 0           | 0 | 0 |   | 0          | 0 | 0 |   | 0          | 0 | 0 |  |
| Lanes:      | 1           | 0 | 0 | 1 | 0           | 0 | 1 | 0 | 1          | 0 | 1 | 0 | 1          | 0 | 0 |  |

Volume Module:  
Base Vol: 228 140 30 13 113 69 73 491 193 11 474 9  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 228 140 30 13 113 69 73 491 193 11 474 9  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 228 140 30 13 113 69 73 491 193 11 474 9  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 228 140 30 13 113 69 73 491 193 11 474 9  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 228 140 30 13 113 69 73 491 193 11 474 9

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.94 0.96 0.96 0.95 0.94 0.94 0.94 0.99 0.84 0.94 0.99 0.99  
Lanes: 1.00 0.82 0.18 1.00 0.62 0.38 1.00 1.00 1.00 1.00 0.98 0.02  
Final Sat.: 1787 1509 323 1805 1112 679 1787 1881 1599 1787 1840 35

Capacity Analysis Module:  
Vol/Sat: 0.13 0.09 0.09 0.01 0.10 0.10 0.04 0.26 0.12 0.01 0.26 0.26  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.20 0.34 0.34 0.03 0.16 0.16 0.07 0.46 0.46 0.01 0.41 0.41  
Volume/Cap: 0.63 0.27 0.27 0.27 0.63 0.63 0.63 0.56 0.26 0.56 0.63 0.63  
Delay/Veh: 39.9 24.4 24.4 50.9 43.5 43.5 56.0 20.3 16.5 81.7 25.1 25.1  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 39.9 24.4 24.4 50.9 43.5 43.5 56.0 20.3 16.5 81.7 25.1 25.1  
DesignQueue: 10 5 1 1 5 3 4 16 6 1 17 0

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #34 Newmark at Brussels  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.434  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 8.1  
Optimal Cycle: 29 Level Of Service: A  
\*\*\*\*\*

| Approach:   | North Bound |   |   |   | South Bound |   |   |   | East Bound |   |   |   | West Bound |   |   |  |
|-------------|-------------|---|---|---|-------------|---|---|---|------------|---|---|---|------------|---|---|--|
| Movement:   | L           | T | R |   | L           | T | R |   | L          | T | R |   | L          | T | R |  |
| Control:    | Permitted   |   |   |   | Permitted   |   |   |   | Permitted  |   |   |   | Permitted  |   |   |  |
| Rights:     | Include     |   |   |   | Include     |   |   |   | Include    |   |   |   | Include    |   |   |  |
| Min. Green: | 0           | 0 | 0 |   | 0           | 0 | 0 |   | 0          | 0 | 0 |   | 0          | 0 | 0 |  |
| Lanes:      | 0           | 0 | 1 | 0 | 0           | 1 | 0 | 0 | 0          | 1 | 0 | 1 | 0          | 1 | 0 |  |

Volume Module:  
Base Vol: 5 0 10 106 0 50 130 695 5 5 510 154  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 0 10 106 0 50 130 695 5 5 510 154  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 0 10 106 0 50 130 695 5 5 510 154  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 5 0 10 106 0 50 130 695 5 5 510 154  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 5 0 10 106 0 50 130 695 5 5 510 154

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.85 1.00 0.85 0.70 1.00 0.84 0.68 0.68 0.68 0.86 0.86 0.86  
Lanes: 0.33 0.00 0.67 1.00 0.00 1.00 0.31 1.68 0.01 0.01 1.53 0.46  
Final Sat.: 537 0 1074 1322 0 1599 407 2176 16 25 2506 757

Capacity Analysis Module:  
Vol/Sat: 0.01 0.00 0.01 0.08 0.00 0.03 0.32 0.32 0.32 0.20 0.20 0.20  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.18 0.00 0.18 0.18 0.00 0.18 0.74 0.74 0.74 0.74 0.74 0.74  
Volume/Cap: 0.05 0.00 0.05 0.43 0.00 0.17 0.43 0.43 0.43 0.28 0.28 0.28  
Delay/Veh: 33.6 0.0 33.6 37.4 0.0 34.6 5.3 5.3 5.3 4.5 4.5 4.5  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 33.6 0.0 33.6 37.4 0.0 34.6 5.3 5.3 5.3 4.5 4.5 4.5  
DesignQueue: 0 0 0 5 0 2 2 11 0 0 8 2

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #35 Pony Creek at Crowell  
\*\*\*\*\*

Average Delay (sec/veh): 3.5 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 0            | 1 | 0 | 0            | 0 | 0 | 0          | 0 | 1 | 0          | 0 | 0 |

Volume Module:  
Base Vol: 50 285 0 0 191 51 63 0 55 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 50 285 0 0 191 51 63 0 55 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 50 285 0 0 191 51 63 0 55 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 50 285 0 0 191 51 63 0 55 0 0 0

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxx 6.2 xxxxx xxxxx xxxxx  
FollowUpTim: 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxx 3.3 xxxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: 242 xxxx xxxxx xxxxx xxxxx xxxxx 602 xxxx 217 xxxx xxxxx xxxxx  
Potent Cap.: 1324 xxxx xxxxx xxxxx xxxxx xxxxx 461 xxxx 821 xxxx xxxxx xxxxx  
Move Cap.: 1324 xxxx xxxxx xxxxx xxxxx xxxxx 448 xxxx 821 xxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 7.8 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxxx xxxxx xxxxx 568 xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: 7.8 xxxx xxxxx xxxxx xxxxx xxxxx 13.0 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: A \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 13.0 xxxxxx  
ApproachLOS: \* \* B \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #36 Virginia at Harrison  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.455  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 11.4  
Optimal Cycle: 38 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 0 | 0           | 0 | 1 | 1          | 0 | 1 | 1          | 0 | 1 |

Volume Module:  
Base Vol: 85 5 103 15 10 10 25 1032 56 36 976 5  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 85 5 103 15 10 10 25 1032 56 36 976 5  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 85 5 103 15 10 10 25 1032 56 36 976 5  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 85 5 103 15 10 10 25 1032 56 36 976 5  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 85 5 103 15 10 10 25 1032 56 36 976 5

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.68 0.68 0.83 0.84 0.84 0.84 0.93 0.92 0.92 0.91 0.91 0.91  
Lanes: 0.94 0.06 1.00 0.43 0.28 0.29 1.00 1.90 0.10 1.00 1.99 0.01  
Final Sat.: 1225 72 1568 687 458 458 1769 3329 181 1736 3452 18

Capacity Analysis Module:  
Vol/Sat: 0.07 0.07 0.07 0.02 0.02 0.02 0.01 0.31 0.31 0.02 0.28 0.28  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.15 0.15 0.15 0.15 0.15 0.15 0.03 0.68 0.68 0.05 0.69 0.69  
Volume/Cap: 0.45 0.45 0.43 0.14 0.14 0.14 0.41 0.45 0.45 0.45 0.41 0.41  
Delay/Veh: 40.2 40.2 39.7 37.0 37.0 37.0 51.7 7.5 7.5 50.6 6.7 6.7  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 40.2 40.2 39.7 37.0 37.0 37.0 51.7 7.5 7.5 50.6 6.7 6.7  
DesignQueue: 4 0 5 1 0 0 1 20 1 2 18 0  
\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #37 Virginia at Safeway entrance  
\*\*\*\*\*

Average Delay (sec/veh): 3.1 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 1     | 0 0 1 0 0   | 0 1 0 1 0    | 1 0 2 0 0    |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 105  | 0    | 5    | 0    | 5    | 943  | 55   | 115  | 921  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 105  | 0    | 5    | 0    | 5    | 943  | 55   | 115  | 921  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 105  | 0    | 5    | 0    | 5    | 943  | 55   | 115  | 921  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 105  | 0    | 5    | 0    | 5    | 943  | 55   | 115  | 921  | 0    |

Critical Gap Module:

|              |       |       |     |       |     |       |     |       |       |     |       |       |
|--------------|-------|-------|-----|-------|-----|-------|-----|-------|-------|-----|-------|-------|
| Critical Gp: | xxxxx | xxxxx | 6.9 | xxxxx | 6.5 | xxxxx | 4.1 | xxxxx | xxxxx | 4.2 | xxxxx | xxxxx |
| FollowUpTim: | xxxxx | xxxxx | 3.3 | xxxxx | 4.0 | xxxxx | 2.2 | xxxxx | xxxxx | 2.2 | xxxxx | xxxxx |

Capacity Module:

|              |       |       |     |       |      |       |     |       |       |     |       |       |
|--------------|-------|-------|-----|-------|------|-------|-----|-------|-------|-----|-------|-------|
| Cnflct Vol:  | xxxxx | xxxxx | 499 | xxxxx | 2159 | xxxxx | 921 | xxxxx | xxxxx | 998 | xxxxx | xxxxx |
| Potent Cap.: | xxxxx | xxxxx | 520 | xxxxx | 48   | xxxxx | 737 | xxxxx | xxxxx | 683 | xxxxx | xxxxx |
| Move Cap.:   | xxxxx | xxxxx | 520 | xxxxx | 40   | xxxxx | 737 | xxxxx | xxxxx | 683 | xxxxx | xxxxx |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxxx         | 13.7          | xxxxx         | 108           | xxxxx         | 9.9           | xxxxx         | xxxxx         | 11.3          | xxxxx         | xxxxx         |
| LOS by Move: | *             | *             | B             | *             | F             | *             | A             | *             | *             | B             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | 9.9           | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | A             | *             | *             | *             | *             | *             |
| ApproachDel: | 13.7          |               |               | 108.1         |               |               | xxxxxxx       |               |               | xxxxxxx       |               |               |
| ApproachLOS: | B             |               |               | F             |               |               | *             |               |               | *             |               | *             |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #38 Virginia at Pony Villiage entrance A  
\*\*\*\*\*

Average Delay (sec/veh): 1.8 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 0 0 0   | 0 0 1 1 0    | 1 0 2 0 0    |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 915  | 90   | 50   | 924  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 915  | 90   | 50   | 924  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 915  | 90   | 50   | 924  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 55   | 0    | 20   | 0    | 0    | 0    | 0    | 915  | 90   | 50   | 924  | 0    |

Critical Gap Module:

|              |     |       |     |       |       |       |       |       |       |     |       |       |
|--------------|-----|-------|-----|-------|-------|-------|-------|-------|-------|-----|-------|-------|
| Critical Gp: | 6.8 | xxxxx | 6.9 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 4.1 | xxxxx | xxxxx |
| FollowUpTim: | 3.5 | xxxxx | 3.3 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 2.2 | xxxxx | xxxxx |

Capacity Module:

|              |      |       |     |       |       |       |       |       |       |      |       |       |
|--------------|------|-------|-----|-------|-------|-------|-------|-------|-------|------|-------|-------|
| Cnflct Vol:  | 1522 | xxxxx | 503 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 1005 | xxxxx | xxxxx |
| Potent Cap.: | 110  | xxxxx | 517 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 697  | xxxxx | xxxxx |
| Move Cap.:   | 104  | xxxxx | 517 | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | xxxxx | 697  | xxxxx | xxxxx |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | 10.6          | xxxxx         | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | *             | *             | *             | B             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxxx         | 132           | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shrd StpDel: | xxxxx         | 63.0          | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| Shared LOS:  | *             | F             | *             | *             | *             | *             | *             | *             | *             | *             | *             | *             |
| ApproachDel: | 63.0          |               |               | xxxxxxx       |               |               | xxxxxxx       |               |               | xxxxxxx       |               |               |
| ApproachLOS: | F             |               |               | *             |               |               | *             |               |               | *             |               | *             |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #39 Sherman at Hwy 101 South  
\*\*\*\*\*

Average Delay (sec/veh): 1.6 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 1 0 1 0 0 1 0 0 1 0 0 0 0

Volume Module:  
Base Vol: 0 0 0 20 968 230 25 70 0 5 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 20 968 230 25 70 0 5 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 20 968 230 25 70 0 5 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 20 968 230 25 70 0 5 0 0

Critical Gap Module:  
Critical Gp:xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx 7.1 6.5 xxxxx 7.1 xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx 3.5 4.0 xxxxx 3.5 xxxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxxx xxxxx xxxxx 0 xxxxx xxxxx 1123 1123 xxxxx 559 xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 0 xxxxx xxxxx 185 207 xxxxx 443 xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 0 xxxxx xxxxx 185 207 xxxxx 327 xxxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx 16.2 xxxxx xxxxx  
LOS by Move: \* \* \* A \* \* \* C \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 201 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 38.0 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* E \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 38.0 16.2  
ApproachLOS: \* \* E C

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #40 Virginia at Meade  
\*\*\*\*\*

Average Delay (sec/veh): 4.8 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 1 0 0 1 0 0 0 1 1 0 0 0 0 1 1 0 0

Volume Module:  
Base Vol: 5 0 15 5 0 154 297 720 0 0 872 10  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 0 15 5 0 154 297 720 0 0 872 10  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 0 15 5 0 154 297 720 0 0 872 10  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 5 0 15 5 0 154 297 720 0 0 872 10

Critical Gap Module:  
Critical Gp: 7.5 xxxxx 6.9 7.5 xxxxx 6.9 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim: 3.5 xxxxx 3.3 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: 1750 xxxxx 360 1831 xxxxx 441 882 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: 56 xxxxx 642 48 xxxxx 567 762 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: 26 xxxxx 642 30 xxxxx 567 762 xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del:175.5 xxxxx xxxxx xxxxx xxxxx xxxxx 12.7 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: F \* \* \* \* \* B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx 642 xxxxx 361 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx 10.7 xxxxx 22.6 xxxxx 12.7 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* B \* C \* B \* \* \* \* \*  
ApproachDel: 51.9 22.6 xxxxxx xxxxxx  
ApproachLOS: F C \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #41 Virginia at Marion  
\*\*\*\*\*

Average Delay (sec/veh): 2.2 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 1 0 1 1 0

Volume Module:  
Base Vol: 30 5 90 20 5 10 0 914 60 30 930 5  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 5 90 20 5 10 0 914 60 30 930 5  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 5 90 20 5 10 0 914 60 30 930 5  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 30 5 90 20 5 10 0 914 60 30 930 5

Critical Gap Module:  
Critical Gp: 7.5 6.5 6.9 7.5 6.5 6.9 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 xxxxxx xxxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:  
Cnflct Vol: 1472 1939 487 1452 1967 468 xxxxx xxxxx xxxxx 974 xxxxx xxxxx  
Potent Cap.: 89 65 529 93 64 547 xxxxx xxxxx xxxxx 704 xxxxx xxxxx  
Move Cap.: 80 63 529 70 61 547 xxxxx xxxxx xxxxx 704 xxxxx xxxxx

Level Of Service Module:  
Stopped Del: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 10.3 xxxxx xxxxx  
LOS by Move: \* \* \* \* \* \* \* \* \* \* B \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx 199 xxxxx xxxxx 91 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx 49.3 xxxxx xxxxx 67.5 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* E \* \* \* F \* \* \* \* \* \* \* \*  
ApproachDel: 49.3 67.5 xxxxxxx xxxxxxx  
ApproachLOS: E F \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #42 Virginia at Maple  
\*\*\*\*\*

Average Delay (sec/veh): 4.1 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 0 1 0 0 1 0 1 0 1

Volume Module:  
Base Vol: 0 0 0 192 0 10 0 308 0 0 419 149  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 192 0 10 0 308 0 0 419 149  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 192 0 10 0 308 0 0 419 149  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 192 0 10 0 308 0 0 419 149

Critical Gap Module:  
Critical Gp: xxxxx xxxxx xxxxx 6.4 xxxxx 6.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim: xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Cnflct Vol: xxxxx xxxxx xxxxx 727 xxxxx 419 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 392 xxxxx 636 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 392 xxxxx 636 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: xxxxx xxxxx xxxxx 22.6 xxxxx 10.7 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* C \* B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxxx 22.1 xxxxxxx xxxxxxx  
ApproachLOS: \* C \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #43 Maple at East Airport Way

Average Delay (sec/veh): 2.0 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0    | 0 0 0 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 10   | 0    | 10   | 5    | 122  | 0    | 0    | 144  | 30   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 10   | 0    | 10   | 5    | 122  | 0    | 0    | 144  | 30   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 10   | 0    | 10   | 5    | 122  | 0    | 0    | 144  | 30   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 10   | 0    | 10   | 5    | 122  | 0    | 0    | 144  | 30   |

## Critical Gap Module:

|              |       |      |       |     |      |     |     |      |       |       |      |       |
|--------------|-------|------|-------|-----|------|-----|-----|------|-------|-------|------|-------|
| Critical Gp: | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |       |      |       |     |      |     |      |      |       |      |      |       |
|--------------|-------|------|-------|-----|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxxx | xxxx | xxxxx | 291 | xxxx | 159 | 174  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx  | xxxx | xxxxx | 702 | xxxx | 889 | 1415 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx  | xxxx | xxxxx | 700 | xxxx | 889 | 1415 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 7.6           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | A             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | 783           | xxxxx         | xxxxx         | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | 9.7           | xxxxx         | 7.6           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | A             | *             | A             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | 9.7           |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | *             |               |               | A             |               |               | *             |               |               | *             |               |               |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

## Intersection #44 Virginia at Arthur

Average Delay (sec/veh): 1.8 Worst Case Level Of Service:

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 0 0 0   | 0 0 1 0 0   | 0 1 0 0 0    | 0 0 0 1 0    |

## Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 10   | 0    | 30   | 8    | 112  | 0    | 0    | 232  | 15   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 10   | 0    | 30   | 8    | 112  | 0    | 0    | 232  | 15   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 10   | 0    | 30   | 8    | 112  | 0    | 0    | 232  | 15   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 10   | 0    | 30   | 8    | 112  | 0    | 0    | 232  | 15   |

## Critical Gap Module:

|              |       |      |       |     |      |     |     |      |       |       |      |       |
|--------------|-------|------|-------|-----|------|-----|-----|------|-------|-------|------|-------|
| Critical Gp: | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

## Capacity Module:

|              |       |      |       |     |      |     |      |      |       |      |      |       |
|--------------|-------|------|-------|-----|------|-----|------|------|-------|------|------|-------|
| Cnflct Vol:  | xxxxx | xxxx | xxxxx | 368 | xxxx | 240 | 247  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx  | xxxx | xxxxx | 636 | xxxx | 804 | 1325 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx  | xxxx | xxxxx | 634 | xxxx | 804 | 1325 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

## Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         | 7.7           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| LOS by Move: | *             | *             | *             | *             | *             | *             | A             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | 754           | xxxxx         | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | 10.0          | xxxxx         | 7.7           | xxxx          | xxxxx         | xxxxx         | xxxx          | xxxxx         |
| Shared LOS:  | *             | *             | *             | *             | B             | *             | A             | *             | *             | *             | *             | *             |
| ApproachDel: | xxxxxx        |               |               | 10.0          |               |               | xxxxxx        |               |               | xxxxxx        |               |               |
| ApproachLOS: | *             |               |               | B             |               |               | *             |               |               | *             |               |               |



Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #45 Virginia at Channel St.  
\*\*\*\*\*

Average Delay (sec/veh): 2.1 Worst Case Level Of Service:

| Approach: | North Bound |   |   |   | South Bound |   |   |   | East Bound   |   |   |   | West Bound   |   |   |   |
|-----------|-------------|---|---|---|-------------|---|---|---|--------------|---|---|---|--------------|---|---|---|
| Movement: | L           | T | R |   | L           | T | R |   | L            | T | R |   | L            | T | R |   |
| Control:  | Stop Sign   |   |   |   | Stop Sign   |   |   |   | Uncontrolled |   |   |   | Uncontrolled |   |   |   |
| Rights:   | Include     |   |   |   | Include     |   |   |   | Include      |   |   |   | Include      |   |   |   |
| Lanes:    | 0           | 0 | 1 | 0 | 0           | 0 | 1 | 0 | 0            | 1 | 0 | 0 | 0            | 0 | 0 | 1 |

Volume Module:  
Base Vol: 0 0 0 21 0 12 24 129 0 0 199 23  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 21 0 12 24 129 0 0 199 23  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 21 0 12 24 129 0 0 199 23  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 21 0 12 24 129 0 0 199 23

Critical Gap Module:  
Critical Gap:xxxxx xxxxx xxxxx 6.4 xxxxx 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx 388 xxxxx 211 222 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 620 xxxxx 835 1347 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 611 xxxxx 835 1347 xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.7 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx 0 xxxxx xxxxx 677 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx 10.6 xxxxx 7.7 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx 10.6 xxxxxx xxxxxx  
ApproachLOS: \* B \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #46 Lakeshore at Crocker  
\*\*\*\*\*

Average Delay (sec/veh): 5.1 Worst Case Level Of Service:

| Approach: | North Bound |   |   |   | South Bound |   |   |   | East Bound   |   |   |   | West Bound   |   |   |   |
|-----------|-------------|---|---|---|-------------|---|---|---|--------------|---|---|---|--------------|---|---|---|
| Movement: | L           | T | R |   | L           | T | R |   | L            | T | R |   | L            | T | R |   |
| Control:  | Stop Sign   |   |   |   | Stop Sign   |   |   |   | Uncontrolled |   |   |   | Uncontrolled |   |   |   |
| Rights:   | Include     |   |   |   | Include     |   |   |   | Include      |   |   |   | Include      |   |   |   |
| Lanes:    | 0           | 0 | 0 | 1 | 0           | 0 | 1 | 0 | 0            | 1 | 0 | 0 | 0            | 0 | 0 | 1 |

Volume Module:  
Base Vol: 0 10 5 29 5 74 68 76 0 0 37 17  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 10 5 29 5 74 68 76 0 0 37 17  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 10 5 29 5 74 68 76 0 0 37 17  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 10 5 29 5 74 68 76 0 0 37 17

Critical Gap Module:  
Critical Gap:xxxxx 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim:xxxxx 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx 266 76 265 258 46 54 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx 643 991 686 645 1021 1551 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx 614 991 650 616 1021 1551 xxxxx xxxxx xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx 703 xxxxx 863 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx 10.2 xxxxx 9.8 xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 10.2 9.8 xxxxxx xxxxxx  
ApproachLOS: B A \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #47 Virginia at Oak  
\*\*\*\*\*  
Average Delay (sec/veh): 2.4 Worst Case Level Of Service:  
\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
-----  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 1 0 0 1 0 0 1 0 0  
-----  
Volume Module:  
Base Vol: 11 26 54 15 45 10 5 197 22 74 294 20  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 11 26 54 15 45 10 5 197 22 74 294 20  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 11 26 54 15 45 10 5 197 22 74 294 20  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 11 26 54 15 45 10 5 197 22 74 294 20  
-----  
Critical Gap Module:  
Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxx xxxxx 2.2 xxxx xxxxx  
-----  
Capacity Module:  
Conflict Vol: 698 680 208 710 681 304 314 xxxx xxxxx 219 xxxx xxxxx  
Potent Cap.: 355 373 832 351 375 740 1241 xxxx xxxxx 1356 xxxx xxxxx  
Move Cap.: 302 351 832 296 353 740 1241 xxxx xxxxx 1356 xxxx xxxxx  
-----  
Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.9 xxxx xxxxx 7.8 xxxx xxxxx  
LOS by Move: \* \* \* \* \* A \* \* \* A \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx 519 xxxxx xxxxx 365 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx 13.4 xxxxx xxxxx 17.2 xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* B \* \* C \* \* \* \* \*  
ApproachDel: 13.4 17.2 xxxxxxx xxxxxxx  
ApproachLOS: B C \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #48 Newmark at Oak  
\*\*\*\*\*  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.584  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 12.6  
Optimal Cycle: 47 Level Of Service: B  
\*\*\*\*\*  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
-----  
Control: Split Phase Split Phase Protected Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 0 0 0 0 0 0 0 1 0 0 1 0 2 0 0 0 0 0 1 1 0  
-----  
Volume Module:  
Base Vol: 0 0 0 56 0 92 126 1206 0 0 1162 82  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 56 0 92 126 1206 0 0 1162 82  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 56 0 92 126 1206 0 0 1162 82  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 56 0 92 126 1206 0 0 1162 82  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 0 0 0 56 0 92 126 1206 0 0 1162 82  
-----  
Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 1.00 1.00 1.00 0.89 1.00 0.89 0.93 0.93 1.00 1.00 0.92 0.92  
Lanes: 0.00 0.00 0.00 0.38 0.00 0.62 1.00 2.00 0.00 0.00 1.87 0.13  
Final Sat.: 0 0 0 640 0 1051 1769 3538 0 0 3272 231  
-----  
Capacity Analysis Module:  
Vol/Sat: 0.00 0.00 0.00 0.09 0.00 0.09 0.07 0.34 0.00 0.00 0.36 0.36  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.00 0.00 0.00 0.15 0.00 0.15 0.12 0.73 0.00 0.00 0.61 0.61  
Volume/Cap: 0.00 0.00 0.00 0.58 0.00 0.58 0.58 0.47 0.00 0.00 0.58 0.58  
Delay/Veh: 0.0 0.0 0.0 43.1 0.0 43.1 45.6 5.7 0.0 0.0 12.3 12.3  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 43.1 0.0 43.1 45.6 5.7 0.0 0.0 12.3 12.3  
DesignQueue: 0 0 0 3 0 4 6 20 0 0 28 2  
\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #49 Newmark at Morrison  
\*\*\*\*\*

Average Delay (sec/veh): 1.3 Worst Case Level Of Service:

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 1 | 0            | 0 | 1 | 0            | 0 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 15   | 0    | 123  | 0    | 0    | 0    | 0    | 870  | 21   | 169  | 979  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 15   | 0    | 123  | 0    | 0    | 0    | 0    | 870  | 21   | 169  | 979  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 15   | 0    | 123  | 0    | 0    | 0    | 0    | 870  | 21   | 169  | 979  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 15   | 0    | 123  | 0    | 0    | 0    | 0    | 870  | 21   | 169  | 979  | 0    |

Critical Gap Module:

|              |     |      |     |      |      |      |      |      |      |     |      |      |
|--------------|-----|------|-----|------|------|------|------|------|------|-----|------|------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

Capacity Module:

|              |      |      |     |      |      |      |      |      |      |     |      |      |
|--------------|------|------|-----|------|------|------|------|------|------|-----|------|------|
| Cnflict Vol: | 1708 | xxxx | 446 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 891 | xxxx | xxxx |
| Potent Cap.: | 82   | xxxx | 560 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 757 | xxxx | xxxx |
| Move Cap.:   | 68   | xxxx | 560 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 757 | xxxx | xxxx |

Level Of Service Module:

|              |       |      |       |        |      |       |        |      |       |        |      |       |
|--------------|-------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|
| Stopped Del: | xxxxx | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | 11.1   | xxxx | xxxxx |
| LOS by Move: | *     | *    | *     | *      | *    | *     | *      | *    | *     | B      | *    | *     |
| Movement:    | LT    | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    |
| Shared Cap.: | xxxx  | 313  | xxxxx | xxxx   | 0    | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx |
| Shrd StpDel: | xxxxx | 25.2 | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx |
| Shared LOS:  | *     | D    | *     | *      | *    | *     | *      | *    | *     | *      | *    | *     |
| ApproachDel: | 25.2  |      |       | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       |
| ApproachLOS: | D     |      |       | *      |      |       | *      |      |       | *      |      |       |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #50 Empire Blvd. at Pacific  
\*\*\*\*\*

Average Delay (sec/veh): 2.6 Worst Case Level Of Service:

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 0            | 0 | 0 | 1            | 0 | 0 | 0          | 1 | 0 | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 603  | 28   | 5    | 703  | 0    | 0    | 0    | 0    | 21   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 603  | 28   | 5    | 703  | 0    | 0    | 0    | 0    | 21   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 603  | 28   | 5    | 703  | 0    | 0    | 0    | 0    | 21   | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 603  | 28   | 5    | 703  | 0    | 0    | 0    | 0    | 21   | 0    | 10   |

Critical Gap Module:

|              |       |      |       |     |      |       |       |      |       |     |      |     |
|--------------|-------|------|-------|-----|------|-------|-------|------|-------|-----|------|-----|
| Critical Gp: | xxxxx | xxxx | xxxxx | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 |

Capacity Module:

|              |      |      |       |     |      |       |      |      |       |      |      |     |
|--------------|------|------|-------|-----|------|-------|------|------|-------|------|------|-----|
| Cnflict Vol: | xxxx | xxxx | xxxxx | 631 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 1330 | xxxx | 617 |
| Potent Cap.: | xxxx | xxxx | xxxxx | 947 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 169  | xxxx | 486 |
| Move Cap.:   | xxxx | xxxx | xxxxx | 947 | xxxx | xxxxx | xxxx | xxxx | xxxxx | 168  | xxxx | 486 |

Level Of Service Module:

|              |        |      |       |        |      |       |        |      |       |        |      |       |
|--------------|--------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|
| Stopped Del: | xxxxx  | xxxx | xxxxx | 8.8    | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | xxxx | xxxxx |
| LOS by Move: | *      | *    | *     | A      | *    | *     | *      | *    | *     | *      | *    | *     |
| Movement:    | LT     | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    | LT     | LTR  | RT    |
| Shared Cap.: | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | xxxx | xxxxx | xxxx   | 213  | xxxxx |
| Shrd StpDel: | xxxxx  | xxxx | xxxxx | 8.8    | xxxx | xxxxx | xxxxx  | xxxx | xxxxx | xxxxx  | 24.7 | xxxxx |
| Shared LOS:  | *      | *    | *     | A      | *    | *     | *      | *    | *     | *      | C    | *     |
| ApproachDel: | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       | xxxxxx |      |       |
| ApproachLOS: | *      |      |       | *      |      |       | *      |      |       | *      |      |       |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #51 Virginia at Hwy 101 North  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.471  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 16.4  
Optimal Cycle: 30 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 1 | 0           | 0 | 0 | 1          | 0 | 1 | 0          | 0 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 376  | 838  | 5    | 0    | 0    | 0    | 234  | 30   | 0    | 0    | 50   | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 376  | 838  | 5    | 0    | 0    | 0    | 234  | 30   | 0    | 0    | 50   | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 376  | 838  | 5    | 0    | 0    | 0    | 234  | 30   | 0    | 0    | 50   | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 376  | 838  | 5    | 0    | 0    | 0    | 234  | 30   | 0    | 0    | 50   | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 376  | 838  | 5    | 0    | 0    | 0    | 234  | 30   | 0    | 0    | 50   | 10   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 | 1.00 | 0.67 | 0.94 | 1.00 | 1.00 | 0.88 | 0.88 |
| Lanes:      | 0.93 | 2.06 | 0.01 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.67 | 0.33 |
| Final Sat.: | 1506 | 3356 | 20   | 0    | 0    | 0    | 1277 | 1777 | 0    | 0    | 2792 | 558  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.18 | 0.02 | 0.00 | 0.00 | 0.02 | 0.02 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.53 | 0.53 | 0.53 | 0.00 | 0.00 | 0.00 | 0.39 | 0.39 | 0.00 | 0.00 | 0.39 | 0.39 |
| Volume/Cap:  | 0.47 | 0.47 | 0.47 | 0.00 | 0.00 | 0.00 | 0.47 | 0.04 | 0.00 | 0.00 | 0.05 | 0.05 |
| Delay/Veh:   | 14.8 | 14.8 | 14.8 | 0.0  | 0.0  | 0.0  | 23.5 | 19.0 | 0.0  | 0.0  | 19.0 | 19.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 14.8 | 14.8 | 14.8 | 0.0  | 0.0  | 0.0  | 23.5 | 19.0 | 0.0  | 0.0  | 19.0 | 19.0 |
| DesignQueue: | 10   | 23   | 0    | 0    | 0    | 0    | 8    | 1    | 0    | 0    | 2    | 0    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

## 2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #52 Virginia at Hwy 101 South  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.556  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.1  
Optimal Cycle: 35 Level Of Service: B  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 0 | 0 | 0           | 1 | 1 | 0          | 0 | 1 | 0          | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 5    | 10   | 679  | 405  | 0    | 208  | 382  | 50   | 287  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 5    | 10   | 679  | 405  | 0    | 208  | 382  | 50   | 287  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 5    | 10   | 679  | 405  | 0    | 208  | 382  | 50   | 287  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 5    | 10   | 679  | 405  | 0    | 208  | 382  | 50   | 287  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 5    | 10   | 679  | 405  | 0    | 208  | 382  | 50   | 287  | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 0.87 | 0.80 | 0.80 | 0.80 | 1.00 | 0.83 | 0.83 | 0.75 | 0.75 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 1.00 | 0.03 | 1.97 | 1.00 | 0.00 | 1.00 | 1.00 | 0.30 | 1.70 | 0.00 |
| Final Sat.: | 0    | 0    | 1644 | 44   | 3011 | 1528 | 0    | 1568 | 1568 | 421  | 2419 | 0    |

Capacity Analysis Module:

|              |      |      |       |      |      |      |      |      |      |      |      |      |
|--------------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00  | 0.23 | 0.23 | 0.27 | 0.00 | 0.13 | 0.24 | 0.12 | 0.12 | 0.00 |
| Crit Moves:  | **** |      |       | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.00 | 0.00 | 0.01  | 0.48 | 0.48 | 0.48 | 0.00 | 0.44 | 0.44 | 0.44 | 0.44 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.56  | 0.47 | 0.47 | 0.56 | 0.00 | 0.30 | 0.56 | 0.27 | 0.27 | 0.00 |
| Delay/Veh:   | 0.0  | 0.0  | 109.5 | 17.8 | 17.8 | 19.0 | 0.0  | 18.3 | 21.5 | 18.0 | 18.0 | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 109.5 | 17.8 | 17.8 | 19.0 | 0.0  | 18.3 | 21.5 | 18.0 | 18.0 | 0.0  |
| DesignQueue: | 0    | 0    | 0     | 0    | 21   | 12   | 0    | 7    | 13   | 2    | 9    | 0    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Level Of Service Computation Report                       |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
|-----------------------------------------------------------|--------------|------|------|--------|--------------|------|------|------------|------|------|------------|------|-----|---|----|
| 2000 HCM Unsignalized Method (Base Volume Alternative)    |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| *****                                                     |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Intersection #53 California at Hwy 101 North              |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| *****                                                     |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Average Delay (sec/veh): 0.2 Worst Case Level Of Service: |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| *****                                                     |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Approach:                                                 | North Bound  |      |      |        | South Bound  |      |      | East Bound |      |      | West Bound |      |     |   |    |
| Movement:                                                 | L            | -    | T    | -      | R            | L    | -    | T          | -    | R    | L          | -    | T   | - | R  |
| ----- ----- ----- -----                                   |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Control:                                                  | Uncontrolled |      |      |        | Uncontrolled |      |      | Stop Sign  |      |      | Stop Sign  |      |     |   |    |
| Rights:                                                   | Include      |      |      |        | Include      |      |      | Include    |      |      | Include    |      |     |   |    |
| Lanes:                                                    | 0            | 1    | 1    | 1      | 0            | 0    | 0    | 0          | 0    | 0    | 0          | 1    | 0   | 0 | 0  |
| ----- ----- ----- -----                                   |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Volume Module:                                            |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Base Vol:                                                 | 70           | 913  | 0    | 0      | 0            | 0    | 10   | 5          | 0    | 0    | 5          | 10   |     |   |    |
| Growth Adj:                                               | 1.00         | 1.00 | 1.00 | 1.00   | 1.00         | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 |     |   |    |
| Initial Bse:                                              | 70           | 913  | 0    | 0      | 0            | 0    | 10   | 5          | 0    | 0    | 5          | 10   |     |   |    |
| User Adj:                                                 | 1.00         | 1.00 | 1.00 | 1.00   | 1.00         | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 |     |   |    |
| PHF Adj:                                                  | 1.00         | 1.00 | 1.00 | 1.00   | 1.00         | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 |     |   |    |
| PHF Volume:                                               | 70           | 913  | 0    | 0      | 0            | 0    | 10   | 5          | 0    | 0    | 5          | 10   |     |   |    |
| Reduct Vol:                                               | 0            | 0    | 0    | 0      | 0            | 0    | 0    | 0          | 0    | 0    | 0          | 0    |     |   |    |
| Final Vol.:                                               | 70           | 913  | 0    | 0      | 0            | 0    | 10   | 5          | 0    | 0    | 5          | 10   |     |   |    |
| ----- ----- ----- -----                                   |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Critical Gap Module:                                      |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Critical Gp:                                              | 4.1          | xxxx | xxxx | xxxx   | xxxx         | xxxx | 7.2  | 6.6        | xxxx | xxxx | 6.6        | 6.3  |     |   |    |
| FollowUpTim:                                              | 2.2          | xxxx | xxxx | xxxx   | xxxx         | xxxx | 3.6  | 4.1        | xxxx | xxxx | 4.0        | 3.3  |     |   |    |
| ----- ----- ----- -----                                   |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Capacity Module:                                          |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Cnflict Vol:                                              | 0            | xxxx | xxxx | xxxx   | xxxx         | xxxx | 447  | 1053       | xxxx | xxxx | 1053       | 304  |     |   |    |
| Potent Cap.:                                              | 0            | xxxx | xxxx | xxxx   | xxxx         | xxxx | 505  | 217        | xxxx | xxxx | 223        | 728  |     |   |    |
| Move Cap.:                                                | 0            | xxxx | xxxx | xxxx   | xxxx         | xxxx | 490  | 217        | xxxx | xxxx | 223        | 728  |     |   |    |
| ----- ----- ----- -----                                   |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Level Of Service Module:                                  |              |      |      |        |              |      |      |            |      |      |            |      |     |   |    |
| Stopped Del:                                              | 0.0          | xxxx | xxxx | xxxx   | xxxx         | xxxx | xxxx | xxxx       | xxxx | xxxx | xxxx       | xxxx |     |   |    |
| LOS by Move:                                              | A            | *    | *    | *      | *            | *    | *    | *          | *    | *    | *          | *    |     |   |    |
| Movement:                                                 | LT           | -    | LTR  | -      | RT           | LT   | -    | LTR        | -    | RT   | LT         | -    | LTR | - | RT |
| Shared Cap.:                                              | xxxx         | xxxx | xxxx | xxxx   | xxxx         | xxxx | 345  | xxxx       | xxxx | xxxx | xxxx       | 415  |     |   |    |
| Shrd StpDel:                                              | 0.0          | xxxx | xxxx | xxxx   | xxxx         | xxxx | 15.9 | xxxx       | xxxx | xxxx | xxxx       | 14.0 |     |   |    |
| Shared LOS:                                               | A            | *    | *    | *      | *            | *    | C    | *          | *    | *    | *          | B    |     |   |    |
| ApproachDel:                                              | xxxxxx       |      |      | xxxxxx |              |      | 15.9 |            |      | 14.0 |            |      |     |   |    |
| ApproachLOS:                                              | *            |      |      | *      |              |      | C    |            |      | B    |            |      |     |   |    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Level Of Service Computation Report                  |                 |      |      |                          |      |      |            |      |      |            |      |      |
|------------------------------------------------------|-----------------|------|------|--------------------------|------|------|------------|------|------|------------|------|------|
| 2000 HCM Operations Method (Base Volume Alternative) |                 |      |      |                          |      |      |            |      |      |            |      |      |
| *****                                                |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Intersection #54 Florida at Sherman                  |                 |      |      |                          |      |      |            |      |      |            |      |      |
| *****                                                |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Cycle (sec):                                         | 100             |      |      | Critical Vol./Cap. (X):  |      |      |            |      |      | 0.571      |      |      |
| Loss Time (sec):                                     | 8 (Y+R = 4 sec) |      |      | Average Delay (sec/veh): |      |      |            |      |      | 20.0       |      |      |
| Optimal Cycle:                                       | 36              |      |      | Level Of Service:        |      |      |            |      |      | B          |      |      |
| *****                                                |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Approach:                                            | North Bound     |      |      | South Bound              |      |      | East Bound |      |      | West Bound |      |      |
| Movement:                                            | L               | T    | R    | L                        | T    | R    | L          | T    | R    | L          | T    | R    |
| ----- ----- ----- -----                              |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Control:                                             | Permitted       |      |      | Permitted                |      |      | Permitted  |      |      | Permitted  |      |      |
| Rights:                                              | Include         |      |      | Include                  |      |      | Include    |      |      | Include    |      |      |
| Min. Green:                                          | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Lanes:                                               | 0               | 1    | 0    | 1                        | 0    | 0    | 0          | 0    | 1    | 0          | 0    | 0    |
| ----- ----- ----- -----                              |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Volume Module:                                       |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Base Vol:                                            | 5               | 867  | 0    | 0                        | 843  | 7    | 311        | 5    | 15   | 70         | 10   | 0    |
| Growth Adj:                                          | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Initial Bse:                                         | 5               | 867  | 0    | 0                        | 843  | 7    | 311        | 5    | 15   | 70         | 10   | 0    |
| User Adj:                                            | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Adj:                                             | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Volume:                                          | 5               | 867  | 0    | 0                        | 843  | 7    | 311        | 5    | 15   | 70         | 10   | 0    |
| Reduct Vol:                                          | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Reduced Vol:                                         | 5               | 867  | 0    | 0                        | 843  | 7    | 311        | 5    | 15   | 70         | 10   | 0    |
| PCE Adj:                                             | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| MLF Adj:                                             | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Final Vol.:                                          | 5               | 867  | 0    | 0                        | 843  | 7    | 311        | 5    | 15   | 70         | 10   | 0    |
| ----- ----- ----- -----                              |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Saturation Flow Module:                              |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Sat/Lane:                                            | 1900            | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |
| Adjustment:                                          | 0.87            | 0.87 | 0.95 | 0.95                     | 0.90 | 0.90 | 0.67       | 0.67 | 0.67 | 0.64       | 0.64 | 1.00 |
| Lanes:                                               | 0.01            | 1.99 | 0.00 | 0.00                     | 1.98 | 0.02 | 0.94       | 0.01 | 0.05 | 0.87       | 0.13 | 0.00 |
| Final Sat.:                                          | 19              | 3287 | 0    | 0                        | 3405 | 28   | 1189       | 19   | 57   | 1058       | 151  | 0    |
| ----- ----- ----- -----                              |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Capacity Analysis Module:                            |                 |      |      |                          |      |      |            |      |      |            |      |      |
| Vol/Sat:                                             | 0.26            | 0.26 | 0.00 | 0.00                     | 0.25 | 0.25 | 0.26       | 0.26 | 0.26 | 0.07       | 0.07 | 0.00 |
| Crit Moves:                                          | ****            |      |      | ****                     |      |      |            |      |      |            |      |      |
| Green/Cycle:                                         | 0.46            | 0.46 | 0.00 | 0.00                     | 0.46 | 0.46 | 0.46       | 0.46 | 0.46 | 0.46       | 0.46 | 0.00 |
| Volume/Cap:                                          | 0.57            | 0.57 | 0.00 | 0.00                     | 0.54 | 0.54 | 0.57       | 0.57 | 0.57 | 0.14       | 0.14 | 0.00 |
| Delay/Veh:                                           | 20.2            | 20.2 | 0.0  | 0.0                      | 19.6 | 19.6 | 21.3       | 21.3 | 21.3 | 15.8       | 15.8 | 0.0  |
| User DelAdj:                                         | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:                                          | 20.2            | 20.2 | 0.0  | 0.0                      | 19.6 | 19.6 | 21.3       | 21.3 | 21.3 | 15.8       | 15.8 | 0.0  |
| DesignQueue:                                         | 0               | 28   | 0    | 0                        | 27   | 0    | 10         | 0    | 0    | 2          | 0    | 0    |
| *****                                                |                 |      |      |                          |      |      |            |      |      |            |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

Intersection #55 Broadway at 16th

Cycle (sec): 100 Critical Vol./Cap. (X): 0.464  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.7  
Optimal Cycle: 39 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 1 | 1           | 0 | 0 | 0          | 0 | 1 | 0          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 903  | 34   | 6    | 774  | 25   | 30   | 0    | 10   | 159  | 15   | 12   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 903  | 34   | 6    | 774  | 25   | 30   | 0    | 10   | 159  | 15   | 12   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 903  | 34   | 6    | 774  | 25   | 30   | 0    | 10   | 159  | 15   | 12   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 10   | 903  | 34   | 6    | 774  | 25   | 30   | 0    | 10   | 159  | 15   | 12   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 10   | 903  | 34   | 6    | 774  | 25   | 30   | 0    | 10   | 159  | 15   | 12   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.74 | 1.00 | 0.74 | 0.70 | 0.70 | 0.70 |
| Lanes:      | 1.00 | 1.93 | 0.07 | 1.00 | 1.94 | 0.06 | 0.75 | 0.00 | 0.25 | 0.86 | 0.08 | 0.06 |
| Final Sat.: | 1769 | 3392 | 128  | 1769 | 3410 | 110  | 1055 | 0    | 352  | 1144 | 108  | 86   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.01 | 0.27 | 0.27 | 0.00 | 0.23 | 0.23 | 0.03 | 0.00 | 0.03 | 0.14 | 0.14 | 0.14 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.01 | 0.57 | 0.57 | 0.01 | 0.57 | 0.57 | 0.30 | 0.00 | 0.30 | 0.30 | 0.30 | 0.30 |
| Volume/Cap:  | 0.40 | 0.46 | 0.46 | 0.46 | 0.40 | 0.40 | 0.10 | 0.00 | 0.10 | 0.46 | 0.46 | 0.46 |
| Delay/Veh:   | 59.1 | 12.6 | 12.6 | 73.6 | 12.3 | 12.3 | 25.4 | 0.0  | 25.4 | 29.4 | 29.4 | 29.4 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 59.1 | 12.6 | 12.6 | 73.6 | 12.3 | 12.3 | 25.4 | 0.0  | 25.4 | 29.4 | 29.4 | 29.4 |
| DesignQueue: | 1    | 23   | 1    | 0    | 20   | 1    | 1    | 0    | 0    | 6    | 1    | 0    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

Intersection #56 Broadway at Newmark

Cycle (sec): 100 Critical Vol./Cap. (X): 0.844  
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 41.8  
Optimal Cycle: 98 Level Of Service: D

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 0 | 1           | 0 | 0 | 1          | 0 | 0 | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 142  | 382  | 38   | 78   | 283  | 35   | 502  | 474  | 176  | 38   | 356  | 164  |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 142  | 382  | 38   | 78   | 283  | 35   | 502  | 474  | 176  | 38   | 356  | 164  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 142  | 382  | 38   | 78   | 283  | 35   | 502  | 474  | 176  | 38   | 356  | 164  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 142  | 382  | 38   | 78   | 283  | 35   | 502  | 474  | 176  | 38   | 356  | 164  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 142  | 382  | 38   | 78   | 283  | 35   | 502  | 474  | 176  | 38   | 356  | 164  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.94 | 0.98 | 0.98 | 0.92 | 0.96 | 0.96 | 0.93 | 0.89 | 0.89 | 0.93 | 0.89 | 0.89 |
| Lanes:      | 1.00 | 0.91 | 0.09 | 1.00 | 0.89 | 0.11 | 1.00 | 1.46 | 0.54 | 1.00 | 1.37 | 0.63 |
| Final Sat.: | 1787 | 1689 | 168  | 1753 | 1616 | 200  | 1769 | 2474 | 919  | 1769 | 2308 | 1063 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.08 | 0.23 | 0.23 | 0.04 | 0.18 | 0.18 | 0.28 | 0.19 | 0.19 | 0.02 | 0.15 | 0.15 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.10 | 0.27 | 0.27 | 0.05 | 0.22 | 0.22 | 0.34 | 0.47 | 0.47 | 0.05 | 0.18 | 0.18 |
| Volume/Cap:  | 0.79 | 0.84 | 0.84 | 0.84 | 0.79 | 0.79 | 0.84 | 0.41 | 0.41 | 0.41 | 0.84 | 0.84 |
| Delay/Veh:   | 65.1 | 47.1 | 47.1 | 94.1 | 47.2 | 47.2 | 41.4 | 17.8 | 17.8 | 48.8 | 49.8 | 49.8 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 65.1 | 47.1 | 47.1 | 94.1 | 47.2 | 47.2 | 41.4 | 17.8 | 17.8 | 48.8 | 49.8 | 49.8 |
| DesignQueue: | 7    | 16   | 2    | 4    | 13   | 2    | 20   | 15   | 5    | 2    | 17   | 8    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #57 Newmark at Laclair  
\*\*\*\*\*

Average Delay (sec/veh): 1.5 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include

Lanes: 0 0 1: 0 0 0 0 1: 0 0 1 0 0 1 0 1 0 0 1 0

Volume Module:

Base Vol: 17 0 124 0 0 0 0 812 17 58 871 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 17 0 124 0 0 0 0 812 17 58 871 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 17 0 124 0 0 0 0 812 17 58 871 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 17 0 124 0 0 0 0 812 17 58 871 0

Critical Gap Module:  
Critical Gp: 6.4 xxxx 6.2 xxxxxx xxxxxx xxxxxx xxxxxx 4.1 xxxxxx  
FollowUpTim: 3.5 xxxxxx 3.3 xxxxxx xxxxxx xxxxxx xxxxxx 2.2 xxxxxx

Capacity Module:

Cnflct Vol: 1808 xxxxx 821 xxxxx xxxxx xxxxx xxxxx 829 xxxxx  
Potent Cap.: 87 xxxxx 376 xxxxx xxxxx xxxxx xxxxx 803 xxxxx  
Move Cap.: 83 xxxxx 376 xxxxx xxxxx xxxxx xxxxx 803 xxxxx

Level Of Service Module:

Stopped Del: xxxxxx xxxxx xxxxxx xxxxxx xxxxxx xxxxxx 9.8 xxxxx  
LOS by Move: \* \* \* \* \* A \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx 263 xxxxxx xxxxx 0 xxxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shrd StpDel: xxxxxx 33.4 xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx

Shared LOS: \* D \* \* \* \* \* \* \* \*

ApproachDel: 33.4 xxxxxxx xxxxxxx xxxxxxx

ApproachLOS: D \* \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #58 Newmark at Ocean Blvd.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.614

Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 15.4

Optimal Cycle: 40 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Permitted Permitted  
Rights: Include Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 2 0 0 0 1 0 0 0 0 1 1 0 1 0 2 0 0 1 1 0

Volume Module:

Base Vol: 611 0 43 0 0 0 0 714 412 0 792 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 611 0 43 0 0 0 0 714 412 0 792 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 611 0 43 0 0 0 0 714 412 0 792 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 611 0 43 0 0 0 0 714 412 0 792 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 611 0 43 0 0 0 0 714 412 0 792 0

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.90 1.00 0.83 1.00 1.00 1.00 1.00 0.97 0.73 1.00 0.93 0.95  
Lanes: 2.00 0.00 1.00 0.00 0.00 1.00 1.00 1.00 2.00 0.00 2.00 0.00  
Final Sat.: 3432 0 1583 0 0 1900 1900 1845 2760 0 3538 0

Capacity Analysis Module:

Vol/Sat: 0.18 0.00 0.03 0.00 0.00 0.00 0.00 0.39 0.15 0.00 0.22 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.29 0.00 0.29 0.00 0.00 0.00 0.00 0.63 0.63 0.00 0.63 0.00  
Volume/Cap: 0.61 0.00 0.09 0.00 0.00 0.00 0.00 0.61 0.24 0.00 0.36 0.00  
Delay/Veh: 31.8 0.0 26.0 0.0 0.0 0.0 0.0 12.1 8.1 0.0 8.9 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 31.8 0.0 26.0 0.0 0.0 0.0 0.0 12.1 8.1 0.0 8.9 0.0  
DesignQueue: 25 0 2 0 0 0 0 16 9 0 17 0

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #59 Thompson at Coos Bay  
\*\*\*\*\*

Average Delay (sec/veh): 5.6 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 1            | 0 | 0 | 0            | 0 | 0 | 0          | 0 | 1 | 0          | 0 | 0 |

Volume Module:  
Base Vol: 161 264 0 0 280 25 89 0 190 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 161 264 0 0 280 25 89 0 190 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 161 264 0 0 280 25 89 0 190 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 161 264 0 0 280 25 89 0 190 0 0 0

Critical Gap Module:  
Critical Gp: 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxx 6.2 xxxxx xxxxx xxxxx  
FollowUpTim: 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxx 3.3 xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: 305 xxxx xxxxx xxxxx xxxxx xxxxx 879 xxxx 293 xxxxx xxxxx xxxxx  
Potent Cap.: 1262 xxxx xxxxx xxxxx xxxxx xxxxx 320 xxxx 749 xxxxx xxxxx xxxxx  
Move Cap.: 1262 xxxx xxxxx xxxxx xxxxx xxxxx 288 xxxx 749 xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 8.3 xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: A \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxxx xxxxx xxxxx 496 xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 21.2 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 21.2 xxxxxx  
ApproachLOS: \* \* C \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #60 Woodland at Thompson  
\*\*\*\*\*

Average Delay (sec/veh): 3.2 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 0            | 0 | 0 | 1            | 0 | 0 | 0          | 0 | 0 | 1          | 0 | 0 |

Volume Module:  
Base Vol: 0 362 30 136 506 0 0 0 0 39 0 237  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 362 30 136 506 0 0 0 0 39 0 237  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 362 30 136 506 0 0 0 0 39 0 237  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 362 30 136 506 0 0 0 0 39 0 237

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxx 6.2  
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxx 3.3

Capacity Module:  
Conflict Vol: xxxx xxxx xxxxx 392 xxxx xxxxx xxxxx xxxxx xxxxx 1155 xxxx 377  
Potent Cap.: xxxx xxxx xxxxx 1167 xxxx xxxxx xxxxx xxxxx xxxxx 218 xxxx 670  
Move Cap.: xxxx xxxx xxxxx 1167 xxxx xxxxx xxxxx xxxxx xxxxx 198 xxxx 670

Level Of Service Module:  
Stopped Del:xxxxx xxxx xxxxx 8.5 xxxx xxxxx xxxxx xxxxx xxxxx 27.6 xxxx 13.3  
LOS by Move: \* \* \* A \* \* \* \* \* D \* B  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
Shrd StpDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 15.3  
ApproachLOS: \* \* C \*



Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #61 Ocean Blvd. at Woodland  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.589  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 21.5  
Optimal Cycle: 47 Level Of Service: C  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 0 0 0 0   | 1 0 0 0 1   | 1 0 2 0 0  | 0 0 1 1 0  |

| Volume Module: | Base Vol: | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Reduced Vol: | PCE Adj:       | MLF Adj:       | Final Vol.: |
|----------------|-----------|----------------|--------------|----------------|----------------|-------------|-------------|--------------|----------------|----------------|-------------|
|                | 0 0 0     | 1.00 1.00 1.00 | 0 0 0        | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 0 0       | 0 0 0       | 0 0 0        | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 0 0       |
|                | 350 0 135 | 1.00 1.00 1.00 | 350 0 135    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 350 0 135   | 0 0 0       | 350 0 135    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 350 0 135   |
|                | 104 696 0 | 1.00 1.00 1.00 | 104 696 0    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 104 696 0   | 0 0 0       | 104 696 0    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 104 696 0   |
|                | 0 641 244 | 1.00 1.00 1.00 | 0 641 244    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 641 244   | 0 0 0       | 0 641 244    | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 641 244   |

| Saturation Flow Module: | Sat/Lane:      | Adjustment:    | Lanes:         | Final Sat.: |
|-------------------------|----------------|----------------|----------------|-------------|
|                         | 1900 1900 1900 | 1.00 1.00 1.00 | 0.00 0.00 0.00 | 0 0 0       |
|                         | 1900 1900 1900 | 0.93 1.00 0.83 | 1.00 0.00 1.00 | 1769 0 1583 |
|                         | 1900 1900 1900 | 0.92 0.92 1.00 | 1.00 2.00 0.00 | 1753 3505 0 |
|                         | 1900 1900 1900 | 1.00 0.89 0.89 | 0.00 1.45 0.55 | 0 2457 935  |

| Capacity Analysis Module: | Vol/Sat:       | Crit Moves: | Green/Cycle:   | Volume/Cap:    | Delay/Veh:    | User DelAdj:   | AdjDel/Veh:   | DesignQueue: |
|---------------------------|----------------|-------------|----------------|----------------|---------------|----------------|---------------|--------------|
|                           | 0.00 0.00 0.00 | ****        | 0.34 0.00 0.34 | 0.59 0.00 0.25 | 29.0 0.0 24.3 | 1.00 1.00 1.00 | 29.0 0.0 24.3 | 0 0 0        |
|                           | 0.00 0.00 0.00 | ****        | 0.10 0.54 0.00 | 0.59 0.37 0.00 | 48.1 13.1 0.0 | 1.00 1.00 1.00 | 48.1 13.1 0.0 | 14 0 5       |
|                           | 0.00 0.00 0.00 | ****        | 0.00 0.44 0.44 | 0.00 0.59 0.59 | 0.0 21.6 21.6 | 1.00 1.00 1.00 | 0.0 21.6 21.6 | 5 5 19       |
|                           | 0.00 0.00 0.00 | ****        | 0.00 0.44 0.44 | 0.00 0.59 0.59 | 0.0 21.6 21.6 | 1.00 1.00 1.00 | 0.0 21.6 21.6 | 0 0 21       |

\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #62 Ocean Blvd. at Radar  
\*\*\*\*\*

Average Delay (sec/veh): 3.1 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound | South Bound | East Bound   | West Bound   |
|-----------|-------------|-------------|--------------|--------------|
| Movement: | L - T - R   | L - T - R   | L - T - R    | L - T - R    |
| Control:  | Stop Sign   | Stop Sign   | Uncontrolled | Uncontrolled |
| Rights:   | Include     | Include     | Include      | Include      |
| Lanes:    | 0 0 1 0 0   | 0 0 0 0 0   | 0 0 1 1 0    | 0 1 1 0 0    |

| Volume Module: | Base Vol: | Growth Adj:    | Initial Bse: | User Adj:      | PHF Adj:       | PHF Volume: | Reduct Vol: | Final Vol.: |
|----------------|-----------|----------------|--------------|----------------|----------------|-------------|-------------|-------------|
|                | 10 0 76   | 1.00 1.00 1.00 | 10 0 76      | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 10 0 76     | 0 0 0       | 10 0 76     |
|                | 0 0 0     | 1.00 1.00 1.00 | 0 0 0        | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 0 0       | 0 0 0       | 0 0 0       |
|                | 0 528 51  | 1.00 1.00 1.00 | 0 528 51     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 0 528 51    | 0 0 0       | 0 528 51    |
|                | 95 685 0  | 1.00 1.00 1.00 | 95 685 0     | 1.00 1.00 1.00 | 1.00 1.00 1.00 | 95 685 0    | 0 0 0       | 95 685 0    |

| Critical Gap Module: | Critical Gp:          | FollowUpTim:          |
|----------------------|-----------------------|-----------------------|
|                      | 6.8 xxxxx             | 3.5 xxxxx             |
|                      | 6.9 xxxxx xxxxx xxxxx | 3.3 xxxxx xxxxx xxxxx |
|                      | 4.1 xxxxx xxxxx       | 2.2 xxxxx xxxxx       |

| Capacity Module: | Conflict Vol:         | Potent Cap.:          | Move Cap.:            |
|------------------|-----------------------|-----------------------|-----------------------|
|                  | 1086 xxxxx            | 211 xxxxx             | 195 xxxxx             |
|                  | 290 xxxxx xxxxx xxxxx | 707 xxxxx xxxxx xxxxx | 707 xxxxx xxxxx xxxxx |
|                  | 579 xxxxx xxxxx       | 991 xxxxx xxxxx       | 991 xxxxx xxxxx       |

| Level Of Service Module: | Stopped Del:      | LOS by Move: | Movement:     | Shared Cap.:     | Shrd StpDel:      | Shared LOS: | ApproachDel: | ApproachLOS: |
|--------------------------|-------------------|--------------|---------------|------------------|-------------------|-------------|--------------|--------------|
|                          | xxxxx xxxxx xxxxx | *            | LT - LTR - RT | xxxx 541 xxxxx   | xxxxx 12.9 xxxxx  | B           | 12.9         | B            |
|                          | xxxxx xxxxx xxxxx | *            | LT - LTR - RT | xxxx xxxxx xxxxx | xxxxx xxxxx xxxxx | *           | xxxxxx       | *            |
|                          | 9.0 xxxxx xxxxx   | A            | LT - LTR - RT | xxxx xxxxx xxxxx | 9.0 xxxxx xxxxx   | *           | xxxxxx       | *            |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #63 Hwy 101 at Clark  
\*\*\*\*\*

Average Delay (sec/veh): 0.3 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 2 0 0 0 0 1 1 0 0 0 1 0 0 0 0 0 0 0

Volume Module:  
Base Vol: 30 1169 0 0 1118 5 10 0 15 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 1169 0 0 1118 5 10 0 15 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 1169 0 0 1118 5 10 0 15 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 30 1169 0 0 1118 5 10 0 15 0 0 0

Critical Gap Module:  
Critical Gp: 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx 6.8 xxxxx 6.9 xxxxx xxxxx xxxxx  
FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx

Capacity Module:  
Cnflict Vol: 1123 xxxxx xxxxx xxxxx xxxxx xxxxx 1765 xxxxx 562 xxxxx xxxxx xxxxx  
Potent Cap.: 612 xxxxx xxxxx xxxxx xxxxx xxxxx 77 xxxxx 476 xxxxx xxxxx xxxxx  
Move Cap.: 612 xxxxx xxxxx xxxxx xxxxx xxxxx 74 xxxxx 476 xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 11.2 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: B \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 150 xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 33.8 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 33.8 xxxxxx  
ApproachLOS: \* \* \* \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #64 Hwy 101 at Casino entrance  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.523  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 14.0  
Optimal Cycle: 42 Level Of Service: B

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 2 0 1 1 0 1 0 0 0 0

Volume Module:  
Base Vol: 5 1064 110 50 943 0 10 20 10 110 10 50  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 5 1064 110 50 943 0 10 20 10 110 10 50  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 5 1064 110 50 943 0 10 20 10 110 10 50  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 5 1064 110 50 943 0 10 20 10 110 10 50  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Vol.: 5 1064 110 50 943 0 10 20 10 110 10 50

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.91 0.91 0.82 0.91 0.91 0.95 0.90 0.90 0.90 0.71 0.71 0.71  
Lanes: 1.00 2.00 1.00 1.00 2.00 0.00 0.25 0.50 0.25 0.65 0.06 0.29  
Final Sat.: 1736 3473 1554 1736 3473 0 428 855 428 878 80 399

Capacity Analysis Module:  
Vol/Sat: 0.00 0.31 0.07 0.03 0.27 0.00 0.02 0.02 0.02 0.13 0.13 0.13  
Crit Moves: \*\*\*\* \* \* \* \* \*  
Green/Cycle: 0.01 0.59 0.59 0.06 0.63 0.00 0.24 0.24 0.24 0.24 0.24 0.24  
Volume/Cap: 0.43 0.52 0.12 0.52 0.43 0.00 0.10 0.10 0.10 0.52 0.52 0.52  
Delay/Veh: 72.8 12.6 9.3 51.2 9.3 0.0 29.7 29.7 29.7 34.6 34.6 34.6  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 72.8 12.6 9.3 51.2 9.3 0.0 29.7 29.7 29.7 34.6 34.6 34.6  
DesignQueue: 0 26 3 3 21 0 0 1 0 5 0 2

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #65 Libby at Wilshire  
\*\*\*\*\*

Average Delay (sec/veh): 3.2 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 0 | 0           | 0 | 1 | 0            | 1 | 0 | 0            | 0 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 45   | 0    | 25   | 25   | 106  | 0    | 0    | 76   | 63   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 0    | 45   | 0    | 25   | 25   | 106  | 0    | 0    | 76   | 63   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 45   | 0    | 25   | 25   | 106  | 0    | 0    | 76   | 63   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 45   | 0    | 25   | 25   | 106  | 0    | 0    | 76   | 63   |

Critical Gap Module:

|              |       |      |       |     |      |     |     |      |       |       |      |       |
|--------------|-------|------|-------|-----|------|-----|-----|------|-------|-------|------|-------|
| Critical Gp: | xxxxx | xxxx | xxxxx | 6.4 | xxxx | 6.2 | 4.1 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |
| FollowUpTim: | xxxxx | xxxx | xxxxx | 3.5 | xxxx | 3.3 | 2.2 | xxxx | xxxxx | xxxxx | xxxx | xxxxx |

Capacity Module:

|              |      |      |       |     |      |     |      |      |       |      |      |       |
|--------------|------|------|-------|-----|------|-----|------|------|-------|------|------|-------|
| Cnflict Vol: | xxxx | xxxx | xxxxx | 263 | xxxx | 108 | 139  | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Potent Cap.: | xxxx | xxxx | xxxxx | 726 | xxxx | 946 | 1457 | xxxx | xxxxx | xxxx | xxxx | xxxxx |
| Move Cap.:   | xxxx | xxxx | xxxxx | 716 | xxxx | 946 | 1457 | xxxx | xxxxx | xxxx | xxxx | xxxxx |

Level Of Service Module:

|              |         |      |       |       |      |       |         |      |       |         |      |       |
|--------------|---------|------|-------|-------|------|-------|---------|------|-------|---------|------|-------|
| Stopped Del: | xxxxx   | xxxx | xxxxx | xxxxx | xxxx | xxxxx | 7.5     | xxxx | xxxxx | xxxxx   | xxxx | xxxxx |
| LOS by Move: | *       | *    | *     | *     | *    | *     | A       | *    | *     | *       | *    | *     |
| Movement:    | LT      | LTR  | RT    | LT    | LTR  | RT    | LT      | LTR  | RT    | LT      | LTR  | RT    |
| Shared Cap.: | xxxx    | xxxx | xxxxx | xxxx  | 784  | xxxxx | xxxx    | xxxx | xxxxx | xxxx    | xxxx | xxxxx |
| Shrd StpDel: | xxxxx   | xxxx | xxxxx | xxxxx | 10.0 | xxxxx | 7.5     | xxxx | xxxxx | xxxxx   | xxxx | xxxxx |
| Shared LOS:  | *       | *    | *     | *     | B    | *     | A       | *    | *     | *       | *    | *     |
| ApproachDel: | xxxxxxx |      |       | 10.0  |      |       | xxxxxxx |      |       | xxxxxxx |      |       |
| ApproachLOS: | *       |      |       | B     |      |       | *       |      |       | *       |      |       |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #66 Hwy 101 at E Bay Dr.  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.677  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.5  
Optimal Cycle: 46 Level Of Service: A  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound  |   |   | West Bound  |   |   |
|-------------|-------------|---|---|-------------|---|---|-------------|---|---|-------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L           | T | R | L           | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Split Phase |   |   | Split Phase |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include     |   |   | Include     |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 |
| Lanes:      | 0           | 0 | 1 | 0           | 1 | 0 | 0           | 0 | 0 | 0           | 0 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.95 | 0.81 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 0.89 | 1.00 | 0.89 |
| Lanes:      | 0.00 | 1.00 | 1.00 | 0.02 | 0.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 | 0.25 |
| Final Sat.: | 0    | 1809 | 1537 | 34   | 1682 | 0    | 0    | 0    | 0    | 1263 | 0    | 421  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.60 | 0.14 | 0.44 | 0.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| Crit Moves:  | **** |      |      |      |      |      |      |      |      |      |      |      |
| Green/Cycle: | 0.00 | 0.88 | 0.88 | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.04 |
| Volume/Cap:  | 0.00 | 0.68 | 0.15 | 0.50 | 0.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.68 | 0.00 | 0.68 |
| Delay/Veh:   | 0.0  | 2.8  | 0.8  | 1.5  | 1.5  | 0.0  | 0.0  | 0.0  | 0.0  | 74.7 | 0.0  | 74.7 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 2.8  | 0.8  | 1.5  | 1.5  | 0.0  | 0.0  | 0.0  | 0.0  | 74.7 | 0.0  | 74.7 |
| DesignQueue: | 0    | 8    | 1    | 0    | 5    | 0    | 0    | 0    | 0    | 2    | 0    | 1    |

\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #67 Hwy 101 at North Bay  
\*\*\*\*\*

Average Delay (sec/veh): 3.0 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 0 1 0 0 1 0 0 0 0 1 0 0 0 0

Volume Module:  
Base Vol: 0 788 130 5 798 0 0 0 0 35 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 788 130 5 798 0 0 0 0 35 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 788 130 5 798 0 0 0 0 35 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 788 130 5 798 0 0 0 0 35 0 0

Critical Gap Module:  
Critical Gp:xxxxx xxxxx xxxxx 4.2 xxxxx xxxxx xxxxx xxxxx xxxxx 6.4 xxxxx xxxxx  
FollowUpTim:xxxxx xxxxx xxxxx 2.3 xxxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxxx xxxxx 918 xxxxx xxxxx xxxxx xxxxx xxxxx 1661 xxxxx xxxxx  
Potent Cap.: xxxxx xxxxx xxxxx 727 xxxxx xxxxx xxxxx xxxxx xxxxx 108 xxxxx xxxxx  
Move Cap.: xxxxx xxxxx xxxxx 727 xxxxx xxxxx xxxxx xxxxx xxxxx 108 xxxxx xxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxxxx xxxxx 10.0 xxxxx xxxxx xxxxx xxxxx xxxxx 53.8 xxxxx xxxxx  
LOS by Move: \* \* \* A \* \* \* \* \* F \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx 10.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* A \* \* \* \* \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx xxxxxx 53.8  
ApproachLOS: \* \* \* F

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #68 Hwy 101 at Trans Pacific  
\*\*\*\*\*

Average Delay (sec/veh): 1.4 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 1 0 1 0 0 0 0 1 0 1 0 0 0 0 0 0

Volume Module:  
Base Vol: 30 728 0 0 663 0 10 0 90 0 0 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 30 728 0 0 663 0 10 0 90 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 30 728 0 0 663 0 10 0 90 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 30 728 0 0 663 0 10 0 90 0 0 0

Critical Gap Module:  
Critical Gp: 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx 6.5 xxxxx 6.3 xxxxx xxxxx xxxxx  
FollowUpTim: 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx 3.6 xxxxx 3.4 xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: 663 xxxxx xxxxx xxxxx xxxxx xxxxx 1451 xxxxx 663 xxxxx xxxxx xxxxx  
Potent Cap.: 916 xxxxx xxxxx xxxxx xxxxx xxxxx 137 xxxxx 446 xxxxx xxxxx xxxxx  
Move Cap.: 916 xxxxx xxxxx xxxxx xxxxx xxxxx 134 xxxxx 446 xxxxx xxxxx xxxxx

Level Of Service Module:  
Stopped Del: 9.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: A \* \* \* \* \* \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 362 xxxxx xxxxx xxxxx xxxxx  
Shrd StpDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 18.7 xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* C \* \* \* \* \*  
ApproachDel: xxxxxx xxxxxx 18.7  
ApproachLOS: \* \* C

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #70 1st at Hall NB  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.415  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 4.9  
Optimal Cycle: 28 Level Of Service: A  
\*\*\*\*\*

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Split Phase | Split Phase | Permitted  | Permitted  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0       | 0 0 0       | 0 0 0      | 0 0 0      |
| Lanes:      | 0 1 1 1 0   | 0 0 0 0 0   | 0 1 0 0 0  | 0 0 0 0 1  |

Volume Module:

|              |           |      |      |      |      |           |      |      |      |      |      |
|--------------|-----------|------|------|------|------|-----------|------|------|------|------|------|
| Base Vol:    | 71 1573   | 5    | 0    | 0    | 0    | 62        | 5    | 0    | 0    | 0    | 10   |
| Growth Adj:  | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 71 1573   | 5    | 0    | 0    | 0    | 62        | 5    | 0    | 0    | 0    | 10   |
| User Adj:    | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 71 1573   | 5    | 0    | 0    | 0    | 62        | 5    | 0    | 0    | 0    | 10   |
| Reduct Vol:  | 0 0       | 0    | 0    | 0    | 0    | 0 0       | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 71 1573   | 5    | 0    | 0    | 0    | 62        | 5    | 0    | 0    | 0    | 10   |
| PCE Adj:     | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 71 1573   | 5    | 0    | 0    | 0    | 62        | 5    | 0    | 0    | 0    | 10   |

Saturation Flow Module:

|             |           |      |           |      |           |           |           |           |      |      |      |
|-------------|-----------|------|-----------|------|-----------|-----------|-----------|-----------|------|------|------|
| Sat/Lane:   | 1900 1900 | 1900 | 1900 1900 | 1900 | 1900      | 1900 1900 | 1900      | 1900 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.88 0.88 | 0.88 | 1.00 1.00 | 1.00 | 0.68 0.68 | 1.00      | 1.00 1.00 | 0.81      | 1.00 | 1.00 | 0.81 |
| Lanes:      | 0.13 2.86 | 0.01 | 0.00 0.00 | 0.00 | 0.93 0.07 | 0.00      | 0.00 0.00 | 1.00      | 0.00 | 0.00 | 1.00 |
| Final Sat.: | 215 4760  | 15   | 0         | 0    | 0         | 1200      | 97        | 0         | 0    | 0    | 1537 |

Capacity Analysis Module:

|              |           |      |           |      |           |      |           |      |
|--------------|-----------|------|-----------|------|-----------|------|-----------|------|
| Vol/Sat:     | 0.33 0.33 | 0.33 | 0.00 0.00 | 0.00 | 0.05 0.05 | 0.00 | 0.00 0.00 | 0.01 |
| Crit Moves:  | ****      | **** |           |      |           |      |           |      |
| Green/Cycle: | 0.80 0.80 | 0.80 | 0.00 0.00 | 0.00 | 0.12 0.12 | 0.00 | 0.00 0.00 | 0.12 |
| Volume/Cap:  | 0.42 0.42 | 0.42 | 0.00 0.00 | 0.00 | 0.42 0.42 | 0.00 | 0.00 0.00 | 0.05 |
| Delay/Veh:   | 3.2 3.2   | 3.2  | 0.0 0.0   | 0.0  | 42.2 42.2 | 0.0  | 0.0 0.0   | 38.7 |
| User DelAdj: | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 |
| AdjDel/Veh:  | 3.2 3.2   | 3.2  | 0.0 0.0   | 0.0  | 42.2 42.2 | 0.0  | 0.0 0.0   | 38.7 |
| DesignQueue: | 1 19      | 0    | 0 0       | 0    | 3 0       | 0    | 0 0       | 0    |

\*\*\*\*\*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #71 Broadway at 17th  
\*\*\*\*\*

Average Delay (sec/veh): 0.8 Worst Case Level Of Service:

| Approach: | North Bound  | South Bound  | East Bound | West Bound |
|-----------|--------------|--------------|------------|------------|
| Movement: | L - T - R    | L - T - R    | L - T - R  | L - T - R  |
| Control:  | Uncontrolled | Uncontrolled | Stop Sign  | Stop Sign  |
| Rights:   | Include      | Include      | Include    | Include    |
| Lanes:    | 1 0 1 1 0    | 1 0 1 1 0    | 0 0 1! 0 0 | 0 0 1! 0 0 |

Volume Module:

|              |           |      |           |      |           |      |           |      |      |      |
|--------------|-----------|------|-----------|------|-----------|------|-----------|------|------|------|
| Base Vol:    | 64 908    | 10   | 10 898    | 35   | 10        | 0    | 32        | 10   | 5    | 5    |
| Growth Adj:  | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 64 908    | 10   | 10 898    | 35   | 10        | 0    | 32        | 10   | 5    | 5    |
| User Adj:    | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 64 908    | 10   | 10 898    | 35   | 10        | 0    | 32        | 10   | 5    | 5    |
| Reduct Vol:  | 0 0       | 0    | 0 0       | 0    | 0 0       | 0    | 0 0       | 0    | 0    | 0    |
| Final Vol.:  | 64 908    | 10   | 10 898    | 35   | 10        | 0    | 32        | 10   | 5    | 5    |

Critical Gap Module:

|              |          |       |          |       |          |     |     |     |     |
|--------------|----------|-------|----------|-------|----------|-----|-----|-----|-----|
| Critical Gp: | 4.1 xxxx | xxxxx | 4.1 xxxx | xxxxx | 7.5 xxxx | 6.9 | 7.5 | 6.5 | 6.9 |
| FollowUpTim: | 2.2 xxxx | xxxxx | 2.2 xxxx | xxxxx | 3.5 xxxx | 3.3 | 3.5 | 4.0 | 3.3 |

Capacity Module:

|               |          |       |          |       |           |     |      |      |     |
|---------------|----------|-------|----------|-------|-----------|-----|------|------|-----|
| Conflict Vol: | 933 xxxx | xxxxx | 918 xxxx | xxxxx | 1520 xxxx | 467 | 1510 | 1994 | 459 |
| Potent Cap.:  | 729 xxxx | xxxxx | 739 xxxx | xxxxx | 83 xxxx   | 548 | 84   | 61   | 554 |
| Move Cap.:    | 729 xxxx | xxxxx | 739 xxxx | xxxxx | 71 xxxx   | 548 | 73   | 55   | 554 |

Level Of Service Module:

|              |               |               |               |               |               |               |               |               |               |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Stopped Del: | 10.4 xxxx     | xxxxx         | 9.9 xxxx      | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         | xxxxx         |
| LOS by Move: | B             | *             | *             | A             | *             | *             | *             | *             | *             |
| Movement:    | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Shared Cap.: | xxxx          | xxxx          | xxxxx         | xxxx          | xxxx          | xxxxx         | 210           | xxxxx         | 85            |
| Shrd StpDel: | xxxxx         | xxxx          | xxxxx         | xxxxx         | xxxxx         | 26.3          | xxxxx         | xxxxx         | 60.2          |
| Shared LOS:  | *             | *             | *             | *             | *             | *             | D             | *             | F             |
| ApproachDel: | xxxxxx        | xxxxxx        | xxxxxx        | xxxxxx        | 26.3          | xxxxxx        | xxxxxx        | xxxxxx        | 60.2          |
| ApproachLOS: | *             | *             | *             | *             | D             | *             | *             | *             | F             |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #72 Virginia at Pony Villiage entance B  
\*\*\*\*\*

Average Delay (sec/veh): 1.9 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 0 | 0            | 0 | 1 | 1            | 0 | 2 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 825  | 70   | 95   | 939  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 825  | 70   | 95   | 939  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 825  | 70   | 95   | 939  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 35   | 0    | 100  | 0    | 0    | 0    | 0    | 825  | 70   | 95   | 939  | 0    |

Critical Gap Module:

|              |     |      |     |      |      |      |      |      |     |      |      |
|--------------|-----|------|-----|------|------|------|------|------|-----|------|------|
| Critical Gp: | 6.8 | xxxx | 6.9 | xxxx | xxxx | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

Capacity Module:

|              |      |      |     |      |      |      |      |      |     |      |      |
|--------------|------|------|-----|------|------|------|------|------|-----|------|------|
| Cnflct Vol:  | 1520 | xxxx | 447 | xxxx | xxxx | xxxx | xxxx | xxxx | 895 | xxxx | xxxx |
| Potent Cap.: | 109  | xxxx | 559 | xxxx | xxxx | xxxx | xxxx | xxxx | 754 | xxxx | xxxx |
| Move Cap.:   | 99   | xxxx | 559 | xxxx | xxxx | xxxx | xxxx | xxxx | 754 | xxxx | xxxx |

Level Of Service Module:

|              |      |      |      |        |      |      |        |      |      |        |      |      |
|--------------|------|------|------|--------|------|------|--------|------|------|--------|------|------|
| Stopped Del: | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 10.5   | xxxx | xxxx |
| LOS by Move: | *    | *    | *    | *      | *    | *    | *      | *    | *    | B      | *    | *    |
| Movement:    | LT   | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   |
| Shared Cap.: | xxxx | 253  | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shrd StpDel: | xxxx | 34.3 | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shared LOS:  | *    | D    | *    | *      | *    | *    | *      | *    | *    | *      | *    | *    |
| ApproachDel: | 34.3 |      |      | xxxxxx |      |      | xxxxxx |      |      | xxxxxx |      |      |
| ApproachLOS: | D    |      |      | *      |      |      | *      |      |      | *      |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #73 Coos River Hwy at Olive Barber Rd  
\*\*\*\*\*

Average Delay (sec/veh): 3.1 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound  |   |   | South Bound  |   |   | East Bound |   |   | West Bound |   |   |
|-----------|--------------|---|---|--------------|---|---|------------|---|---|------------|---|---|
| Movement: | L            | T | R | L            | T | R | L          | T | R | L          | T | R |
| Control:  | Uncontrolled |   |   | Uncontrolled |   |   | Stop Sign  |   |   | Stop Sign  |   |   |
| Rights:   | Include      |   |   | Include      |   |   | Include    |   |   | Include    |   |   |
| Lanes:    | 0            | 0 | 0 | 1            | 0 | 0 | 0          | 0 | 0 | 1          | 0 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 631  | 192  | 14   | 359  | 0    | 0    | 0    | 0    | 101  | 0    | 11   |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 631  | 192  | 14   | 359  | 0    | 0    | 0    | 0    | 101  | 0    | 11   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 631  | 192  | 14   | 359  | 0    | 0    | 0    | 0    | 101  | 0    | 11   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 631  | 192  | 14   | 359  | 0    | 0    | 0    | 0    | 101  | 0    | 11   |

Critical Gap Module:

|              |      |      |      |     |      |      |      |      |      |     |      |     |
|--------------|------|------|------|-----|------|------|------|------|------|-----|------|-----|
| Critical Gp: | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx | xxxx | xxxx | xxxx | 6.5 | xxxx | 6.3 |
| FollowUpTim: | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx | xxxx | xxxx | xxxx | 3.6 | xxxx | 3.4 |

Capacity Module:

|              |      |      |      |     |      |      |      |      |      |      |      |     |
|--------------|------|------|------|-----|------|------|------|------|------|------|------|-----|
| Cnflct Vol:  | xxxx | xxxx | xxxx | 823 | xxxx | xxxx | xxxx | xxxx | xxxx | 1114 | xxxx | 727 |
| Potent Cap.: | xxxx | xxxx | xxxx | 802 | xxxx | xxxx | xxxx | xxxx | xxxx | 226  | xxxx | 417 |
| Move Cap.:   | xxxx | xxxx | xxxx | 802 | xxxx | xxxx | xxxx | xxxx | xxxx | 223  | xxxx | 417 |

Level Of Service Module:

|              |        |      |      |        |      |      |        |      |      |      |      |      |
|--------------|--------|------|------|--------|------|------|--------|------|------|------|------|------|
| Stopped Del: | xxxx   | xxxx | xxxx | 9.6    | xxxx | xxxx | xxxx   | xxxx | xxxx | 33.8 | xxxx | 13.9 |
| LOS by Move: | *      | *    | *    | A      | *    | *    | *      | *    | *    | D    | *    | B    |
| Movement:    | LT     | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   | LT   | LTR  | RT   |
| Shared Cap.: | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx | xxxx | xxxx |
| Shrd StpDel: | xxxx   | xxxx | xxxx | 9.6    | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx | xxxx | xxxx |
| Shared LOS:  | *      | *    | *    | A      | *    | *    | *      | *    | *    | *    | *    | *    |
| ApproachDel: | xxxxxx |      |      | xxxxxx |      |      | xxxxxx |      |      | 31.8 |      |      |
| ApproachLOS: | *      |      |      | *      |      |      | *      |      |      | D    |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #74 Ocean Blve at Laclair

Average Delay (sec/veh): 3.3 Worst Case Level Of Service:

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include

Lanes: 0 0 0 0 0 0 0 1 0 0 0 1 1 0 0 0 0 1 1 0

## Volume Module:

Base Vol: 0 0 0 57 0 84 48 524 0 0 687 93  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 57 0 84 48 524 0 0 687 93  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 57 0 84 48 524 0 0 687 93  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 57 0 84 48 524 0 0 687 93

## Critical Gap Module:

Critical Gap: 6.8 6.9 4.2 3.5 3.3 2.2  
FollowUpTime: 3.5 3.3 2.2

## Capacity Module:

Conflict Vol: 1091 390 780 827 827  
Potent Cap.: 209 609 827 827 827  
Move Cap.: 200 609 827 827 827

## Level Of Service Module:

Stopped Del: 9.6  
LOS by Move: A  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 333 333 333 333 333 333  
Shrd StpDel: 23.5 23.5 23.5 23.5 23.5 23.5  
Shared LOS: C C C C C C  
ApproachDel: 23.5 23.5 23.5 23.5 23.5 23.5  
ApproachLOS: C C C C C C

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #75 Central at 7th

Cycle (sec): 1 Critical Vol./Cap. (X): 0.754

Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 12.4

Optimal Cycle: 0 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Yield Sign Yield Sign Stop Sign Stop Sign  
Rights: Include Channel Channel Include Include

Lanes: 0 0 0 0 0 0 1 0 0 2 0 0 0 0 2 0 1 0 0 0

## Volume Module:

Base Vol: 0 0 0 5 95 618 0 0 787 10 60 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 5 95 618 0 0 787 10 60 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 5 95 618 0 0 787 10 60 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Vol.: 0 0 0 5 95 618 0 0 787 10 60 0

## Saturation Flow Module:

Sat/Lane: 0 0 0 0 0 0 0 0 0 0 0 0  
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Lanes: 0.00 0.00 0.00 0.05 0.95 2.00 0.00 0.00 2.00 0.14 0.86 0.00  
Final Sat.: 0 0 0 22 421 886 0 0 1044 121 729 0

## Capacity Analysis Module:

Vol/Sat: 0.00 0.00 0.00 0.23 0.23 0.70 0.00 0.00 0.75 0.08 0.08 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Volume/Cap: 0.00 0.00 0.00 0.23 0.23 0.70 0.00 0.00 0.75 0.08 0.08 0.00  
Delay/Veh: 0.0 0.0 0.0 2.4 2.4 14.2 0.0 0.0 17.5 1.4 1.4 0.0  
Delay Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 2.4 2.4 14.2 0.0 0.0 17.5 1.4 1.4 0.0  
DesignQueue: 0 0 0 0 0 0 0 0 0 0 0 0

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #76 Coos River Hwy at Edwards  
\*\*\*\*\*

Average Delay (sec/veh): 2.8 Worst Case Level Of Service:  
\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 1 0 0 0 0 0 0 1 0 1 0 1 0 0 0

Volume Module:  
Base Vol: 0 0 5 0 0 0 0 841 25 52 430 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 0 5 0 0 0 0 841 25 52 430 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 0 5 0 0 0 0 841 25 52 430 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 0 5 0 0 0 0 841 25 52 430 0

Critical Gap Module:  
Critical Gp:xxxxx xxx 6.2 xxxxx xxx xxxxxx xxxxx xxx xxxxx 4.1 xxx xxxxxx

FollowUpTim:xxxxx xxx 3.3 xxxxx xxx xxxxxx xxxxx xxx xxxxx 2.2 xxx xxxxxx

Capacity Module:  
Cnflict Vol: xxx xxx 841 xxx xxx xxxxxx xxx xxx xxxxxx 866 xxx xxxxxx

Potent Cap.: xxx xxx 368 xxx xxx xxxxxx xxx xxx xxxxxx 765 xxx xxxxxx

Move Cap.: xxx xxx 368 xxx xxx xxxxxx xxx xxx xxxxxx 765 xxx xxxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxx 14.9 xxxxx xxx xxxxxx xxxxx xxx xxxxx 10.1 xxx xxxxxx

LOS by Move: \* \* B \* \* \* \* \* B \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxx xxx xxxxx xxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx

Shrd StpDel:xxxxx xxx xxxxx xxx xxx xxxxxx xxx xxx xxxxxx 10.1 xxx xxxxxx

Shared LOS: \* \* \* \* \* \* \* \* B \* \*

ApproachDel: 14.9 xxxxxx xxxxxx xxxxxx

ApproachLOS: B \* \* \*

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

## Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #77 Coos River Hwy at Mullen  
\*\*\*\*\*

Average Delay (sec/veh): 1.1 Worst Case Level Of Service:  
\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 1 0 1 0 0 0 0 1 0 1 0 0 0

Volume Module:  
Base Vol: 0 5 49 10 0 0 5 797 0 0 435 0

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 5 49 10 0 0 5 797 0 0 435 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 5 49 10 0 0 5 797 0 0 435 0

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 5 49 10 0 0 5 797 0 0 435 0

Critical Gap Module:  
Critical Gp:xxxxx 6.6 6.3 7.3 xxx xxxxxx 4.1 xxx xxxxxx xxxxx xxx xxxxxx

FollowUpTim:xxxxx 4.1 3.4 3.7 xxx xxxxxx 2.2 xxx xxxxxx xxxxx xxx xxxxxx

Capacity Module:  
Cnflict Vol: xxx 1242 797 1269 xxx xxxxxx 435 xxx xxxxxx xxx xxx xxxxxx

Potent Cap.: xxx 171 379 131 xxx xxxxxx 1125 xxx xxxxxx xxx xxx xxxxxx

Move Cap.: xxx 170 379 111 xxx xxxxxx 1125 xxx xxxxxx xxx xxx xxxxxx

Level Of Service Module:  
Stopped Del:xxxxx xxx xxxxx 40.5 xxx xxxxxx 8.2 xxx xxxxxx xxxxx xxx xxxxxx

LOS by Move: \* \* \* E \* \* \* A \* \* \* \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxx xxx 340 xxx xxx xxxxxx xxx xxx xxxxxx xxx xxx xxxxxx

Shrd StpDel:xxxxx xxx 17.6 xxxxx xxx xxxxxx xxxxx xxx xxxxxx xxxxx xxx xxxxxx

Shared LOS: \* \* C \* \* \* \* \* \* \* \* \*

ApproachDel: 17.6 40.5 xxxxxx xxxxxx

ApproachLOS: C E \* \*



Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #78 Hwy 101 at Edwards  
\*\*\*\*\*

Average Delay (sec/veh): 0.6 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 1 | 0           | 0 | 1 | 0            | 0 | 1 | 0            | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 10   | 0    | 10   | 20   | 0    | 12   | 0    | 1181 | 10   | 0    | 905  | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 10   | 0    | 10   | 20   | 0    | 12   | 0    | 1181 | 10   | 0    | 905  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 10   | 0    | 10   | 20   | 0    | 12   | 0    | 1181 | 10   | 0    | 905  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 10   | 0    | 10   | 20   | 0    | 12   | 0    | 1181 | 10   | 0    | 905  | 0    |

Critical Gap Module:

|              |     |      |     |     |      |     |      |      |      |      |      |
|--------------|-----|------|-----|-----|------|-----|------|------|------|------|------|
| Critical Gp: | 7.5 | xxxx | 6.9 | 7.7 | xxxx | 7.1 | xxxx | xxxx | xxxx | xxxx | xxxx |
| FollowUpTim: | 3.5 | xxxx | 3.3 | 3.6 | xxxx | 3.4 | xxxx | xxxx | xxxx | xxxx | xxxx |

Capacity Module:

|              |      |      |     |      |      |     |      |      |      |      |      |
|--------------|------|------|-----|------|------|-----|------|------|------|------|------|
| Cnflict Vol: | 1639 | xxxx | 596 | 1496 | xxxx | 453 | xxxx | xxxx | xxxx | xxxx | xxxx |
| Potent Cap.: | 68   | xxxx | 452 | 77   | xxxx | 528 | xxxx | xxxx | xxxx | xxxx | xxxx |
| Move Cap.:   | 66   | xxxx | 452 | 75   | xxxx | 528 | xxxx | xxxx | xxxx | xxxx | xxxx |

Level Of Service Module:

|              |      |      |      |      |      |      |        |      |      |        |      |      |
|--------------|------|------|------|------|------|------|--------|------|------|--------|------|------|
| Stopped Del: | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| LOS by Move: | *    | *    | *    | *    | *    | *    | *      | *    | *    | *      | *    | *    |
| Movement:    | LT   | LTR  | RT   | LT   | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   |
| Shared Cap.: | xxxx | 115  | xxxx | xxxx | 111  | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shrd StpDel: | xxxx | 42.6 | xxxx | xxxx | 49.9 | xxxx | xxxx   | xxxx | xxxx | 0.0    | xxxx | xxxx |
| Shared LOS:  | *    | E    | *    | *    | E    | *    | *      | *    | *    | A      | *    | *    |
| ApproachDel: | 42.6 |      |      | 49.9 |      |      | xxxxxx |      |      | xxxxxx |      |      |
| ApproachLOS: | E    |      |      | E    |      |      | *      |      |      | *      |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #79 11th at Elrod  
\*\*\*\*\*

Average Delay (sec/veh): 6.8 Worst Case Level Of Service:  
\*\*\*\*\*

| Approach: | North Bound |   |   | South Bound |   |   | East Bound   |   |   | West Bound   |   |   |
|-----------|-------------|---|---|-------------|---|---|--------------|---|---|--------------|---|---|
| Movement: | L           | T | R | L           | T | R | L            | T | R | L            | T | R |
| Control:  | Stop Sign   |   |   | Stop Sign   |   |   | Uncontrolled |   |   | Uncontrolled |   |   |
| Rights:   | Include     |   |   | Include     |   |   | Include      |   |   | Include      |   |   |
| Lanes:    | 0           | 0 | 0 | 0           | 0 | 0 | 0            | 0 | 1 | 0            | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 104  | 0    | 0    | 0    | 0    | 10   | 0    | 107  | 30   | 0    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0    | 0    | 104  | 0    | 0    | 0    | 0    | 10   | 0    | 107  | 30   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 104  | 0    | 0    | 0    | 0    | 10   | 0    | 107  | 30   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 104  | 0    | 0    | 0    | 0    | 10   | 0    | 107  | 30   | 0    |

Critical Gap Module:

|              |      |      |     |      |      |      |      |      |      |     |      |      |
|--------------|------|------|-----|------|------|------|------|------|------|-----|------|------|
| Critical Gp: | xxxx | xxxx | 6.2 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 4.1 | xxxx | xxxx |
| FollowUpTim: | xxxx | xxxx | 3.3 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 2.2 | xxxx | xxxx |

Capacity Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Cnflict Vol: | xxxx | xxxx | 10   | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 10   | xxxx | xxxx |
| Potent Cap.: | xxxx | xxxx | 1071 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 1616 | xxxx | xxxx |
| Move Cap.:   | xxxx | xxxx | 1071 | xxxx | xxxx | xxxx | xxxx | xxxx | xxxx | 1616 | xxxx | xxxx |

Level Of Service Module:

|              |      |      |      |        |      |      |        |      |      |        |      |      |
|--------------|------|------|------|--------|------|------|--------|------|------|--------|------|------|
| Stopped Del: | xxxx | xxxx | 8.7  | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 7.4    | xxxx | xxxx |
| LOS by Move: | *    | *    | A    | *      | *    | *    | *      | *    | *    | A      | *    | *    |
| Movement:    | LT   | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   | LT     | LTR  | RT   |
| Shared Cap.: | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx |
| Shrd StpDel: | xxxx | xxxx | xxxx | xxxx   | xxxx | xxxx | xxxx   | xxxx | xxxx | 7.4    | xxxx | xxxx |
| Shared LOS:  | *    | *    | *    | *      | *    | *    | *      | *    | *    | A      | *    | *    |
| ApproachDel: | 8.7  |      |      | xxxxxx |      |      | xxxxxx |      |      | xxxxxx |      |      |
| ApproachLOS: | A    |      |      | *      |      |      | *      |      |      | *      |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Level Of Service Computation Report                                     |                  |      |                          |             |      |      |            |      |      |            |      |      |
|-------------------------------------------------------------------------|------------------|------|--------------------------|-------------|------|------|------------|------|------|------------|------|------|
| 2000 HCM Operations Method (Base Volume Alternative)                    |                  |      |                          |             |      |      |            |      |      |            |      |      |
| *****                                                                   |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Intersection #80 US 101/Coos River Hwy (Bunker Hill)                    |                  |      |                          |             |      |      |            |      |      |            |      |      |
| *****                                                                   |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Cycle (sec):                                                            | 100              |      | Critical Vol./Cap. (X):  |             |      |      |            |      |      | 0.696      |      |      |
| Loss Time (sec):                                                        | 12 (Y+R = 4 sec) |      | Average Delay (sec/veh): |             |      |      |            |      |      | 32.7       |      |      |
| Optimal Cycle:                                                          | 59               |      | Level Of Service:        |             |      |      |            |      |      | C          |      |      |
| *****                                                                   |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Approach:                                                               | North Bound      |      |                          | South Bound |      |      | East Bound |      |      | West Bound |      |      |
| Movement:                                                               | L                | T    | R                        | L           | T    | R    | L          | T    | R    | L          | T    | R    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Control:                                                                | Protected        |      |                          | Protected   |      |      | Protected  |      |      | Protected  |      |      |
| Rights:                                                                 | Include          |      |                          | Include     |      |      | Include    |      |      | Include    |      |      |
| Min. Green:                                                             | 0                | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Lanes:                                                                  | 1                | 0    | 0                        | 0           | 0    | 2    | 2          | 0    | 0    | 0          | 2    | 0    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Volume Module:                                                          |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Base Vol:                                                               | 0                | 0    | 0                        | 0           | 0    | 435  | 797        | 0    | 0    | 0          | 837  | 0    |
| Growth Adj:                                                             | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Initial Bse:                                                            | 0                | 0    | 0                        | 0           | 0    | 435  | 797        | 0    | 0    | 0          | 837  | 0    |
| User Adj:                                                               | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Adj:                                                                | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| PHF Volume:                                                             | 0                | 0    | 0                        | 0           | 0    | 435  | 797        | 0    | 0    | 0          | 837  | 0    |
| Reduct Vol:                                                             | 0                | 0    | 0                        | 0           | 0    | 0    | 0          | 0    | 0    | 0          | 0    | 0    |
| Reduced Vol:                                                            | 0                | 0    | 0                        | 0           | 0    | 435  | 797        | 0    | 0    | 0          | 837  | 0    |
| PCE Adj:                                                                | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| MLF Adj:                                                                | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| Final Vol.:                                                             | 0                | 0    | 0                        | 0           | 0    | 435  | 797        | 0    | 0    | 0          | 837  | 0    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Saturation Flow Module:                                                 |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Sat/Lane:                                                               | 1900             | 1900 | 1900                     | 1900        | 1900 | 1900 | 1900       | 1900 | 1900 | 1900       | 1900 | 1900 |
| Adjustment:                                                             | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 0.75 | 0.92       | 1.00 | 1.00 | 1.00       | 0.95 | 1.00 |
| Lanes:                                                                  | 1.00             | 0.00 | 0.00                     | 0.00        | 0.00 | 2.00 | 2.00       | 0.00 | 0.00 | 0.00       | 2.00 | 0.00 |
| Final Sat.:                                                             | 1900             | 0    | 0                        | 0           | 0    | 2842 | 3502       | 0    | 0    | 0          | 3610 | 0    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Capacity Analysis Module:                                               |                  |      |                          |             |      |      |            |      |      |            |      |      |
| Vol/Sat:                                                                | 0.00             | 0.00 | 0.00                     | 0.00        | 0.00 | 0.15 | 0.23       | 0.00 | 0.00 | 0.00       | 0.23 | 0.00 |
| Crit Moves:                                                             |                  |      |                          | ****        |      |      | ****       |      |      | ****       |      |      |
| Green/Cycle:                                                            | 0.00             | 0.00 | 0.00                     | 0.00        | 0.00 | 0.22 | 0.33       | 0.00 | 0.00 | 0.00       | 0.33 | 0.00 |
| Volume/Cap:                                                             | 0.00             | 0.00 | 0.00                     | 0.00        | 0.00 | 0.70 | 0.70       | 0.00 | 0.00 | 0.00       | 0.70 | 0.00 |
| Delay/Veh:                                                              | 0.0              | 0.0  | 0.0                      | 0.0         | 0.0  | 39.4 | 31.2       | 0.0  | 0.0  | 0.0        | 30.8 | 0.0  |
| User DelAdj:                                                            | 1.00             | 1.00 | 1.00                     | 1.00        | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:                                                             | 0.0              | 0.0  | 0.0                      | 0.0         | 0.0  | 39.4 | 31.2       | 0.0  | 0.0  | 0.0        | 30.8 | 0.0  |
| DesignQueue:                                                            | 0                | 0    | 0                        | 0           | 0    | 19   | 32         | 0    | 0    | 0          | 33   | 0    |
| *****                                                                   |                  |      |                          |             |      |      |            |      |      |            |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

| Level Of Service Computation Report                                     |                 |      |      |                          |      |      |            |      |       |            |      |      |
|-------------------------------------------------------------------------|-----------------|------|------|--------------------------|------|------|------------|------|-------|------------|------|------|
| 2000 HCM Operations Method (Base Volume Alternative)                    |                 |      |      |                          |      |      |            |      |       |            |      |      |
| *****                                                                   |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Intersection #81 Virginia/McPherson                                     |                 |      |      |                          |      |      |            |      |       |            |      |      |
| *****                                                                   |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Cycle (sec):                                                            | 60              |      |      | Critical Vol./Cap. (X):  |      |      |            |      | 0.355 |            |      |      |
| Loss Time (sec):                                                        | 8 (Y+R = 4 sec) |      |      | Average Delay (sec/veh): |      |      |            |      | 8.2   |            |      |      |
| Optimal Cycle:                                                          | 25              |      |      | Level Of Service:        |      |      |            |      | A     |            |      |      |
| *****                                                                   |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Approach:                                                               | North Bound     |      |      | South Bound              |      |      | East Bound |      |       | West Bound |      |      |
| Movement:                                                               | L               | T    | R    | L                        | T    | R    | L          | T    | R     | L          | T    | R    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Control:                                                                | Permitted       |      |      | Permitted                |      |      | Permitted  |      |       | Permitted  |      |      |
| Rights:                                                                 | Include         |      |      | Include                  |      |      | Include    |      |       | Include    |      |      |
| Min. Green:                                                             | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Lanes:                                                                  | 0               | 0    | 1    | 0                        | 0    | 0    | 0          | 1    | 0     | 1          | 0    | 0    |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Volume Module: >> Count Date: 16 Aug 2000 <<                            |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Base Vol:                                                               | 69              | 25   | 10   | 23                       | 12   | 121  | 18         | 687  | 10    | 52         | 549  | 26   |
| Growth Adj:                                                             | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| Initial Bse:                                                            | 69              | 25   | 10   | 23                       | 12   | 121  | 18         | 687  | 10    | 52         | 549  | 26   |
| User Adj:                                                               | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Adj:                                                                | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| PHF Volume:                                                             | 69              | 25   | 10   | 23                       | 12   | 121  | 18         | 687  | 10    | 52         | 549  | 26   |
| Reduct Vol:                                                             | 0               | 0    | 0    | 0                        | 0    | 0    | 0          | 0    | 0     | 0          | 0    | 0    |
| Reduced Vol:                                                            | 69              | 25   | 10   | 23                       | 12   | 121  | 18         | 687  | 10    | 52         | 549  | 26   |
| PCE Adj:                                                                | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| MLF Adj:                                                                | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| Final Vol.:                                                             | 69              | 25   | 10   | 23                       | 12   | 121  | 18         | 687  | 10    | 52         | 549  | 26   |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Saturation Flow Module:                                                 |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Sat/Lane:                                                               | 1900            | 1900 | 1900 | 1900                     | 1900 | 1900 | 1900       | 1900 | 1900  | 1900       | 1900 | 1900 |
| Adjustment:                                                             | 0.75            | 0.75 | 0.75 | 0.85                     | 0.85 | 0.85 | 0.89       | 0.89 | 0.89  | 0.81       | 0.81 | 0.81 |
| Lanes:                                                                  | 0.66            | 0.24 | 0.10 | 0.15                     | 0.08 | 0.77 | 0.05       | 1.92 | 0.03  | 0.17       | 1.75 | 0.08 |
| Final Sat.:                                                             | 951             | 344  | 138  | 239                      | 125  | 1257 | 85         | 3251 | 47    | 257        | 2708 | 128  |
| ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Capacity Analysis Module:                                               |                 |      |      |                          |      |      |            |      |       |            |      |      |
| Vol/Sat:                                                                | 0.07            | 0.07 | 0.07 | 0.10                     | 0.10 | 0.10 | 0.21       | 0.21 | 0.21  | 0.20       | 0.20 | 0.20 |
| Crit Moves:                                                             |                 |      |      | ****                     |      |      | ****       |      |       | ****       |      |      |
| Green/Cycle:                                                            | 0.27            | 0.27 | 0.27 | 0.27                     | 0.27 | 0.27 | 0.60       | 0.60 | 0.60  | 0.60       | 0.60 | 0.60 |
| Volume/Cap:                                                             | 0.27            | 0.27 | 0.27 | 0.35                     | 0.35 | 0.35 | 0.35       | 0.35 | 0.35  | 0.34       | 0.34 | 0.34 |
| Delay/Veh:                                                              | 17.6            | 17.6 | 17.6 | 18.1                     | 18.1 | 18.1 | 6.3        | 6.3  | 6.3   | 6.3        | 6.3  | 6.3  |
| User DelAdj:                                                            | 1.00            | 1.00 | 1.00 | 1.00                     | 1.00 | 1.00 | 1.00       | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |
| AdjDel/Veh:                                                             | 17.6            | 17.6 | 17.6 | 18.1                     | 18.1 | 18.1 | 6.3        | 6.3  | 6.3   | 6.3        | 6.3  | 6.3  |
| DesignQueue:                                                            | 2               | 1    | 0    | 1                        | 0    | 3    | 0          | 10   | 0     | 1          | 8    | 0    |
| *****                                                                   |                 |      |      |                          |      |      |            |      |       |            |      |      |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2020 Conditions

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #82 Virginia/Broadway  
\*\*\*\*\*

Cycle (sec): 60 Critical Vol./Cap. (X): 0.973  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 27.7  
Optimal Cycle: 109 Level Of Service: C  
\*\*\*\*\*

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 0 | 1           | 0 | 0 | 0          | 1 | 0 | 1          | 0 | 0 |

Volume Module: >> Count Date: 16 Mar 1994 << 4:30-5:30 PM

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 172  | 26   | 567  | 38   | 14   | 8    | 9    | 342  | 134  | 479  | 427  | 6    |
| Growth Adj:  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 172  | 26   | 567  | 38   | 14   | 8    | 9    | 342  | 134  | 479  | 427  | 6    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 172  | 26   | 567  | 38   | 14   | 8    | 9    | 342  | 134  | 479  | 427  | 6    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 172  | 26   | 567  | 38   | 14   | 8    | 9    | 342  | 134  | 479  | 427  | 6    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 172  | 26   | 567  | 38   | 14   | 8    | 9    | 342  | 134  | 479  | 427  | 6    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.72 | 0.72 | 0.72 | 0.64 | 0.64 | 0.64 | 0.85 | 0.85 | 0.85 | 0.59 | 0.59 | 0.59 |
| Lanes:      | 0.87 | 0.13 | 1.00 | 0.64 | 0.23 | 0.13 | 0.04 | 1.41 | 0.55 | 1.00 | 0.99 | 0.01 |
| Final Sat.: | 1195 | 181  | 1375 | 765  | 282  | 161  | 60   | 2290 | 897  | 1113 | 1097 | 15   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.14 | 0.14 | 0.41 | 0.05 | 0.05 | 0.05 | 0.15 | 0.15 | 0.15 | 0.43 | 0.39 | 0.39 |
| Crit Moves:  | **** |      |      | **** |      |      | **** |      |      | **** |      |      |
| Green/Cycle: | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.42 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Volume/Cap:  | 0.34 | 0.34 | 0.97 | 0.12 | 0.12 | 0.12 | 0.34 | 0.34 | 0.34 | 0.97 | 0.88 | 0.88 |
| Delay/Veh:   | 11.7 | 11.7 | 42.3 | 10.6 | 10.6 | 10.6 | 11.1 | 11.1 | 11.1 | 39.2 | 24.0 | 24.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 11.7 | 11.7 | 42.3 | 10.6 | 10.6 | 10.6 | 11.1 | 11.1 | 11.1 | 39.2 | 24.0 | 24.0 |
| DesignQueue: | 3    | 1    | 12   | 1    | 0    | 0    | 0    | 7    | 3    | 10   | 8    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Scenario Report  
Scenario: PM future

Command: PM existing  
Volume: PM existing  
Geometry: Default Geometry  
Impact Fee: Default Impact Fee  
Trip Generation: Default Trip Generation  
Trip Distribution: Default Trip Distribution  
Paths: Default Paths  
Routes: Default Routes  
Configuration: Default Configuration

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Impact Analysis Report  
Level Of Service

| Intersection                       | Base            |         | Future          |         | Change<br>in |
|------------------------------------|-----------------|---------|-----------------|---------|--------------|
|                                    | Del/<br>LOS Veh | V/<br>C | Del/<br>LOS Veh | V/<br>C |              |
| # 7 Hwy 101 at Flanagan            | B 10.9          | 0.693   | B 10.9          | 0.693   | + 0.000 D/V  |
| # 13 10th at Central               | C 22.3          | 0.727   | C 22.3          | 0.727   | + 0.000 D/V  |
| # 22 Johnson at Bayshore           | B 19.8          | 0.691   | B 19.8          | 0.691   | + 0.000 D/V  |
| # 66 Hwy 101 at E Bay Dr.          | A 3.7           | 0.691   | A 3.7           | 0.691   | + 0.000 D/V  |
| # 75 Central at 7th                | C 0.0           | 0.770   | C 0.0           | 0.770   | + 0.000 D/V  |
| # 80 US 101/Coos River Hwy (Bunker | C 33.2          | 0.711   | C 33.2          | 0.711   | + 0.000 D/V  |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #7 Hwy 101 at Planagan  
\*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap. (X): 0.693  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 10.9  
Optimal Cycle: 58 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Protected  |   |   | Protected  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 0 | 1 | 0           | 0 | 1 | 0          | 0 | 1 | 0          | 1 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 71   | 10   | 33   | 35   | 10   | 40   | 30   | 1734 | 82   | 28   | 1353 | 5    |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 72   | 10   | 34   | 36   | 10   | 41   | 31   | 1770 | 84   | 29   | 1381 | 5    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 72   | 10   | 34   | 36   | 10   | 41   | 31   | 1770 | 84   | 29   | 1381 | 5    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 72   | 10   | 34   | 36   | 10   | 41   | 31   | 1770 | 84   | 29   | 1381 | 5    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 72   | 10   | 34   | 36   | 10   | 41   | 31   | 1770 | 84   | 29   | 1381 | 5    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 72   | 10   | 34   | 36   | 10   | 41   | 31   | 1770 | 84   | 29   | 1381 | 5    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.71 | 0.71 | 0.71 | 0.78 | 0.78 | 0.78 | 0.92 | 0.96 | 0.96 | 0.90 | 0.95 | 0.95 |
| Lanes:      | 0.62 | 0.09 | 0.29 | 0.41 | 0.12 | 0.47 | 1.00 | 1.91 | 0.09 | 1.00 | 1.99 | 0.01 |
| Final Sat.: | 836  | 118  | 388  | 609  | 174  | 696  | 1753 | 3499 | 165  | 1718 | 3601 | 13   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.09 | 0.09 | 0.09 | 0.06 | 0.06 | 0.06 | 0.02 | 0.51 | 0.51 | 0.02 | 0.38 | 0.38 |
| Crit Moves:  | ***  |      |      | ***  |      |      | ***  |      |      | ***  |      |      |
| Green/Cycle: | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.03 | 0.73 | 0.73 | 0.02 | 0.72 | 0.72 |
| Volume/Cap:  | 0.69 | 0.69 | 0.69 | 0.47 | 0.47 | 0.47 | 0.53 | 0.69 | 0.69 | 0.69 | 0.53 | 0.53 |
| Delay/Veh:   | 53.6 | 53.6 | 53.6 | 42.5 | 42.5 | 42.5 | 56.8 | 8.1  | 8.1  | 88.6 | 6.5  | 6.5  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 53.6 | 53.6 | 53.6 | 42.5 | 42.5 | 42.5 | 56.8 | 8.1  | 8.1  | 88.6 | 6.5  | 6.5  |
| AustraQueue: | 2    | 1    | 1    | 1    | 0    | 1    | 1    | 27   | 2    | 1    | 17   | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

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Intersection #13 10th at Central  
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Cycle (sec): 100 Critical Vol./Cap. (X): 0.727  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 22.3  
Optimal Cycle: 63 Level Of Service: C

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Protected   |   |   | Protected   |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 1           | 0 | 0 | 1           | 0 | 0 | 0          | 1 | 0 | 0          | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 224  | 115  | 1    | 147  | 104  | 30   | 10   | 780  | 197  | 4    | 651  | 14   |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 229  | 117  | 1    | 150  | 106  | 31   | 10   | 796  | 201  | 4    | 665  | 14   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 229  | 117  | 1    | 150  | 106  | 31   | 10   | 796  | 201  | 4    | 665  | 14   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 229  | 117  | 1    | 150  | 106  | 31   | 10   | 796  | 201  | 4    | 665  | 14   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 229  | 117  | 1    | 150  | 106  | 31   | 10   | 796  | 201  | 4    | 665  | 14   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 229  | 117  | 1    | 150  | 106  | 31   | 10   | 796  | 201  | 4    | 665  | 14   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.94 | 0.99 | 0.99 | 0.93 | 0.95 | 0.95 | 0.97 | 0.97 | 0.83 | 0.93 | 0.93 | 0.93 |
| Lanes:      | 1.00 | 0.99 | 0.01 | 1.00 | 0.78 | 0.22 | 0.01 | 0.99 | 1.00 | 0.01 | 1.95 | 0.04 |
| Final Sat.: | 1787 | 1863 | 16   | 1769 | 1396 | 403  | 23   | 1827 | 1583 | 21   | 3440 | 74   |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.13 | 0.06 | 0.06 | 0.08 | 0.08 | 0.08 | 0.44 | 0.44 | 0.13 | 0.19 | 0.19 | 0.19 |
| Crit Moves:  | ***  |      |      | ***  |      |      | ***  |      |      | ***  |      |      |
| Green/Cycle: | 0.18 | 0.12 | 0.12 | 0.16 | 0.10 | 0.10 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |
| Volume/Cap:  | 0.73 | 0.53 | 0.53 | 0.53 | 0.73 | 0.73 | 0.73 | 0.73 | 0.21 | 0.32 | 0.32 | 0.32 |
| Delay/Veh:   | 47.2 | 43.7 | 43.7 | 40.3 | 56.7 | 56.7 | 16.7 | 16.7 | 9.3  | 10.0 | 10.0 | 10.0 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 47.2 | 43.7 | 43.7 | 40.3 | 56.7 | 56.7 | 16.7 | 16.7 | 9.3  | 10.0 | 10.0 | 10.0 |
| AustraQueue: | 7    | 3    | 0    | 4    | 3    | 1    | 1    | 16   | 3    | 0    | 9    | 0    |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #22 Johnson at Bayshore

Cycle (sec): 100 Critical Vol./Cap. (X): 0.691  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 19.8  
Optimal Cycle: 47 Level Of Service: B

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound |   |   | West Bound |   |   |
|-------------|-------------|---|---|-------------|---|---|------------|---|---|------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L          | T | R | L          | T | R |
| Control:    | Split Phase |   |   | Split Phase |   |   | Permitted  |   |   | Permitted  |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include    |   |   | Include    |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0          | 0 | 0 | 0          | 0 | 0 |
| Lanes:      | 0           | 1 | 1 | 0           | 1 | 1 | 0          | 1 | 1 | 0          | 1 | 1 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 25   | 1341 | 80   | 0    | 0    | 0    | 122  | 295  | 0    | 0    | 270  | 135  |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 26   | 1369 | 82   | 0    | 0    | 0    | 125  | 301  | 0    | 0    | 276  | 138  |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 26   | 1369 | 82   | 0    | 0    | 0    | 125  | 301  | 0    | 0    | 276  | 138  |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 26   | 1369 | 82   | 0    | 0    | 0    | 125  | 301  | 0    | 0    | 276  | 138  |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 26   | 1369 | 82   | 0    | 0    | 0    | 125  | 301  | 0    | 0    | 276  | 138  |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 26   | 1369 | 82   | 0    | 0    | 0    | 125  | 301  | 0    | 0    | 276  | 138  |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 0.81 | 0.81 | 0.81 | 1.00 | 1.00 | 1.00 | 0.61 | 0.61 | 1.00 | 1.00 | 0.99 | 0.84 |
| Lanes:      | 0.04 | 1.96 | 1.00 | 0.00 | 0.00 | 0.00 | 0.59 | 1.41 | 0.00 | 0.00 | 1.00 | 1.00 |
| Final Sat.: | 56   | 3019 | 1537 | 0    | 0    | 0    | 683  | 1652 | 0    | 0    | 1881 | 1599 |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.45 | 0.45 | 0.05 | 0.00 | 0.00 | 0.00 | 0.18 | 0.18 | 0.00 | 0.00 | 0.15 | 0.09 |
| Crit Moves:  | ***  |      |      | ***  |      |      | ***  |      |      | ***  |      |      |
| Green/Cycle: | 0.66 | 0.66 | 0.66 | 0.00 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.00 | 0.26 | 0.26 |
| Volume/Cap:  | 0.69 | 0.69 | 0.08 | 0.00 | 0.00 | 0.00 | 0.69 | 0.69 | 0.00 | 0.00 | 0.56 | 0.33 |
| Delay/Veh:   | 11.9 | 11.9 | 6.3  | 0.0  | 0.0  | 0.0  | 36.5 | 36.5 | 0.0  | 0.0  | 33.1 | 30.1 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 11.9 | 11.9 | 6.3  | 0.0  | 0.0  | 0.0  | 36.5 | 36.5 | 0.0  | 0.0  | 33.1 | 30.1 |
| AustraQueue: | 1    | 24   | 1    | 0    | 0    | 0    | 4    | 8    | 0    | 0    | 7    | 3    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #66 Hwy 101 at E Bay Dr.

Cycle (sec): 100 Critical Vol./Cap. (X): 0.691  
Loss Time (sec): 8 (Y+R = 4 sec) Average Delay (sec/veh): 3.7  
Optimal Cycle: 47 Level Of Service: A

| Approach:   | North Bound |   |   | South Bound |   |   | East Bound  |   |   | West Bound  |   |   |
|-------------|-------------|---|---|-------------|---|---|-------------|---|---|-------------|---|---|
| Movement:   | L           | T | R | L           | T | R | L           | T | R | L           | T | R |
| Control:    | Permitted   |   |   | Permitted   |   |   | Split Phase |   |   | Split Phase |   |   |
| Rights:     | Include     |   |   | Include     |   |   | Include     |   |   | Include     |   |   |
| Min. Green: | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 | 0           | 0 | 0 |
| Lanes:      | 0           | 0 | 1 | 0           | 1 | 0 | 0           | 1 | 0 | 0           | 1 | 0 |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 1083 | 210  | 15   | 748  | 0    | 0    | 0    | 0    | 30   | 0    | 10   |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 0    | 1106 | 214  | 15   | 764  | 0    | 0    | 0    | 0    | 31   | 0    | 10   |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 1106 | 214  | 15   | 764  | 0    | 0    | 0    | 0    | 31   | 0    | 10   |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 1106 | 214  | 15   | 764  | 0    | 0    | 0    | 0    | 31   | 0    | 10   |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 1106 | 214  | 15   | 764  | 0    | 0    | 0    | 0    | 31   | 0    | 10   |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 1106 | 214  | 15   | 764  | 0    | 0    | 0    | 0    | 31   | 0    | 10   |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 0.95 | 0.81 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 0.89 | 1.00 | 0.89 |
| Lanes:      | 0.00 | 1.00 | 1.00 | 0.02 | 0.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 | 0.00 | 0.25 |
| Final Sat.: | 0    | 1809 | 1537 | 34   | 1680 | 0    | 0    | 0    | 0    | 1263 | 0    | 421  |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.61 | 0.14 | 0.45 | 0.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| Crit Moves:  | ***  |      |      | ***  |      |      | ***  |      |      | ***  |      |      |
| Green/Cycle: | 0.00 | 0.88 | 0.88 | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.04 |
| Volume/Cap:  | 0.00 | 0.69 | 0.16 | 0.51 | 0.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.69 | 0.00 | 0.69 |
| Delay/Veh:   | 0.0  | 3.0  | 0.8  | 1.5  | 1.5  | 0.0  | 0.0  | 0.0  | 0.0  | 77.2 | 0.0  | 77.2 |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 3.0  | 0.8  | 1.5  | 1.5  | 0.0  | 0.0  | 0.0  | 0.0  | 77.2 | 0.0  | 77.2 |
| AustraQueue: | 0    | 10   | 1    | 0    | 5    | 0    | 0    | 0    | 0    | 1    | 0    | 1    |

Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #75 Central at 7th

Cycle (sec): 1 Critical Vol./Cap. (X): 0.770  
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 13.1  
Optimal Cycle: 0 Level Of Service: C

| Approach: | North Bound | South Bound | East Bound | West Bound |
|-----------|-------------|-------------|------------|------------|
| Movement: | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:  | Yield Sign  | Yield Sign  | Stop Sign  | Stop Sign  |
| Rights:   | Include     | Channel     | Channel    | Include    |
| Lanes:    | 0 0 0 0 0   | 0 1 0 0 2   | 0 0 0 0 2  | 0 1 0 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 5    | 95   | 618  | 0    | 0    | 787  | 10   | 60   | 0    |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 0    | 0    | 0    | 5    | 97   | 631  | 0    | 0    | 804  | 10   | 61   | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 5    | 97   | 631  | 0    | 0    | 804  | 10   | 61   | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 5    | 97   | 631  | 0    | 0    | 804  | 10   | 61   | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Final Vol.:  | 0    | 0    | 0    | 5    | 97   | 631  | 0    | 0    | 804  | 10   | 61   | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes:      | 0.00 | 0.00 | 0.00 | 0.05 | 0.95 | 2.00 | 0.00 | 0.00 | 2.00 | 0.14 | 0.86 | 0.00 |
| Final Sat.: | 0    | 0    | 0    | 22   | 421  | 886  | 0    | 0    | 1044 | 121  | 729  | 0    |

Capacity Analysis Module:

|              |      |      |       |      |      |       |      |      |       |      |      |       |
|--------------|------|------|-------|------|------|-------|------|------|-------|------|------|-------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00  | 0.23 | 0.23 | 0.71  | 0.00 | 0.00 | 0.77  | 0.08 | 0.08 | 0.00  |
| Crit Moves:  | **** | **** | ****  | **** | **** | ****  | **** | **** | ****  | **** | **** | ****  |
| Green/Cycle: | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  |
| Volume/Cap:  | 0.00 | 0.00 | 0.00  | 0.23 | 0.23 | 0.71  | 0.00 | 0.00 | 0.77  | 0.08 | 0.08 | 0.00  |
| Delay/Veh:   | 0.0  | 0.0  | 0.0   | 2.4  | 2.4  | 15.0  | 0.0  | 0.0  | 18.6  | 1.4  | 1.4  | 0.0   |
| Delay Adj:   | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00  |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0   | 2.4  | 2.4  | 15.0  | 0.0  | 0.0  | 18.6  | 1.4  | 1.4  | 0.0   |
| AustraQueue: | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx | xxxx | xxxx | xxxxx |

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Coos Bay/North Bend TSP  
PM Peak Hour  
Future 2023 Conditions (Mitigated)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #80 US 101/Coos River Hwy (Bunker Hill)

Cycle (sec): 100 Critical Vol./Cap. (X): 0.711  
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 33.2  
Optimal Cycle: 61 Level Of Service: C

| Approach:   | North Bound | South Bound | East Bound | West Bound |
|-------------|-------------|-------------|------------|------------|
| Movement:   | L - T - R   | L - T - R   | L - T - R  | L - T - R  |
| Control:    | Protected   | Protected   | Protected  | Protected  |
| Rights:     | Include     | Include     | Include    | Include    |
| Min. Green: | 0 0 0 0     | 0 0 0 0     | 0 0 0 0    | 0 0 0 0    |
| Lanes:      | 1 0 0 0 0   | 0 0 0 0 2   | 2 0 0 0 0  | 0 0 2 0 0  |

Volume Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Base Vol:    | 0    | 0    | 0    | 0    | 0    | 435  | 797  | 0    | 0    | 0    | 837  | 0    |
| Growth Adj:  | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 |
| Initial Bse: | 0    | 0    | 0    | 0    | 0    | 444  | 814  | 0    | 0    | 0    | 855  | 0    |
| Added Vol:   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| PasserByVol: | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Fut: | 0    | 0    | 0    | 0    | 0    | 444  | 814  | 0    | 0    | 0    | 855  | 0    |
| User Adj:    | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume:  | 0    | 0    | 0    | 0    | 0    | 444  | 814  | 0    | 0    | 0    | 855  | 0    |
| Reduct Vol:  | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced Vol: | 0    | 0    | 0    | 0    | 0    | 444  | 814  | 0    | 0    | 0    | 855  | 0    |
| PCE Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj:     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.:  | 0    | 0    | 0    | 0    | 0    | 444  | 814  | 0    | 0    | 0    | 855  | 0    |

Saturation Flow Module:

|             |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sat/Lane:   | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.75 | 0.92 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Lanes:      | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 2.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 |
| Final Sat.: | 1900 | 0    | 0    | 0    | 0    | 2842 | 3502 | 0    | 0    | 0    | 3610 | 0    |

Capacity Analysis Module:

|              |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Vol/Sat:     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.23 | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 |
| Crit Moves:  | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** | **** |
| Green/Cycle: | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 | 0.33 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 |
| Volume/Cap:  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 |
| Delay/Veh:   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 39.9 | 31.6 | 0.0  | 0.0  | 0.0  | 31.1 | 0.0  |
| User DelAdj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| AdjDel/Veh:  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 39.9 | 31.6 | 0.0  | 0.0  | 0.0  | 31.1 | 0.0  |
| AustraQueue: | 0    | 0    | 0    | 0    | 0    | 12   | 20   | 0    | 0    | 0    | 21   | 0    |

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## **Coos Bay Pavement Overlay Schedule**



|                        |                  |           |              |
|------------------------|------------------|-----------|--------------|
| Post-It® Fax Note 7671 |                  | Date 9/17 | # of pages 6 |
| To J. Sosnovske        | From L. BARRON   |           |              |
| Co./Dept. DKS          | Co. QB           |           |              |
| Phone #                | Phone # 269.8929 |           |              |
| Fax # 503.243.1924     | Fax #            |           |              |

## Capitol Street Improvements

### Overlay Projects

Revised

March 2001

City of Coos Bay

## CAPITAL STREET IMPROVEMENTS

The City of Coos Bay has approximately 60 miles of paved streets in town and at 1996 dollars it would cost approximately \$6,842,880 to overlay every street. Though this is not feasible, the City since 1954 has had serial levies up to the 1990/1991 fiscal year (except for a couple of years between levies) to overlay streets. The levies brought in anywhere from \$100,000 to \$150,000 per year for the overlays. Approximately \$100,000 will overlay one mile of street at thirty-six feet wide. Fortunately the City had the insight to recognize that asphalt streets do not last forever and provided a means to maintain those streets. Unfortunately the citizens felt that enough taxes had been levied against them and voted that last levy down.

Life expectancy of streets is usually twenty years, of course several factors must be taken into account including traffic volume, type of original construction, location of the street in relation to fill or natural ground, and weight of traffic using the street. If streets can be overlaid within that twenty years then the cost is significantly reduced. The cost to overlay a street is 1/4 the cost as compared to complete rehabilitation. If the City had to do this to all of paved streets it would cost somewhere around 27 million dollars.

During rehabilitation the street is totally dug up and the asphalt and gravel subbase is removed. Once a street begins to "alligator" water is able to penetrate the asphalt and causes the subbase to begin to break up. The subbase gets water into it and becomes very soft and unsupportive for traffic, this causes a pumping action as the base oozes up through the asphalt leaving brown marks as it dries. Not all alligating or broken pavement needs to be ripped up and repair to the base necessary, if caught in time an overlay with minimum subbase repairs can be made or even a crack seal will eliminate the problem to hold the street until an overlay can be completed. Since the last serial levy the City has been doing more crack sealing to get maximum time from the streets. Crack sealing is done by using a petroleum base tar like substance in a liquid form to apply from a machine made for that purpose.

Pavement life is measured in accumulated traffic loads. If two streets are equal in condition, the one with the higher traffic count should be overlaid first. The end of its life is coming sooner and it will benefit more people. In the past the City has attempted to group streets geographically each year to minimize travel time (mobilization) for the contractor, thus maximizing the benefit derived from fixed funds.

By continuing the patching and crack sealing programs, the City is preserving some integrity of the streets, but patching is not the same as an overlay.

The graphs attached are illustrating pavement data and the relation of not having serial levies or at least money budgeted to help continue the overlay program. Next is a list of streets that need to be overlaid within the next two years, streets that need to be overlaid in the two to five years and streets that fall into the five to ten-year cycle.

The overlays listed here are based on a two-inch lift at a cost of \$45.00 per ton. Street overlays in the past several years have come in around \$35.00 to \$37.00 per ton. Ten years ago the price was \$31.00 or \$32.00 dollars per ton. The \$45 was used to insure that the overlay costs will not be too low and the unknown cost of petroleum products in the future. The more asphalt tonnage the better price the City receives.

**0 to 2 years**

| <u>Street</u>           | <u>From/To</u>                          | <u>Tons</u> | <u>Cost</u>      |
|-------------------------|-----------------------------------------|-------------|------------------|
| Marple St.              | Schetter to Taylor                      | 895         | \$ 40,275        |
| Taylor                  | Marple to Wasson                        | 247         | \$ 11,115        |
| LaClair                 | Newmark to Ocean Blvd.                  | 751         | \$ 33,795        |
| S. 10 <sup>th</sup> St. | Ingersoll to Lockhart                   | 435         | \$ 19,575        |
| S. Broadway             | Lockhart to Slough                      | 277         | \$ 12,465        |
| Johnson Ave.            | 7 <sup>th</sup> to 10 <sup>th</sup> St. | 325         | \$ 14,625        |
| S. 11 <sup>th</sup> St. | Ingersoll to Ferguson                   | 627         | \$ 28,215        |
| Ingersoll Ave.          | 4 <sup>th</sup> to 7 <sup>th</sup>      | 304         | \$ 13,680        |
| Pennsylvania Ave.       | Southwest Blvd. to 17 <sup>th</sup>     | 437         | \$ 19,665        |
| Wasson St.              | Newmark to Michigan                     | 370         | \$ 16,650        |
| Anderson Ave.           | 11 <sup>th</sup> to City limits         | 350         | \$ 15,750        |
| Radar Rd.               | Compass Circle to Fulton                | 701         | \$ 31,545        |
| Ycw                     | Koos Bay Blvd. to east                  | 80          | \$ 3,600         |
| S. 7 <sup>th</sup> St.  | Kruse to Lockhart                       | 290         | \$ 13,050        |
| Kruse Ave.              | 5 <sup>th</sup> to 7 <sup>th</sup>      | 184         | \$ 8,280         |
| E St.                   | 6 <sup>th</sup> to 14 <sup>th</sup>     | 674         | \$ 30,330        |
| N. 3 <sup>rd</sup> St.  | Market to Highland                      | 86          | \$ 3,870         |
| N 10 <sup>th</sup> St.  | Central to 8 <sup>th</sup> Terrace      | 461         | \$ 20,745        |
| 9 <sup>th</sup> Ave.    | D to H                                  | 587         | \$ 26,415        |
| 10 <sup>th</sup> Ave.   | E to F                                  | 144         | \$ 6,400         |
| Applewood Dr.           | 16 <sup>th</sup> to east                | 238         | \$ 10,710        |
| I St                    | 14 <sup>th</sup> to 17 <sup>th</sup>    | 216         | \$ 9,720         |
| D St.                   | Coos River Highway to Harborview        | 144         | \$ 6,400         |
| Jackson                 | 1 <sup>st</sup> to Merchant             | 50          | \$ 2,250         |
| Brule                   | Ocean Blvd. to Lindberg                 | 216         | \$ 9,720         |
| Michigan                | Morrison to Madison                     | 249         | \$ 11,205        |
| Newmark                 | Ocean to west college entrance          | 1,100       | \$ 49,500        |
| <b>TOTAL</b>            |                                         |             | <b>\$469,680</b> |

**Downtown URA Streets****Empire URA Streets****Jurisdictional Exchange Streets**

**2 to 5 years**

| <u>Street</u>           | <u>From/To</u>                                     | <u>Tons</u> | <u>Cost</u> |
|-------------------------|----------------------------------------------------|-------------|-------------|
| Norman                  | Ocean to Newmark                                   | 708         | \$ 31,860   |
| S. 5 <sup>th</sup> St.  | Lockhart to Ingersoll                              | 698         | \$ 31,410   |
| Lincoln                 | 100' east of Oakway to West Hills                  | 221         | \$ 9,945    |
| Alder                   | Bayshore to Front                                  | 75          | \$ 3,375    |
| Park                    | 4 <sup>th</sup> ct. to Telegraph                   | 228         | \$ 10,260   |
| E. Telegraph            | Park to Date                                       | 533         | \$ 23,985   |
| Date                    | 7 <sup>th</sup> Rd. to east end                    | 382         | \$ 17,190   |
| N. 12 <sup>th</sup> St. | Central to 12 <sup>th</sup> Terrace (upper level)  | 158         | \$ 7,110    |
| 4 <sup>th</sup> St.     | Commercial to Anderson                             | 358         | \$ 16,110   |
| Prefontaine             | Fulton to Kentucky                                 | 331         | \$ 14,895   |
| N. 15 <sup>th</sup> St. | Nutwood to Myrtle                                  | 75          | \$ 3,375    |
| N. 14 <sup>th</sup> St. | Juniper to W. Park Rd.                             | 274         | \$ 12,330   |
| W. Park Rd.             | N 14 <sup>th</sup> to Cedar                        | 466         | \$ 20,970   |
| N 12 <sup>th</sup> St.  | Commercial to 12 <sup>th</sup> Terr. (lower level) | 79          | \$ 3,555    |
| S. 4 <sup>th</sup> St.  | Lockhart to Johnson                                | 698         | \$ 31,410   |
| S. 4 <sup>th</sup> St.  | Elrod to Golden                                    | 433         | \$ 19,485   |
| S. 8 <sup>th</sup> St.  | Central to Curtis                                  | 295         | \$ 13,275   |
| S. 9 <sup>th</sup> St.  | Central to Curtis                                  | 336         | \$ 15,120   |
| Donnelly Ave.           | 4 <sup>th</sup> to 7 <sup>th</sup>                 | 244         | \$ 10,980   |
| Ferguson Ave.           | 7 <sup>th</sup> to 11 <sup>th</sup>                | 321         | \$ 14,445   |
| Market Ave.             | 2 <sup>nd</sup> to 4 <sup>th</sup>                 | 243         | \$ 10,935   |
| N. 5 <sup>th</sup> St.  | Commercial to Market                               | 115         | \$ 5,175    |
| 11 <sup>th</sup> Ave.   | E to I                                             | 144         | \$ 6,480    |
| 8 <sup>th</sup> Ave.    | E to D                                             | 144         | \$ 6,480    |
| 10 <sup>th</sup> Ave.   | E to D                                             | 144         | \$ 6,480    |
| Bayview Dr.             | 16 <sup>th</sup> to east                           | 173         | \$ 7,785    |
| 17 <sup>th</sup> Ave.   | Evergreen to I St.                                 | 408         | \$ 18,360   |
| Canyon Dr.              | 9 <sup>th</sup> to east                            | 198         | \$ 8,910    |
| Coos River Highway      | I St. to D St.                                     | 888         | \$ 39,960   |
| 2 <sup>nd</sup> Ave.    | B St. to E St.                                     | 699         | \$ 31,455   |
| E St.                   | 2 <sup>nd</sup> to 6 <sup>th</sup>                 | 315         | \$ 14,175   |
| D St.                   | 4 <sup>th</sup> to 6 <sup>th</sup>                 | 293         | \$ 13,185   |
| 1 <sup>st</sup> Ave.    | A to D                                             | 440         | \$ 19,800   |
| Merchant                | D to Jackson                                       | 86          | \$ 3,870    |
| Ocean Blvd.             | Central to Newmark                                 | 11,581      | \$521,145   |
| Central Ave.            | Ocean to west                                      | 144         | \$ 6,480    |
| Wallace Ave.            | Ocean to Newmark                                   | 338         | \$ 15,120   |
| Fulton Ave.             | Radar to Blanco                                    | 523         | \$ 23,535   |
| Kentucky Ave.           | Prefontaine to 100' west of Tricia Pl.             | 367         | \$ 13,515   |
| Morrison St.            | Newmark to Michigan                                | 271         | \$ 12,195   |
| N. CannmannSt.          | Newmark to Taylor                                  | 1,358       | \$ 61,110   |

**TOTAL****\$1,157,235**

## 5 to 10 years

| <u>Street</u>          | <u>From/To</u>                             | <u>Tons</u> | <u>Cost</u>      |
|------------------------|--------------------------------------------|-------------|------------------|
| Woodland Dr.           | Myrtle to City limits                      | 1,435       | \$ 64,575        |
| N. 15 <sup>th</sup>    | Myrtle to Kingwood                         | 230         | \$ 10,350        |
| Kingwood               | 17 <sup>th</sup> to west                   | 205         | \$ 9,225         |
| Redwood                | 8 <sup>th</sup> to 11 <sup>th</sup>        | 143         | \$ 6,435         |
| Juniper                | N. 14 <sup>th</sup> to N. 15 <sup>th</sup> | 180         | \$ 8,100         |
| S. 4 <sup>th</sup>     | Golden to Johnson                          | 1,012       | \$ 45,540        |
| N. 9 <sup>th</sup>     | Date to south end                          | 340         | \$ 15,300        |
| S. 5 <sup>th</sup>     | Anderson to Donnelly                       | 287         | \$ 12,915        |
| 12 <sup>th</sup> ave.  | E to F                                     | 144         | \$ 6,480         |
| Cedar Dr.              | 16 <sup>th</sup> to east                   | 204         | \$ 9,180         |
| Cedar Ave.             | 10 <sup>th</sup> st. to west               | 127         | \$ 5,715         |
| N. 7 <sup>th</sup>     | Koosbay Blvd. to Kingwood                  | 208         | \$ 9,360         |
| S. 7 <sup>th</sup>     | Ingersoll to Johnson                       | 276         | \$ 12,420        |
| N. 6 <sup>th</sup>     | Koosbay Blvd. to Ivy                       | 287         | \$ 12,915        |
| Pine Dr.               | Koosbay Blvd. to 13 <sup>th</sup>          | 84          | \$ 3,780         |
| N. 13 <sup>th</sup>    | Pine Dr. north & south                     | 210         | \$ 9,450         |
| Yew Ave.               | Koosbay Blvd. to 14 <sup>th</sup>          | 206         | \$ 9,270         |
| Curtis Ave.            | Broadway to 4 <sup>th</sup>                | 295         | \$ 13,275        |
| Bennett Ave.           | 4 <sup>th</sup> to 7 <sup>th</sup>         | 265         | \$ 11,925        |
| S. 2 <sup>nd</sup>     | Curtis to Elrod                            | 228         | \$ 10,260        |
| N. 8 <sup>th</sup>     | Hemlock to Koosbay Blvd.                   | 222         | \$ 9,990         |
| Ocean Ct.              | Butler to 19 <sup>th</sup>                 | 357         | \$ 16,065        |
| Coos River Highway     | 6 <sup>th</sup> to east City limits        | 1,380       | \$ 62,100        |
| 7 <sup>th</sup> ave.   | E to F                                     | 144         | \$ 6,480         |
| Merrill                | Ocean Blvd. to Lindberg                    | 341         | \$ 15,345        |
| Lindberg               | Brule to Merrill                           | 240         | \$ 10,800        |
| Dunn                   | Lindberg to Ocean                          | 295         | \$ 13,275        |
| Schoneman              | Newmark to Flanagan                        | 667         | \$ 30,015        |
| S. Cammann             | Montgomery to south end                    | 979         | \$ 44,055        |
| S. Marple              | Newmark to Pacific                         | 1,103       | \$ 49,635        |
| Crocker                | St. John to south end                      | 1,121       | \$ 50,445        |
| Ferguson               | 11 <sup>th</sup> to 12 <sup>th</sup>       | 78          | \$ 3,510         |
| 12 <sup>th</sup> st.   | Ferguson to 12 <sup>th</sup> ct.           | 136         | \$ 6,120         |
| S. 2 <sup>nd</sup>     | Kruse to Lockhart                          | 322         | \$ 14,490        |
| Morrison               | Michigan to Pacific                        | 758         | \$ 34,110        |
| Maryland               | Madison to Schoneman                       | 408         | \$ 18,360        |
| South 19 <sup>th</sup> | California to Idaho                        | 312         | \$ 14,040        |
| <b>TOTAL</b>           |                                            |             | <b>\$685,305</b> |

The following list of streets are to be monitored on a yearly basis to determine structural integrity and wear. They could be upgraded to any of the above categories if deemed necessary.

| <u>Street</u>        | <u>From/To</u>                         | <u>Tons</u> | <u>Cost</u>      |
|----------------------|----------------------------------------|-------------|------------------|
| Southwest Blvd.      | Washington to City Limits              | 1,621       | \$ 72,960        |
| N. 8 <sup>th</sup>   | Redwood to Nutwood                     | 511         | \$ 22,995        |
| Pacific              | Morrison to Schoneman                  | 214         | \$ 9,630         |
| Flanagan             | Schoneman to Morrison                  | 206         | \$ 9,270         |
| Montgomery           | west & east 1 blk. of Morrison         | 293         | \$ 13,185        |
| Michigan             | Schoneman to Woolridge                 | 218         | \$ 9,810         |
| N. 14 <sup>th</sup>  | Myrtle to Teakwood                     | 737         | \$ 33,165        |
| N. 11 <sup>th</sup>  | Central to Highland                    | 236         | \$ 10,620        |
| Minnesota            | Southwest Blvd. to 14 <sup>th</sup>    | 444         | \$ 19,980        |
| H st.                | 6 <sup>th</sup> to 9 <sup>th</sup>     | 246         | \$ 11,070        |
| 5 <sup>th</sup> ave. | D to E                                 | 138         | \$ 6,210         |
| N. 19 <sup>th</sup>  | Thompson to south                      | 313         | \$ 14,085        |
| S. Wall              | Pacific to Fulton                      | 499         | \$ 22,455        |
| Fulton               | Empire Blvd. to Cammann                | 480         | \$ 21,600        |
| Wisconsin            | Empire Blvd. to Cameron Rd.            | 192         | \$ 8,640         |
| Schoneman            | Newmark to Harris                      | 528         | \$ 23,760        |
| Oregon               | Southwest Blvd to 15 <sup>th</sup> St. | 493         | \$ 22,185        |
| <b>TOTAL</b>         |                                        |             | <b>\$331,605</b> |

**Tech Memo #1 Final**

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# DKS Associates

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Fax: (503) 243-1934

## Technical Memorandum #1

**Date:** October 23, 2003

**To:** Coos Bay / North Bend TSP – TAC/CAC Members, Aaron Geisler – City of North Bend, Laura Barron, Shanda Shribbs – City of Coos Bay, Ingrid J. Weisenbach – ODOT/TGM

**From:** Carl D. Springer, P.E. – DKS Associates; Tom Armstrong – Winterbrook Planning

**RE:** Background Documents Review and Preliminary Goals & Policies

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This is the first in a series of memorandums that presents technical findings and recommendations for the Coos Bay / North Bend Transportation System Plan project. The purpose of these memorandums is to provide Technical Advisory Committee (TAC) and Citizen Advisory Committee (CAC) members with a progress report on current planning activities. Feedback from the TAC and CAC members on these technical memorandums will be incorporated into subsequent analysis and the actual TSP report chapters.

### Background Plan and Document Review

We have reviewed a series of past plans, studies and city ordinances that were distributed to us at the kick-off meeting held at the City of Coos Bay offices on August 5, 2002. This background review is useful throughout the Transportation System Plan (TSP) project, but initially it gives the project team a basis for identifying preliminary goals & policies for the TSP.

The list of documents is attached separately along with an indication of the TSP stage where it will be most useful, and which of the regional agencies is most affected by it. The local studies with the greatest relevance to the Coos Bay / North Bend TSP process include:

- ☐ The *Bay Area Transportation Study* (1995),
- ☐ The *Downtown Coos Bay Circulation and Parking Study* (1997), and
- ☐ The *Coos County TSP* (1999).

Other reports addressing specific area master plans or feasibility studies will be considered through the process, as appropriate, but the land development and travel forecasts done in conjunction with the TSP generally will supercede these studies. Traffic Impact Studies will be incorporated into the existing conditions description (Task 3). City ordinances for Coos Bay and North Bend will be reviewed to explicitly identify areas requiring amendments to comply with Oregon Transportation Planning Rule requirements. A topical review is presented in a separate memo for Coos County, Coos Bay and North Bend. The specific text and nature of the code amendments will be developed at a later stage (Task 6) of the TSP, but at this point it is useful to flag the general topics for inclusion and discussion during the overall process.



## Preliminary Goals and Policies

The goals and guiding principals presented in the *BATS Final Report* were reviewed and then re-organized into a conventional format for goals, policies and action items consistent with many Oregon jurisdictions. This new format better lends itself to adoption into local development code ordinances, and provides a basic framework for plan development.

Many of the items in the original BATS list, most notably under Street and Highways, resembled a check list of specific operational issues and possible improvement solutions. To the extent possible, these items were incorporated into the revised format. However, many of these suggestions will be tested as a part of the system analysis (Task 4) and recommended transportation system improvements (Task 6). If they are demonstrated to resolve identified existing or future deficiencies, they will be incorporated into the plan as a recommended system improvement rather than as a specific goal or policy item.

**Additional goals and policies are suggested starting on the next page that extend beyond those listed in the BATS study. The added policy elements are based on adopted TSPs in other Oregon cities that responded to State TPR requirements. The purpose of this initial listing is to provide a basis for comments from TAC and CAC member, and to ensure that the local goals are adequately addressed. In many cases, placeholders [indicated by brackets] are shown. The specific of these policy or action items will be determined during this study process.**

As for definition of the basic terms:

- ☐ The **goals** are brief guiding statements that describe a desired result.
- ☐ The **policies** describe the actions needed to move the community toward the goal.
- ☐ Below many of the policies, details of the implementing **actions** are listed that clarify the intent of the policy. Generally, the action statements refer specifically to facilities or services or planned projects (*most of these action items will be added at a later stage of the project*).

The transportation goals and policies are implemented by these actions, by the improvement projects included in the forthcoming system master plans and action plans for each transportation mode, and by the respective city Development Code. The primary function of these goals and policies are to guide the City of Coos Bay and the City of North Bend twenty-year vision of transportation system needs.

It is anticipated that an additional document or modification to existing documents will be required to include construction standards for improvements identified in the TSP. Typically, these types of standards are found in the City Development Code and Engineering Design Manual and Standard Drawings. Street standards will be prepared as a part of this TSP process for both cities.

**Goal #1:      Transportation facilities designed and constructed in a manner to enhance Coos Bay / North Bend's livability and meet federal, state, regional, and local requirements.**

**Policies:**

- a) Maintain the livability of Coos Bay / North Bend through proper location and design of transportation facilities.

**Action:**

*Design streets and highways to respect the characteristics of the surrounding land uses, natural features, and other community amenities.*

*Recognizing that the magnitude and scale of capital facilities also affect aesthetics and environmental quality, the City will require design plans and impact analyses as specified in the Development Code.*

*Potential Urban Growth Boundary areas (e.g., Bunker Hill area) will be integrated into the city system plan to provide adequate service.*

- b) Consider noise attenuation in the design, redesign, and reconstruction of arterial streets immediately adjacent to residential development.
- c) Protect neighborhoods from excessive through traffic and travel speeds while providing reasonable access to and from residential areas. Build streets to minimize speeding.

**Action:**

*Develop and maintain street design standards and criteria for neighborhood traffic management for use in new development and existing neighborhoods*

- d) New commercial and industrial development shall identify traffic plans for residential streets where increased cut-through traffic may occur due to the proposed development.
- e) Designate major tourist routes for provisions of enhanced streetscape and directional markings.

**Action:**

*Develop and maintain tourist route standards on major travel routes.*

**Goal #2: A balanced transportation system.****Policies:**

- a) Implement Coos Bay / North Bend's public street standards **[to be prepared during the study]** that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck, and auto use, and recognize these streets as important to community identity as well as providing a needed service. .
- b) Develop and provide a safe, complete, attractive, efficient, and accessible system of pedestrian ways and bicycle ways, including bike lanes, shared roadways, multi-use paths, and sidewalks according to the pedestrian and bicycle system maps and the Development Code and Engineering Design Manual and Standard Drawings requirements **[relevant parts to be developed during study]**.
- c) Provide connectivity to each area of Coos Bay / North Bend for convenient multi-modal access. Ensure pedestrian, bicycle, transit, and vehicle access to waterfront, schools, parks, employment and recreational areas by identifying and developing improvements that address connectivity needs.
- d) Develop neighborhood and local connections to provide adequate circulation into and out of neighborhoods.
- e) The permanent closure of an existing road in a developed neighborhood is not recommended and will be considered by the City only under the following circumstances: as a measure of last resort, when the quality of life in the neighborhood is being severely threatened by excessive traffic volumes or the presence of a traffic safety hazard; or as part of a plan reviewed through the City's land use and/or site development process(es), including capital improvement projects. Planned roads that have not been built in neighborhoods should be retained as indicated in the Local Street System Plan maps **[to be developed in this study]**.
- f) Design arterial and collector streets to accommodate pads for public transit and to provide convenient access to transit stops.

**Action:**

*Work with Coos County Area Transit (CCAT) to improve transit service, pedestrian facilities leading to transit stop waiting areas, and to make the waiting areas themselves safe, comfortable, and attractive.*

**Goal #3: A safe transportation system.****Policies:**

- a) Improve traffic safety through a comprehensive program of engineering, education, and enforcement.
- b) Design streets to serve anticipated function and intended uses as determined by the Comprehensive Plan.

**Action:**

*Maintain a functional classification system that meets the City's needs and respects the needs of other agencies including but not limited to Coos County, and ODOT.*

- c) Where on-street pedestrian and bicycle facilities cannot reasonably be provided on highways and arterials, identify parallel routes that comply with state and city planning and design standards.
- d) Enhance safety by prioritizing and mitigating high collision locations within the City.

**Action:**

*Work with ODOT and Coos County to periodically review traffic collision information in an effort to systematically identify, prioritize, and remedy safety problems.*

- e) Designate safe routes from residential areas to schools.

**Action:**

*The City should work with area schools and the community in developing safe transit, pedestrian, and bicycle routes to schools. Communicate selected safe school route program to community. Improvement projects near schools shall consider school access and safety during project development.*

- f) Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system as a whole.

**Action:**

*Periodically review pavement maintenance system data to update roadway paving budgets, and prioritize facilities with highest need for services.*

- g) Maintain access management standards for streets consistent with City, County, and State requirements to reduce conflicts between vehicles and trucks, and between vehicles and bicycles and pedestrians.

**Action:**

*Preserve the functional integrity of the motor vehicle system by limiting access per City standards [to be developed as a part of this process].*

- h) Ensure that adequate access for emergency services vehicles is provided throughout the City.

**Action:**

*Develop Neighborhood Traffic Management standards based on functional classification to preserve primary response routes.*

- i) Meet federal and State safety compliance standards for operation, construction, and maintenance of the rail system.

- j) Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.

**Action:**

*Work with federal agencies, the Public Utility Commission, the Oregon Department of Environmental Quality, public safety providers, and ODOT to assure consistent routes, laws, and regulations for the transport of hazardous materials.*

**Goal #4: An efficient transportation system that reduces the number and length of trips, limits congestion, and improves air quality.****Policies:**

- a) Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.

**Actions:**

*Continue to implement the following action plan to work toward achieving these targets:*

- *Encourage development that effectively mixes land uses to reduce vehicle trip generation.*
- *Develop consistent conditions for land use approval that require future employment related land use developments to agree to reduce peak hour trip making through transportation demand management strategies.*
- *Implement the bicycle, transit, pedestrian, and motor vehicle master improvement plans [to be developed in this study] to implement a convenient multimodal transportation system.*

- b) Maintain levels of service consistent with the Oregon Transportation Plan. Reduce traffic congestion and enhance traffic flow through such measures as intersection improvements, intelligent transportation systems, signal synchronization, and other similar measures.

**Action:**

*Adopt level of service standards that are consistent with State and County standards.*

- c) Maintain levels of service or minimum performance thresholds identified by responsible service providers for non-roadway facilities including rail, air, and marine activities.

**Action:**

*Work with Port of Coos Bay, North Bend Municipal Airport, and Central Oregon Railroad to establish appropriate performance thresholds for their respective facilities.*

- d) Plan land uses to increase opportunities for multi-purpose trips (trip chaining).
- e) Require land use approval of proposals for new or improved transportation facilities. The approval process shall identify and consider the project's identified impacts.
- f) Support mixed-use development where zoning allows.
- g) Work with Coos County Area Transit to encourage the development of transit improvements, improve access and frequency of service, and increase ridership potential and service area.

|                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|
| <b>Goal #5:      Transportation facilities that serve and are accessible to all members of the community.</b> |
|---------------------------------------------------------------------------------------------------------------|

**Policies:**

- a) Construct transportation facilities to meet the requirements of the Americans with Disabilities Act.
- b) Support Coos County Area Transit and other transit service provider's efforts that respond to the transit and transportation needs of the elderly and disabled.

|                                                                                                      |
|------------------------------------------------------------------------------------------------------|
| <b>Goal #6:     Transportation facilities that provide efficient movement of goods and services.</b> |
|------------------------------------------------------------------------------------------------------|

**Policies:**

- a) Designated arterial streets and highway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect the needs of goods movement.
- b) Consider existing railroad and air transportation facilities to be City resources and reflect the needs of these facilities in land use decisions.
- c) Develop a balanced freight system that takes advantage of the efficiencies of each transportation mode.

**Goal #7: Implement the transportation plan by working cooperatively with federal, State, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system.**

**Policies:**

- a) Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include (Coos Bay / North Bend), Port of Coos Bay, Coos County, ODOT, and Coos County Area Transit
- b) Participate in implementing regional transportation, growth management, and air quality improvement policies. Work with agencies to assure adequate funding of transportation facilities to support these policies.
- c) **[Implement]** Monitor and update the Transportation Element of the Comprehensive Plan so that issues and opportunities are addressed in a timely manner. Maintain a current capital improvement program that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.
- d) Develop and use the **[selected funding mechanism]** as elements of an overall funding program to pay for adding capacity to the collector and arterial street system, and making safety improvements related to development impacts.
- e) Establish rights-of-way at the time of site development and, where appropriate, officially secure them by dedication of property.
- f) Working in partnership with ODOT, and other jurisdictions and agencies, develop a long-range financial strategy to make needed improvements to the transportation system and support operational and maintenance requirements.

**Action:**

*The financial strategy should consider the appropriate elements **[such as share of motor vehicle fees, impact fees, property tax levies, and development contributions to balance needs, costs, and revenue]**. View the process of improving the transportation system as that of a partnership between the public (through fees and taxes) and private sectors (through exactions and conditions of development approval), each of which has appropriate roles in the financing of these improvements to meet present and projected needs.*

- g) Provide adequate funding for maintenance of the capital investment in transportation facilities.

**Action:**

*Develop a long-term financing program that provides a stable source of funds to ensure cost-effective maintenance of transportation facilities and efficient effective use of public funds.*



## **Bibliography**

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| No. | Type        | Agency / Company           | Title                                                                               | Date   | Potential TSP Issues |          |           |              |                | Affected Agency |             |            |            |      |                  |
|-----|-------------|----------------------------|-------------------------------------------------------------------------------------|--------|----------------------|----------|-----------|--------------|----------------|-----------------|-------------|------------|------------|------|------------------|
|     |             |                            |                                                                                     |        | Policy               | Existing | Forecasts | Alternatives | Implementation | Coos Bay        | Coos County | North Bend | NB Airport | ODOT | Port of Coos Bay |
| 1   | Legislation | North Bend                 | 1995 Comprehensive Land Use Plan: Plan Provisions and Policies                      | Nov-89 | ■                    |          |           |              | ■              |                 |             | ○          |            |      |                  |
| 2   | Report      | Benkendorf Associates      | Airport Business Park Master Plan                                                   | Jan-99 |                      | □        | □         |              |                |                 |             | ○          |            |      | ○                |
| 3   | Memo        | CH2M Hill                  | BATS - Airport Existing Conditions/ Deficiencies /Future Strategies                 | Jul-94 |                      | ■        | □         | □            | ■              | ○               | ○           | ○          | ○          | ○    | ○                |
| 4   | Memo        | Kittelson & Associates     | BATS - Alternatives Analysis                                                        | Mar-95 |                      |          | □         | ■            |                | ○               | ○           | ○          | ○          | ○    |                  |
| 5   | Memo        | Kittelson & Associates     | BATS - Existing Conditions / TM#1                                                   | Nov-94 |                      | ■        |           |              |                | ○               | ○           | ○          | ○          | ○    |                  |
| 6   | Memo        | ETS Pacific                | BATS - Existing Rail System                                                         | Aug-94 |                      | ■        |           |              |                | ○               | ○           | ○          | ○          | ○    |                  |
| 7   | Memo        | CH2M Hill                  | BATS - Financial Analysis                                                           | Apr-95 | ■                    | ■        | □         | □            | ■              | ○               | ○           | ○          | ○          | ○    |                  |
| 8   | Memo        | Kittelson & Associates     | BATS - Future Conditions                                                            | Jan-95 |                      |          | □         |              |                | ○               | ○           | ○          | ○          | ○    |                  |
| 9   | Memo        | CH2M Hill                  | BATS - Population and Land Use Projections                                          | Jan-95 |                      |          | □         |              |                | ○               | ○           | ○          | ○          | ○    |                  |
| 10  | Memo        | CH2M Hill                  | BATS - Port Existing Conditions/ Deficiencies /Future Strategies                    | Jun-94 |                      | ■        | □         | □            | ■              | ○               | ○           | ○          | ○          | ○    |                  |
| 11  | Memo        | Kittelson & Associates     | BATS - Travel Forecast Methods                                                      | Nov-94 |                      |          | □         |              |                | ○               | ○           | ○          | ○          | ○    |                  |
| 12  | Report      | David Evans and Assoc.     | Bay Area Comprehensive Economic Analysis                                            | Apr-98 |                      | □        | □         |              |                | ○               | ○           | ○          | ○          | ○    | ○                |
| 13  | Report      | CH2M Hill / Kittelson      | Bay Area Transportation Study: Final Report                                         | Dec-95 | ■                    | ■        | □         | ■            | □              | ○               | ○           | ○          | ○          | ○    | ○                |
| 14  | Report      | Gary L. Dyer               | Bikeway Master Plan                                                                 | Jun-91 | ■                    | ■        | ■         |              | ■              | ○               | ○           | ○          |            | ○    |                  |
| 15  | Report      | Benkendorf Associates      | Charleston Marina Five Point Program                                                | Apr-92 |                      | □        | □         |              |                |                 |             |            |            |      | ○                |
| 16  | Report      | Hobson & Associates        | Charleston Shipyard Analysis / Port of Coos Bay                                     | May-92 |                      | □        | □         |              |                |                 |             |            |            |      | ○                |
| 17  | Report      | Kittelson & Associates     | City of Coos Bay Downtown Parking and Circulation Study                             | Sep-97 | ■                    | ■        | □         | ■            | ■              | ○               |             |            |            | ○    |                  |
| 18  | Report      | Coos Bay                   | Comprehensive Plan 2000, Volume I: Plan Policy                                      | Mar-81 | □                    |          |           |              | ■              | ○               |             |            |            |      |                  |
| 19  | Report      | Coos Bay                   | Comprehensive Plan 2000, Volume II: Transportation                                  | Mar-81 | □                    | ■        | □         | □            | ■              | ○               |             |            |            |      |                  |
| 20  | Report      | JRH Transportation Engr.   | Coos County Transportation System Plan                                              | Sep-99 | ■                    | ■        | ■         | ■            | ■              | ○               | ○           | ○          | ○          | ○    | ○                |
| 21  | Legislation | Coos County                | Coos County TSP: Implementing Ordinances and Design Standards                       | Sep-99 | ■                    |          |           |              | ■              | ○               | ○           | ○          | ○          | ○    |                  |
| 22  | Report      | David Evans and Assoc.     | Coquille Indian Tribe / Coos Bay - Empire Property, North Parcels / TIS             | Mar-00 |                      | ■        | □         |              |                | ○               | ○           |            |            |      |                  |
| 23  | Report      | David Evans and Assoc.     | Coquille Indian Tribe / Transportation Plan                                         | Apr-00 |                      | ■        | □         |              |                | ○               | ○           | ○          |            | ○    |                  |
| 24  | Flyer       | Coos County Area Transit   | Dial-A-Ride Service Schedule                                                        | Jun-02 |                      | ■        | □         |              | □              | ○               | ○           | ○          | ○          | ○    |                  |
| 25  | Report      | Benkendorf Associates      | Eastside Development Strategy                                                       | Jul-96 |                      | ■        | □         |              | □              |                 |             |            |            | ○    | ○                |
| 26  | Memo        | David Evans and Assoc.     | Economic Opportunities Analysis / Demographic Inventory and Forecasts               | Feb-98 |                      | □        | □         |              |                | ○               | ○           | ○          |            |      |                  |
| 27  | Report      | The Portico Group          | Feasibility Study for Coos Head Eco-Tourism Facilities                              | Jul-98 |                      | □        | □         |              |                |                 | ○           |            |            |      | ○                |
| 28  | Report      | Carl H. Buttke, Inc.       | Major Street Traffic Safety Program                                                 | Mar-81 |                      | □        |           |              |                |                 |             | ○          |            |      |                  |
| 29  | Report      | CTS Engineers, Inc.        | Newmark Avenue Improvement Plan                                                     | May-01 |                      | ■        | □         |              |                | ○               |             |            |            |      |                  |
| 30  | Report      | Benkendorf Associates      | North Bay Marine Industrial Park Master Plan                                        | Jul-99 |                      | □        | □         |              |                |                 | ○           |            |            |      | ○                |
| 31  | Report      | McSwain & Woods            | North Bend Downtown Waterfront Master Plan                                          | Jan-98 | ■                    | ■        |           |              | □              | ○               |             | ○          |            | ○    |                  |
| 32  | Legislation | North Bend                 | Ordinance No. 1084: Street Work Regulations                                         | Mar-76 | ■                    |          |           |              | ■              |                 |             | ○          |            |      |                  |
| 33  | Legislation | North Bend                 | Ordinance No. 1085: Public Improvement Methods                                      | Feb-78 | ■                    |          |           |              | ■              |                 |             | ○          |            |      |                  |
| 34  | Legislation | North Bend                 | Ordinance No. 1175: Land Subdivisions                                               | Apr-95 | ■                    |          |           |              | ■              |                 |             | ○          |            |      |                  |
| 35  | Legislation | North Bend                 | Ordinance No. 1192: Zoning Regulations                                              | Jan-99 | ■                    |          |           |              | ■              |                 |             | ○          |            |      |                  |
| 36  | Legislation | North Bend                 | Ordinance No. 1277: Planning Commission Duties                                      | Feb-97 | □                    |          |           |              | □              |                 |             | ○          |            |      |                  |
| 37  | Legislation | Coos Bay                   | Ordinance No. 93: Land Development                                                  | Jun-87 | ■                    |          |           |              |                | ○               |             |            |            |      |                  |
| A   | Report      | ODOT                       | Oregon Highway Plan                                                                 | Mar-99 | ■                    |          |           | ■            | ■              | ○               | ○           | ○          | ○          | ○    | ○                |
| 38  | Report      | W & H Pacific              | Pacific Coast Scenic Byway                                                          | Dec-97 | □                    | ■        | □         | ■            | □              | ○               | ○           | ○          |            | ○    |                  |
| 39  | Report      | Satre Associates           | Parks and Recreation Master Plan                                                    | Jul-99 | □                    | ■        | ■         | ■            | □              |                 |             | ○          |            |      |                  |
| 40  | Report      | ODOT                       | Proposed Oregon Coast Highway Corridor Master Plan                                  | Jan-95 | ■                    | □        | □         |              | ■              | ○               | ○           | ○          |            | ○    |                  |
| 41  | Memo        | David Evans and Assoc.     | Regional Site Availability / Industrial and Commercial Available Land Use Inventory | Feb-98 |                      | □        |           |              |                | ○               | ○           | ○          |            |      |                  |
| 42  | Report      | Weslin Consulting Services | Transit Feasibility Study                                                           | Jul-99 | □                    | ■        | ■         | □            |                | ○               | ○           | ○          |            | ○    | ○                |

| No.                                        | Type        | Agency / Company                             | Title                                                       | Date   | Potential TSP Issues |                        |           |              |                | Affected Agency |             |            |            |      |                  |              |
|--------------------------------------------|-------------|----------------------------------------------|-------------------------------------------------------------|--------|----------------------|------------------------|-----------|--------------|----------------|-----------------|-------------|------------|------------|------|------------------|--------------|
|                                            |             |                                              |                                                             |        | Policy               | Existing               | Forecasts | Alternatives | Implementation | Coos Bay        | Coos County | North Bend | NB Airport | ODOT | Port of Coos Bay | Curry County |
| B                                          | Legislation | Land Conservation and Development Commission | Transportation Planning Rule (OAR 660-012-000 through -060) | Feb-00 | ■                    | ■                      | ■         | ■            | ■              | ○               | ○           | ○          | ○          | ○    | ○                | ○            |
| 43                                         | Report      | Oregon Downtown Development Association      | The Coos Bay Resource Team Report                           | Oct-02 | □                    |                        |           | ■            | □              | ○               |             |            |            |      |                  |              |
| 44                                         | Charette    | Alpha Engineering, Inc.                      | Empire Waterfront Development Strategy                      | Apr-02 | □                    |                        |           | ■            | □              | ○               |             |            |            |      |                  |              |
| Notes:                                     |             |                                              |                                                             |        | Notes:               |                        |           |              |                |                 |             |            |            |      |                  |              |
| Numbered volumes in project reference box. |             |                                              |                                                             |        | ■                    | Significant Influence  |           |              |                |                 |             |            |            |      |                  |              |
| Lettered volumes in Library                |             |                                              |                                                             |        | □                    | Moderate Influence     |           |              |                |                 |             |            |            |      |                  |              |
|                                            |             |                                              |                                                             |        |                      | Little or No Influence |           |              |                |                 |             |            |            |      |                  |              |

## **Traffic Count Memo**

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# DKS Associates

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## MEMORANDUM

**TO:** Laura Barron, City of Coos Bay  
Dave Foster, City of North Bend  
Ingrid J. Weisenbach, ODOT

**FROM:** Carl D. Springer, P.E.  
Julie Sosnovske, P.E.

**DATE:** July 1, 2003

**SUBJECT:** Existing and Future Traffic Volumes

P02221

This memorandum summarizes work performed by DKS Associates regarding existing traffic volumes and the development of future traffic volumes for the cities of Coos Bay and North Bend. This memorandum explains the process of developing future traffic volumes for use in determining future transportation needs.

### EXISTING TRAFFIC COUNTS

Existing traffic counts were conducted at approximately 74 intersections in Coos Bay and North Bend in August, 2002. A tabulation of the intersections counted and their associated traffic counts is included as an attachment to this memorandum. Due to the Highway Capacity Manual<sup>1</sup> methodology used to calculate intersection level of service, traffic counts were adjusted at each intersection by multiplying the traffic counts for the peak 15 minute period by four to achieve a peak hour traffic volume. This peak hour traffic volume was used to calculate intersection level of service. This calculation and resulting peak hour intersection volume is included in the intersection tabulation attached to this memorandum.

ODOT requires that analysis be conducted on the 30<sup>th</sup> highest hour traffic volume. Based on data from the nearest ODOT permanent count recorder station (4.77 miles south of Coos Bay on US 101), the 30<sup>th</sup> highest hour would occur during the evening peak hour in either July or August. Since our counts were conducted during the evening peak period in August, no adjustment was deemed necessary to account for seasonal variation.

### FUTURE DEMAND AND LAND USE

The Coos Bay and North Bend Transportation System Plan addresses existing system needs and additional facilities that are required to serve future growth. ODOT's TPAU (Transportation Planning and Analysis Unit) has developed a transportation forecast model which was used to determine future traffic volumes in Coos Bay and North Bend. This forecast model translates assumed land uses into person travel, selects modes, and assigns motor vehicles to the roadway network. These traffic volume projections form the basis for identifying potential roadway deficiencies and for evaluating alternative circulation improvements. This section describes the forecasting process including key assumptions and

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<sup>1</sup> Highway Capacity Manual, Transportation Research Board, National Research Council, Washington D.C., 2000.

the land use scenario developed from the existing Comprehensive Plan designations and allowed densities.

### Projected Land Uses

Land use is a key factor in developing a functional transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together have a direct relationship to expected demands on the transportation system. Understanding the amount and type of land use is critical to taking actions to maintain or enhance transportation system operation.

Projected land uses were developed for areas within the urban growth boundary and reflect the Comprehensive Plan and land use assumptions for the year 2020. Complete land use data sets were developed for the following conditions.

- Existing 2000 Conditions (base year model)
- Year 2020 Conditions

Land uses were inventoried throughout Coos Bay and North Bend by ODOT and reviewed by the respective cities. This land use database includes the number of dwelling units, the number of retail employees, and the number of other employees. Table 1 summarizes the land uses for base year 2000 conditions and the future year 2020 scenario within the Coos Bay and North Bend TSP study area. A detailed summary of the uses for each Transportation Analysis Zone (TAZ) within the Coos Bay and North Bend study area is provided in the Appendix.

**Table 1**  
**Coos Bay and North Bend Land Use Summary**

| <i>Land Use</i> | <i>2000</i> | <i>2020</i> | <i>Increase</i> | <i>20 Year<br/>Percent Increase</i> |
|-----------------|-------------|-------------|-----------------|-------------------------------------|
| Households      | 13,493      | 15,359      | 1,866           | +14%                                |
| Employment      | 13,798      | 17,513      | 3,715           | +27%                                |
| Population      | 32,348      | 36,409      | 4,061           | +13%                                |

At the existing level of land development, the transportation system generally operates without significant deficiencies in the study area (see Existing Conditions chapter). As land uses are changed in proportion to each other (i.e. there is a significant increase in retail employment relative to household growth), there will be a shift in the overall operation of the transportation system. Retail land uses generate higher amounts of trips per acre of land than households do and other land uses. The location and design of retail land uses in a community can greatly affect transportation system operation. Additionally, if a community is homogeneous in land use character (i.e. all employment or residential), the transportation system must support significant trips coming to or from the community rather than within the community. Typically, a mix of residential, commercial, and employment type land uses in the same community better enable some residents to work and shop locally, reducing the need for residents to travel long distances.

Table 1 indicates that moderate growth is expected in Coos Bay and North Bend in the coming decades. The transportation system in Coos Bay and North Bend should be monitored to make sure that land uses in the plan are balanced with transportation system capacity. This TSP balances needs with the forecasted 2020 land uses.

For transportation forecasting, the land use data is stratified into geographical areas called transportation analysis zones (TAZs), which represent the sources of vehicle trip generation. There are 98 TAZs within the Coos Bay and North Bend TSP study area. The model zone boundaries are shown in Figure 1.

### **Transportation Model**

A determination of future traffic system needs in Coos Bay and North Bend requires the ability to accurately forecast travel demand resulting from estimates of future population and employment for the City. The objective of the transportation planning process is to provide the information necessary for making decisions on when and where improvements should be made to the transportation system to meet travel demand as developed in an urban area travel demand model as part of the TSP process. ODOT uses EMME/2, a computer based program for transportation planning, to process the large amounts of data for local areas in Oregon.

Traffic forecasting can be divided into several distinct but integrated components that represent the logical sequence of travel behavior (Figure 2). These components and their general order in the traffic forecasting process are as follows:

- Trip Generation
- Trip Distribution
- Mode Choice
- Traffic Assignment

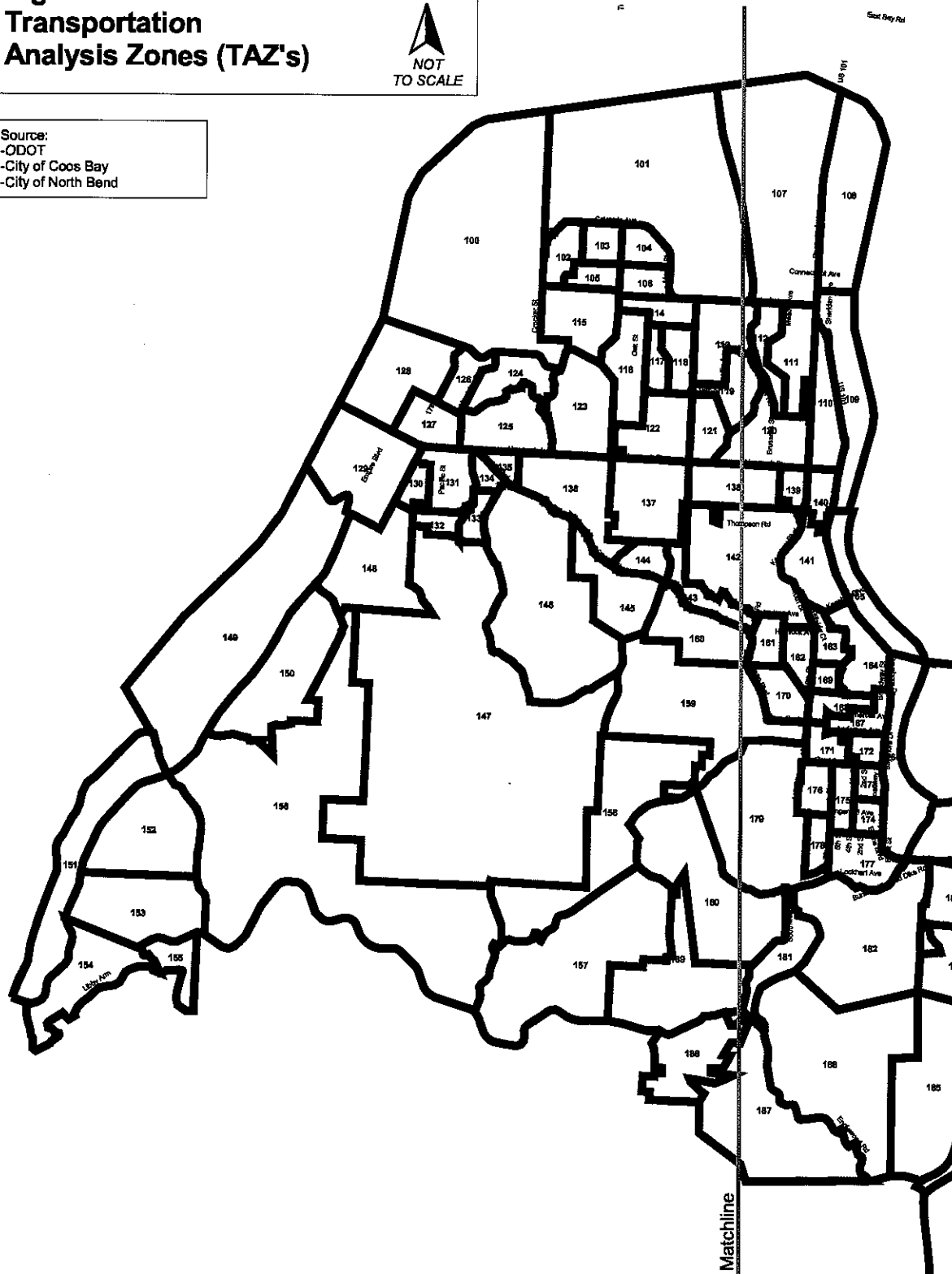
The initial roadway network used in the traffic model was the existing streets and roadways. Future 2020 land use scenarios were tested and roadway improvements were added to mitigate the impacts of motor vehicle traffic growth, using funded and planned improvements as a starting basis. In the case of Coos Bay and North Bend, the only funded or planned improvement is the widening of Newmark Avenue to three lanes between LaClair and Wallace. Forecasts of PM peak period traffic flows were produced for every major roadway segment within Coos Bay and North Bend. Traffic volumes were projected on all arterials and most collector streets. Some local streets were included in the model, but many are represented by centroid connectors in the model process. Centroid connectors represent groups of land use which load onto the street network in relatively the same location.

**Cities of Coos Bay/North Bend  
Transportation System Plan**

**Figure 1a  
Transportation  
Analysis Zones (TAZ's)**



Source:  
-ODOT  
-City of Coos Bay  
-City of North Bend



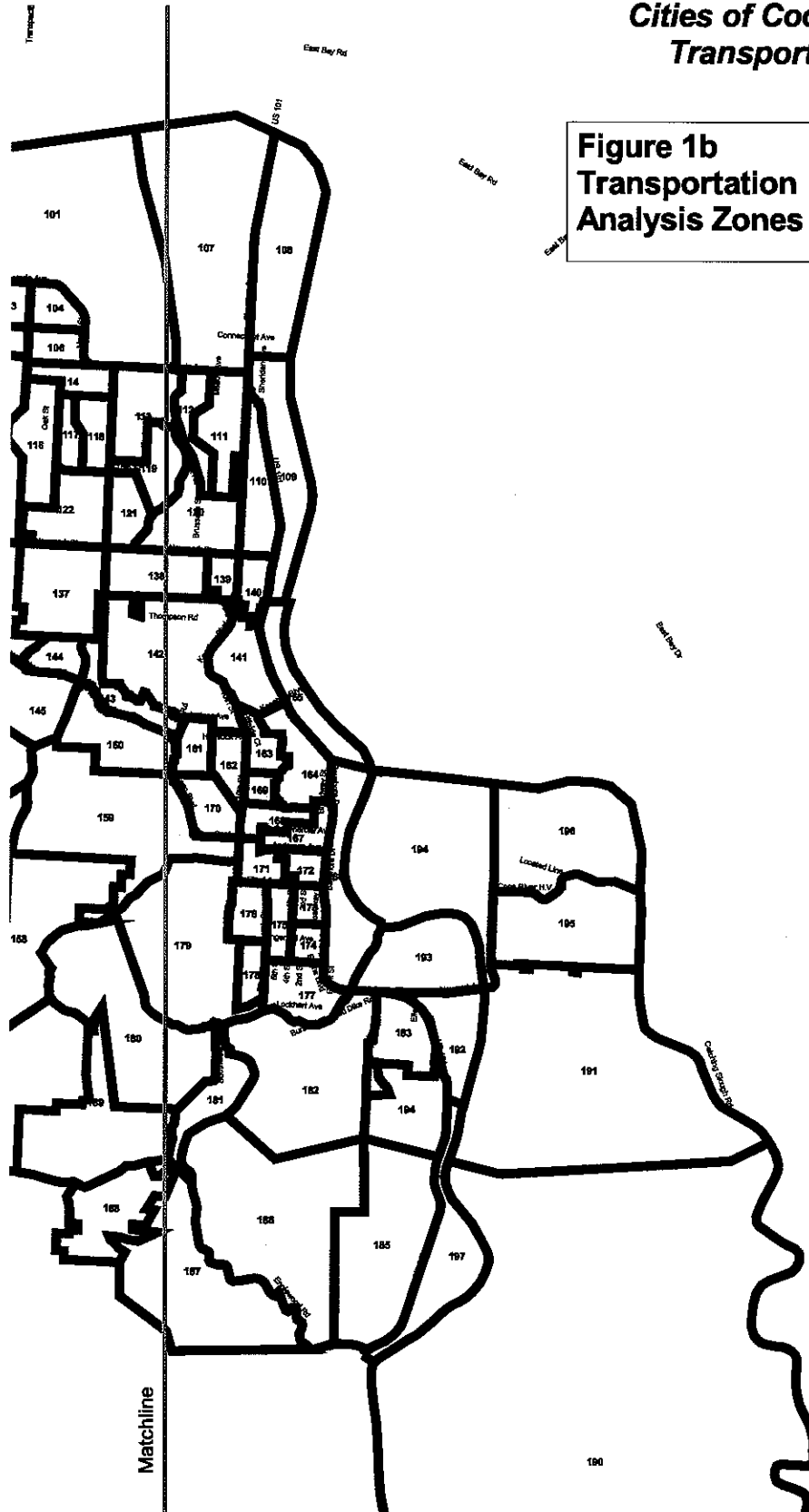


**Cities of Coos Bay/North Bend  
Transportation System Plan**

**Figure 1b  
Transportation  
Analysis Zones (TAZ's)**



Source:  
-ODOT  
-City of Coos Bay  
-City of North Bend



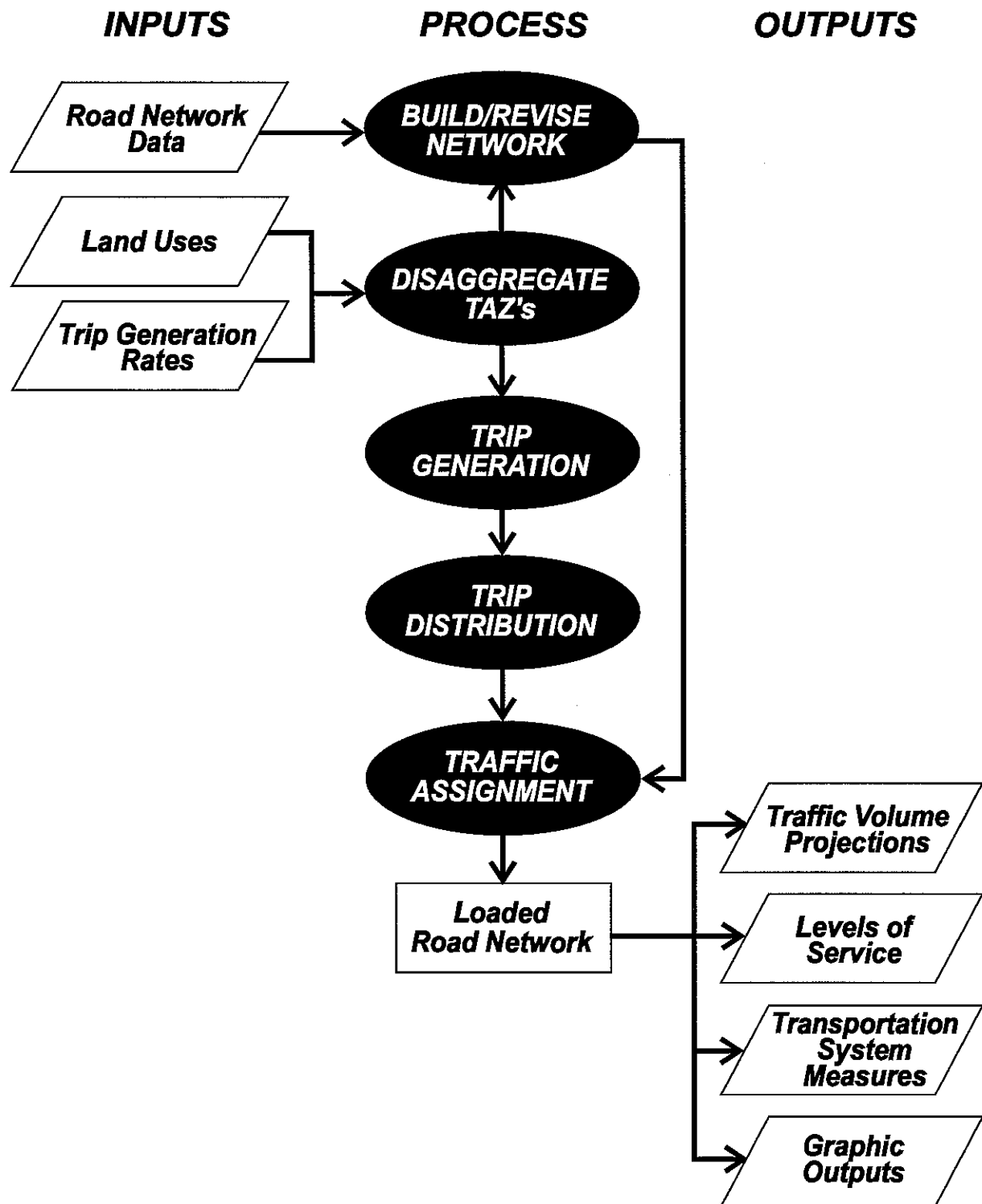


**Figure 2**  
**TRAFFIC FORECASTING**  
**MODEL PROCESS**

## Trip Generation

The trip generation process translates land use quantities (number of dwelling units, retail, and other employment) into vehicle trip ends (number of vehicles entering or leaving a TAZ) using trip generation rates established during the model verification process. The trip generation process is elaborate, entailing detailed trip characteristics for various types of housing, retail employment, non-retail employment, and special activities. Typically, most traffic impact studies rely on the Institute of Transportation Engineers (ITE) research for analysis<sup>2</sup>. The model process is tailored to variations in travel characteristics and activities in the region.

Table 2 illustrates the estimated growth in vehicle trips generated within the Coos Bay and North Bend area (the area shown in Figure 1) during the PM peak period (1-hr peak) between 2000 and 2020. It indicates that vehicle trips in Coos Bay and North Bend would grow by approximately 17 percent between 2000 and 2020 if the land develops according to the City's 2020 land use assumptions. Assuming a 20-year horizon to the 2020 scenario, this represents annualized growth rate of about 0.8 percent per year. Through traffic (traffic with neither an origin or destination in Coos Bay or North Bend is anticipated to grow by about 14 percent during the same time period.

**Table 2**  
**Existing and Future Projected Vehicle Trip Generation**  
**PM Peak Hour Period Vehicle Trips**

|                                        | <i>2000 Trips</i> | <i>2020 Trips</i> | <i>Percent Increase</i> |
|----------------------------------------|-------------------|-------------------|-------------------------|
| Coos Bay and North Bend TSP study area | 9,980             | 11,682            | +17                     |

## Trip Distribution

This step estimates how many trips travel from one zone in the model to any other zone. Distribution is based on the number of trip ends generated in each zone pair, and on factors that relate the likelihood of travel between any two zones to the travel time between zones. In projecting long-range future traffic volumes, it is important to consider potential changes in regional travel patterns. Although the locations and amounts of traffic generation in Coos Bay and North Bend are essentially a function of future land use in the city, the distribution of trips is influenced by regional growth, particularly in neighboring areas such as Bandon and Reedsport as well as unincorporated areas to the north, south, and east of Coos Bay and North Bend. External trips (trips that have either an origin and not a destination in Coos Bay and North Bend or have a destination but not an origin in Coos Bay and North Bend) and through trips (trips that pass through Coos Bay and North Bend and have neither an origin nor a destination there) were projected using trip distribution patterns based upon census data and traffic counts performed at gateways into the Coos Bay/North Bend area.

## Mode Choice

This is the step where it is determined how many trips will be by various modes (single-occupant vehicle, transit, carpool, pedestrian, bicycle, etc.). The 2000 mode splits are incorporated into the base model and adjustments to that mode split may be made for the future scenario, depending on any expected changes in transit or carpool use. These considerations are built into the forecasts used for 2020.

<sup>2</sup> *Trip Generation Manual*, 6<sup>th</sup> Edition, Institute of Transportation Engineers, 1997.

### **Traffic Assignment**

In this process, trips from one zone to another are assigned to specific travel routes in the network, and resulting trip volumes are accumulated on links of the network until all trips are assigned.

Network travel times are updated to reflect the congestion effects of the traffic assigned through an equilibrium process. Congested travel times are estimated using what are called "volume-delay functions" in EMME/2. There are different forms of volume/delay functions, all of which attempt to simulate the impact of congestion on travel times (greater delay) as traffic volume increases. The volume-delay functions take into account the specific characteristics of each roadway link, such as capacity, speed and facility type. This allows the model to reflect conditions somewhat similar to driver behavior.

### **Model Verification**

The base 2000 modeled traffic volumes were compared against actual traffic volume counts across screenlines, on key arterials, and at key intersections. Most arterial traffic volumes meet screenline tolerances for forecast adequacy. Based on this performance, the model was used for future forecasting and assessment of circulation change.

### **Model Application to Coos Bay and North Bend**

Intersection turn movements were extracted from the model at key intersections for both the base year 2000 and forecast year 2020 scenarios. These intersection turn movements were not used directly, but a portion of the increment of the year 2020 turn movements over the 2000 turn movements was applied (added) to existing (actual 2002) turn movement counts in Coos Bay and North Bend. The portion added reflected 18/20ths (0.90) of the increment since the base year counts were from 2002 and the model base year is 2000 as well as a 20 percent (1.2) adjustment to account for seasonal variation between the model (March/April time frame<sup>3</sup>) and August when our counts were conducted. A post processing technique is utilized to refine model travel forecasts to the volume forecasts utilized for 2020 intersection analysis. The turn movement volumes used for future year intersection analysis can be found in the technical appendix for the TSP. Future 2020 intersection volumes can be found in the appendix of this memorandum.

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<sup>3</sup> Because of the standards used in ODOT's TPAU, the Coos Bay/North Bend travel demand forecast model was developed specifically to reflect and evening peak hour in March or April

| TAZ | HHBASE | POPBASE | HHFUTR | POPFUTR | EMPBASE | EMPFUTR |
|-----|--------|---------|--------|---------|---------|---------|
| 100 | 303    | 802     | 437    | 1157    | 15      | 15      |
| 101 | 99     | 223     | 100    | 225     | 287     | 436     |
| 102 | 0      | 0       | 46     | 0       | 0       | 0       |
| 103 | 191    | 476     | 191    | 476     | 5       | 5       |
| 104 | 84     | 211     | 124    | 311     | 363     | 521     |
| 105 | 144    | 394     | 174    | 476     | 12      | 12      |
| 106 | 127    | 305     | 133    | 319     | 12      | 55      |
| 107 | 333    | 704     | 421    | 890     | 468     | 581     |
| 108 | 145    | 354     | 145    | 354     | 207     | 208     |
| 109 | 0      | 0       | 0      | 0       | 317     | 321     |
| 110 | 219    | 545     | 274    | 682     | 554     | 554     |
| 111 | 216    | 455     | 264    | 556     | 178     | 179     |
| 112 | 441    | 1139    | 476    | 1229    | 54      | 60      |
| 113 | 208    | 465     | 211    | 472     | 686     | 794     |
| 114 | 110    | 323     | 120    | 352     | 57      | 57      |
| 115 | 75     | 204     | 149    | 405     | 9       | 9       |
| 116 | 214    | 571     | 249    | 664     | 22      | 22      |
| 117 | 19     | 53      | 21     | 59      | 29      | 29      |
| 118 | 88     | 219     | 91     | 226     | 65      | 97      |
| 119 | 51     | 119     | 61     | 142     | 161     | 162     |
| 120 | 248    | 589     | 259    | 615     | 7       | 11      |
| 121 | 35     | 105     | 56     | 168     | 127     | 139     |
| 122 | 322    | 798     | 426    | 1056    | 90      | 90      |
| 123 | 69     | 161     | 69     | 161     | 458     | 558     |
| 124 | 71     | 213     | 110    | 330     | 0       | 0       |
| 125 | 125    | 391     | 125    | 391     | 100     | 264     |
| 126 | 100    | 255     | 100    | 255     | 2       | 2       |
| 127 | 184    | 495     | 184    | 495     | 144     | 226     |
| 128 | 75     | 186     | 85     | 211     | 7       | 69      |
| 129 | 321    | 805     | 321    | 805     | 79      | 150     |
| 130 | 9      | 22      | 9      | 22      | 111     | 130     |
| 131 | 294    | 770     | 294    | 770     | 107     | 175     |
| 132 | 131    | 373     | 131    | 373     | 0       | 0       |
| 133 | 89     | 216     | 89     | 216     | 36      | 36      |
| 134 | 18     | 46      | 18     | 46      | 33      | 60      |
| 135 | 72     | 96      | 72     | 96      | 160     | 175     |
| 136 | 374    | 741     | 374    | 741     | 429     | 727     |
| 137 | 298    | 593     | 428    | 852     | 292     | 374     |
| 138 | 276    | 684     | 282    | 699     | 193     | 251     |
| 139 | 52     | 137     | 70     | 184     | 19      | 17      |
| 140 | 154    | 334     | 160    | 347     | 283     | 283     |
| 141 | 114    | 239     | 114    | 239     | 96      | 300     |
| 142 | 367    | 939     | 367    | 939     | 1623    | 1871    |
| 143 | 162    | 378     | 164    | 383     | 33      | 33      |
| 144 | 65     | 210     | 90     | 291     | 14      | 25      |
| 145 | 93     | 147     | 93     | 147     | 193     | 490     |
| 146 | 205    | 334     | 382    | 622     | 85      | 150     |
| 147 | 80     | 178     | 180    | 401     | 2       | 25      |
| 148 | 218    | 582     | 300    | 801     | 12      | 80      |
| 149 | 36     | 74      | 39     | 80      | 17      | 17      |
| 150 | 371    | 891     | 391    | 939     | 3       | 3       |

| TAZ    | HHBASE | POPBASE | HHFUTR | POPFUTR | EMPBASE | EMPFUTR |
|--------|--------|---------|--------|---------|---------|---------|
| 151    | 67     | 136     | 72     | 146     | 32      | 32      |
| 152    | 224    | 563     | 239    | 601     | 13      | 13      |
| 153    | 297    | 772     | 312    | 811     | 146     | 146     |
| 154    | 172    | 398     | 177    | 410     | 56      | 56      |
| 155    | 20     | 49      | 20     | 49      | 0       | 0       |
| 156    | 73     | 204     | 85     | 238     | 41      | 44      |
| 157    | 16     | 47      | 16     | 47      | 0       | 0       |
| 158    | 1      | 2       | 1      | 2       | 0       | 0       |
| 159    | 111    | 250     | 141    | 318     | 29      | 29      |
| 160    | 113    | 297     | 129    | 339     | 30      | 50      |
| 161    | 74     | 163     | 74     | 163     | 1       | 1       |
| 162    | 37     | 98      | 37     | 98      | 40      | 50      |
| 163    | 109    | 271     | 109    | 271     | 19      | 30      |
| 164    | 145    | 293     | 145    | 293     | 328     | 400     |
| 165    | 0      | 0       | 15     | 0       | 0       | 100     |
| 166    | 8      | 18      | 30     | 68      | 825     | 950     |
| 167    | 155    | 233     | 155    | 233     | 900     | 1000    |
| 168    | 97     | 211     | 97     | 211     | 189     | 249     |
| 169    | 56     | 126     | 56     | 126     | 0       | 0       |
| 170    | 131    | 328     | 131    | 328     | 1       | 1       |
| 171    | 251    | 471     | 251    | 471     | 245     | 300     |
| 172    | 15     | 34      | 15     | 34      | 512     | 612     |
| 173    | 18     | 38      | 18     | 38      | 235     | 300     |
| 174    | 38     | 67      | 38     | 67      | 249     | 349     |
| 175    | 172    | 396     | 172    | 396     | 146     | 175     |
| 176    | 81     | 203     | 81     | 203     | 121     | 150     |
| 177    | 87     | 161     | 87     | 161     | 374     | 474     |
| 178    | 127    | 305     | 127    | 305     | 22      | 22      |
| 179    | 188    | 457     | 235    | 571     | 61      | 61      |
| 180    | 305    | 810     | 340    | 903     | 36      | 50      |
| 181    | 45     | 101     | 45     | 101     | 11      | 11      |
| 182    | 171    | 445     | 191    | 497     | 54      | 54      |
| 183    | 174    | 425     | 174    | 425     | 58      | 62      |
| 184    | 89     | 206     | 109    | 0       | 0       | 0       |
| 185    | 102    | 223     | 117    | 256     | 130     | 135     |
| 186    | 122    | 303     | 147    | 365     | 2       | 2       |
| 187    | 35     | 85      | 55     | 134     | 2       | 2       |
| 188    | 123    | 281     | 138    | 315     | 7       | 7       |
| 189    | 145    | 365     | 160    | 403     | 13      | 13      |
| 190    | 297    | 744     | 347    | 869     | 44      | 44      |
| 191    | 130    | 335     | 180    | 464     | 32      | 32      |
| 192    | 46     | 100     | 46     | 100     | 15      | 9       |
| 193    | 101    | 246     | 101    | 246     | 281     | 281     |
| 194    | 158    | 430     | 196    | 533     | 116     | 203     |
| 195    | 388    | 904     | 395    | 920     | 40      | 70      |
| 196    | 54     | 139     | 54     | 139     | 86      | 96      |
| 197    | 30     | 71      | 30     | 71      | 0       | 0       |
| Totals | 13493  | 32348   | 15359  | 36409   | 13798   | 17513   |

**Emme/2 Plots**

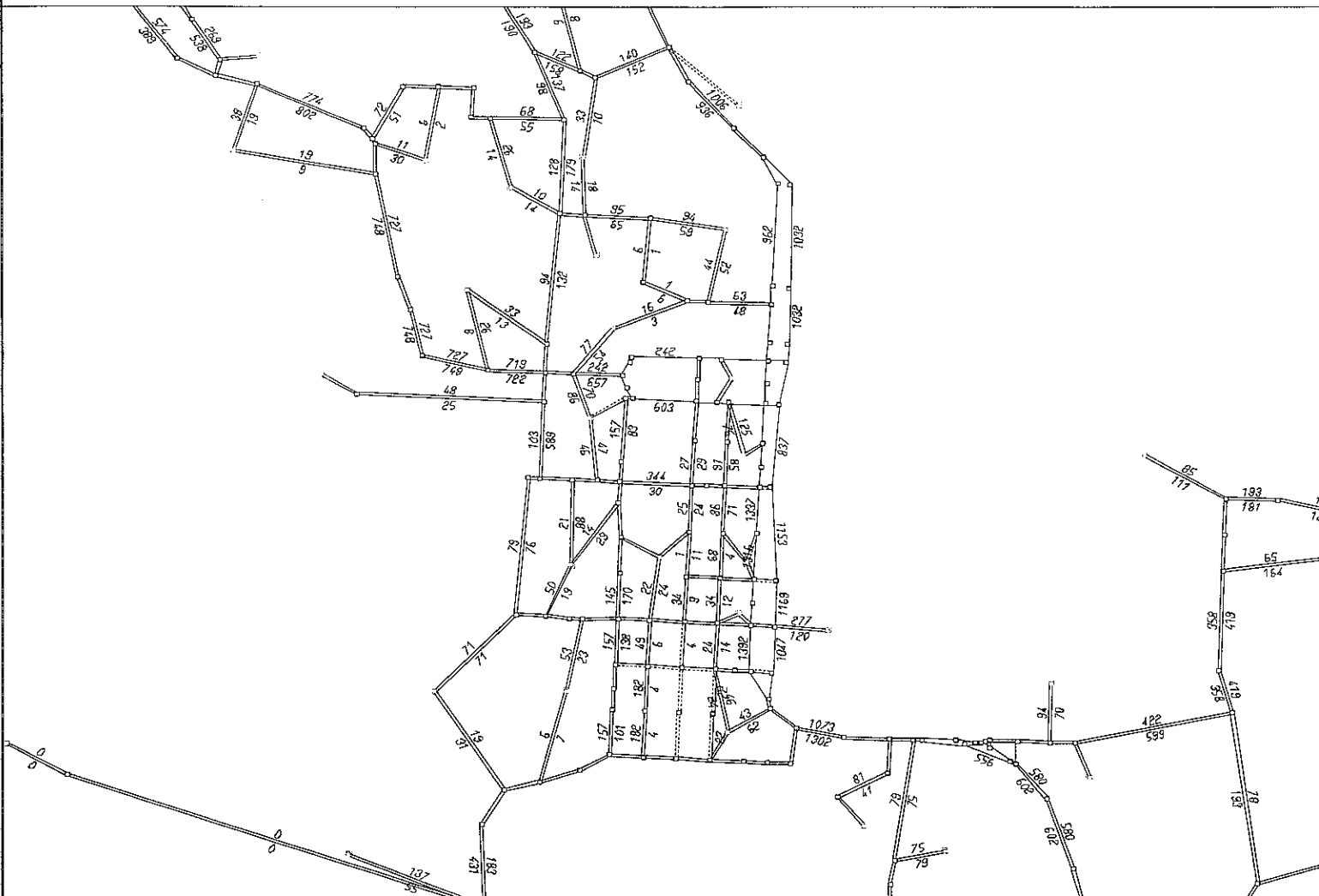
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# AUTO VOLUMES

emme/2

LINKS:  
all  
THRESHOLD:  
LOWER: .01  
UPPER: -.01

WINDOW:  
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62.832/116.828  
03-10-23 15:37  
MODULE: 6.12  
DKS2000....jxs



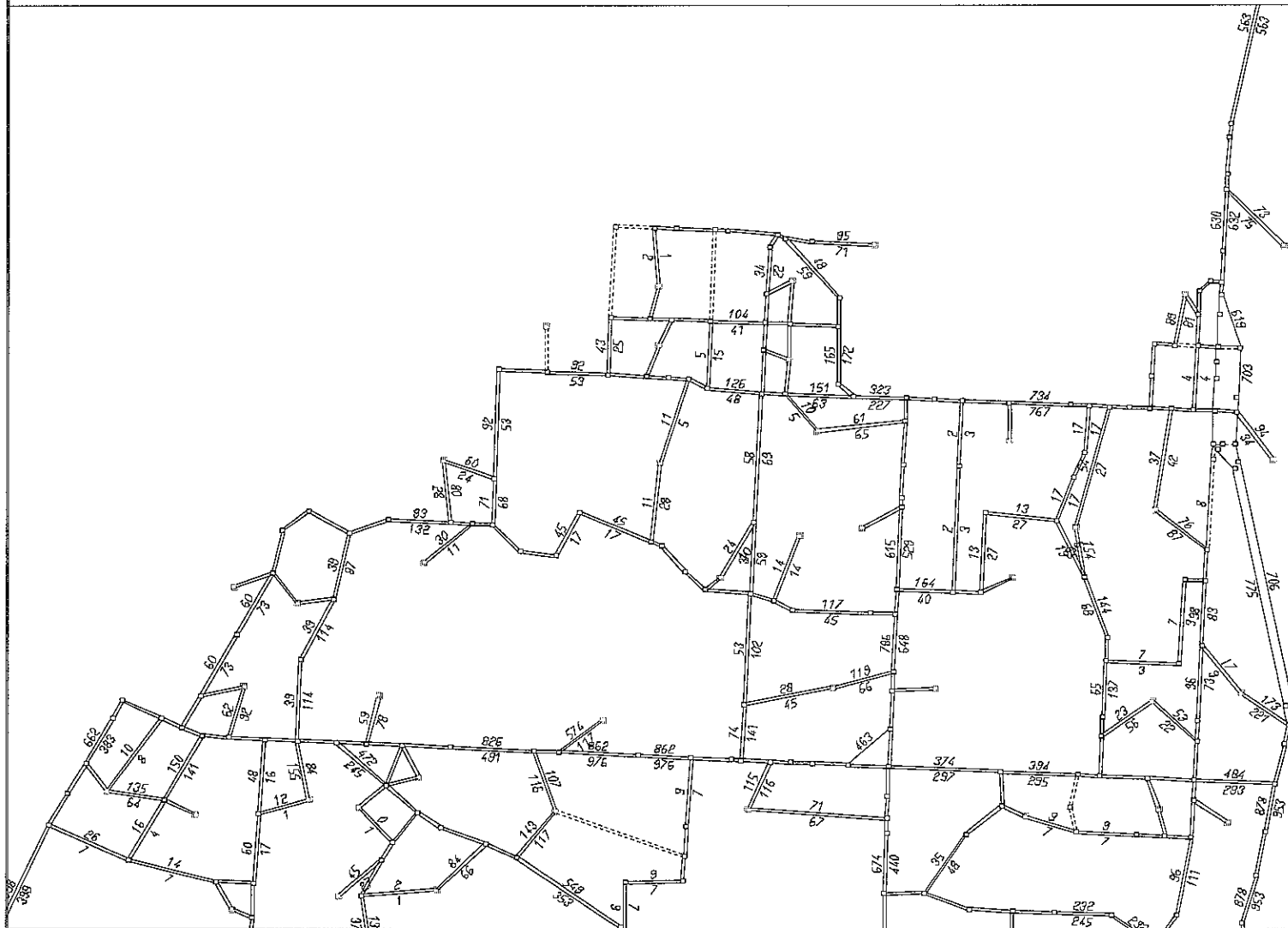
EMME/2 PROJECT: Coos Bay (2000)  
SCENARIO 28: Copy of 27 w/new nodes



# AUTO VOLUMES

emme/2

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all  
THRESHOLD:  
LOWER: .01  
UPPER: -.01



WINDOW:  
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61.676/119.763

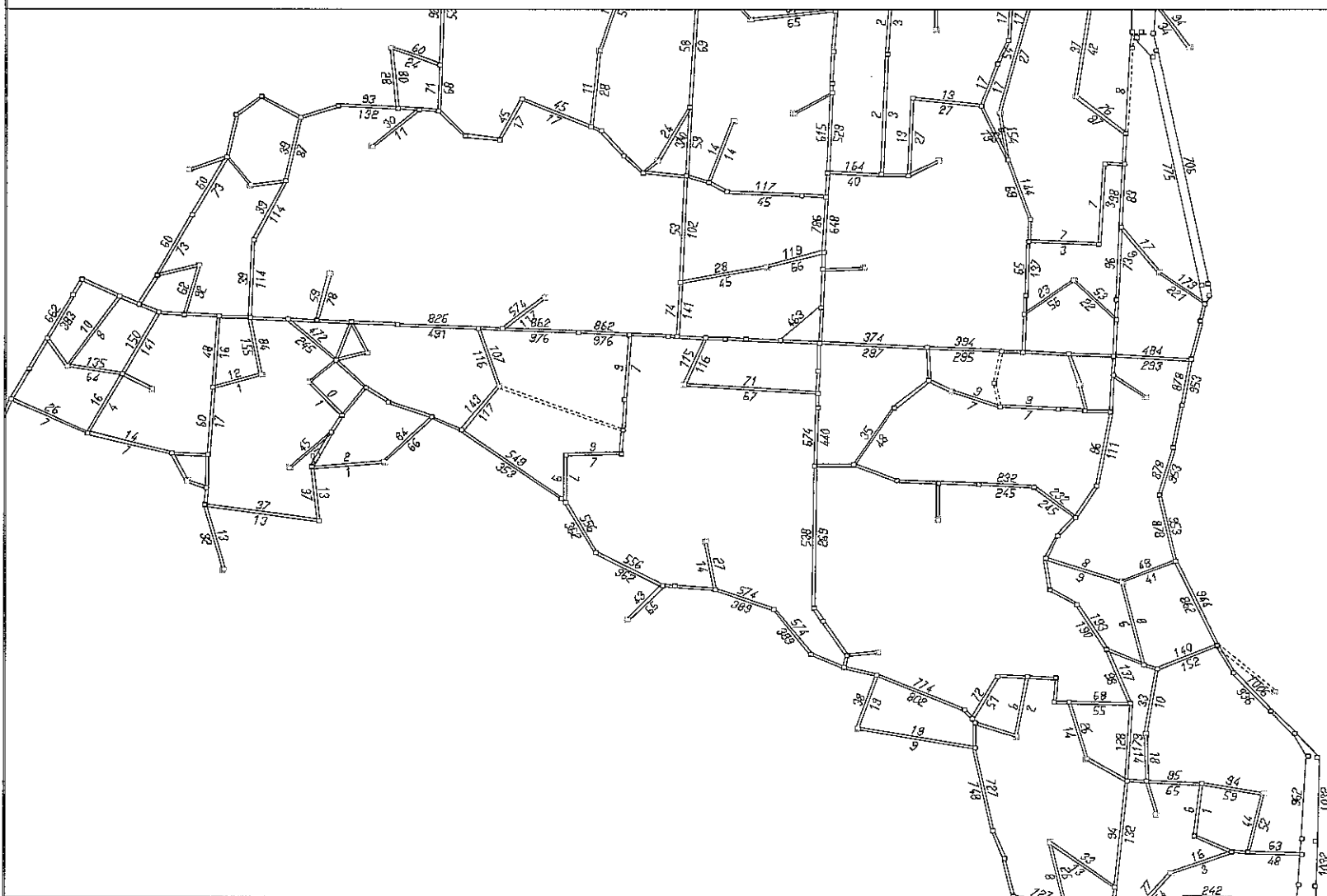
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SCENARIO 28: Copy of 27 w/new nodes

03-10-23 15:42  
MODULE: 6.12  
DKS2000....jxs

# AUTO VOLUMES

emme/2

LINKS:  
all  
THRESHOLD:  
LOWER: .01  
UPPER: -.01



WINDOW:  
58.287/115.986  
61.765/118.594

EMME/2 PROJECT: Coos Bay (2000)  
SCENARIO 28: Copy of 27 w/new nodes

03-10-23 15:43  
MODULE: 6.12  
DKS2000....jxs

## **North Bend Pavement Condition Map**

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# NORTH BEND PUBLIC WORKS PAVEMENT CONDITION MAP

## LEGEND

EXCELLENT 100-86

VERY GOOD 85-71

GOOD 70-56

FAIR 55-41

POOR 40-26

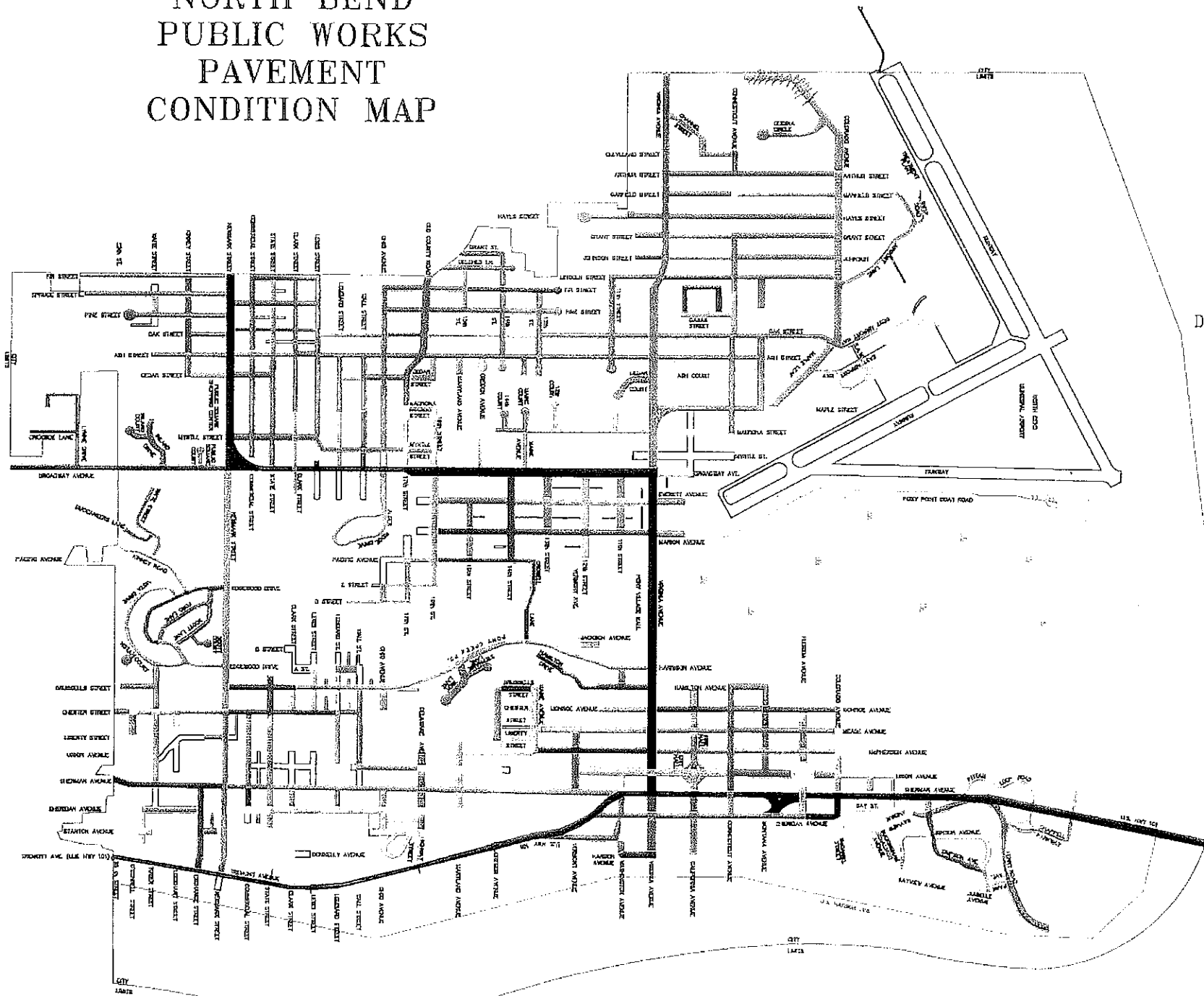
VERY POOR 25-11

FAILED 10-0

DIRT/GRAVEL

STATE HWY

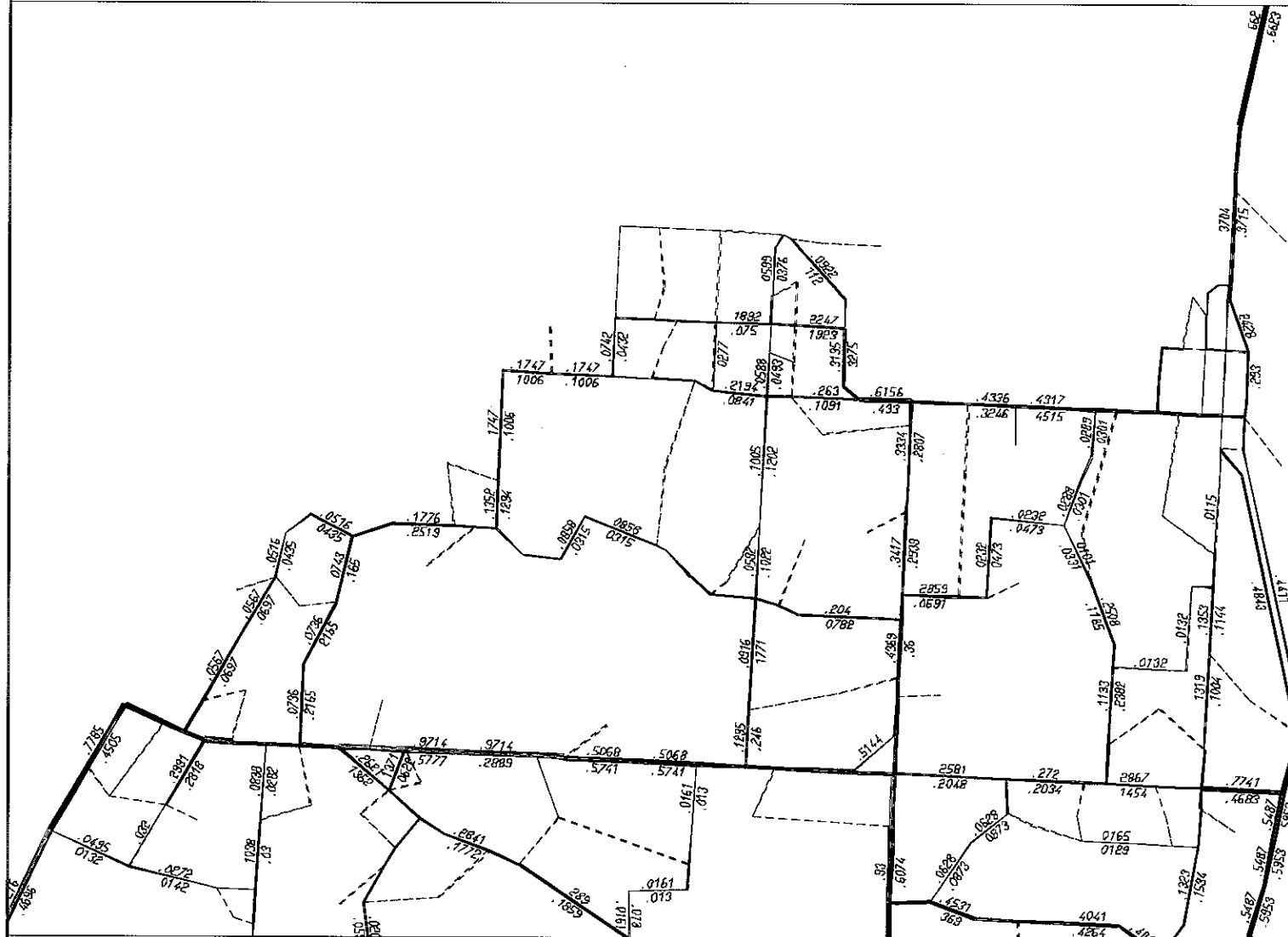
PRIVATE



emme/2

VOLUME/CAPACITY  
RATIO

```
03-10-23 15:42
MODULE: 2.13
DKS2000....jxs
```



```
EMME/2 PROJECT: Coos Bay (2000)
SCENARIO      28: Copy of 27 w/new nodes
ATTRIBUTE @vc: volcap
```

ATTRIBUTE @VC: VOLCAP

emme/2

| VOLUME/CAPACITY<br>RATIO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|--------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

2

4

6

8

10

```
03-10-23 15:41
MODULE: 2.13
DKS2000...jxs
```

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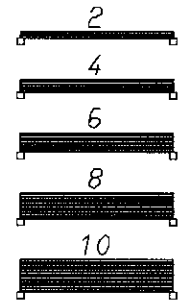
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emme/2

LINKS:  
all  
COL-IND:@plt  
THRESHOLD:  
LOWER: .01  
UPPER: -.01

VOLUME/CAPACITY  
RATIO

— < 0.8  
— 0.8-0.9  
— 0.9-1.0  
— > 1.0  
XXX=VOLUME(VPH)  
SCALE: .5



WINDOW:  
59.992/114.698  
62.832/116.828



EMME/2 PROJECT: Coos Bay (2000)  
SCENARIO 28: Copy of 27 w/new nodes  
ATTRIBUTE @vc: volcap

03-10-23 15:40  
MODULE: 2.13  
DKS2000....jxs

## **Glossary**

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## GLOSSARY

### Definitions of Technical Terms and Acronyms

*Access Management:* Refers to measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the type and amount of access to roadways, and use of physical controls such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.

*Accessway:* Refers to a walkway that provides pedestrian and or bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop.

*Average Daily Traffic (ADT):* This is the measurement of the average number of vehicles passing a certain point each day on a highway, road or street.

*Alignment:* Location and geometric arrangement/layout of a roadway (curvature etc.)

*Alternative Modes:* Transportation alternatives other than single-occupant automobiles such as rail, transit, bicycles and walking.

*Arterial (Street):* A street designated in the functional class system as providing the highest amount of connectivity and mostly uninterrupted traffic flow through an urban area.

*Bicycle Facility:* Any facility provided for the benefit of bicycle travel, including bikeways and parking facilities.

*Bicycle Network:* A system of connected bikeways that provide access to and from local and regional destinations.

*Bike Lane:* A portion of the roadway that has been designated by striping and pavement markings for the preferential or exclusive use of bicyclists.

*Capacity:* The maximum number of vehicles or individuals that can traverse a given segment of a transportation facility with prevailing roadway and traffic conditions.

*Central Business District (CBD):* This is the traditional downtown area, and is usually characterized by slow traffic speeds, on street parking and a compact grid system.

*Collector (Street):* A street designated in the functional class system that provides connectivity between local and neighborhood streets with the arterial streets serving the urban area. Usually shorter in distance than arterials, designed with lower traffic speeds and has more traffic control devices than higher classified roadways.

*Congestion Mitigation/Air Quality (CMAQ):* A program within the federal ISTEA and TEA-21 regulations that address congestion and transportation-related air pollution.

*Coos County Area Transit (CCAT):* The public transit provider for the Coos Country area.

*Crosswalk:* Portion of a roadway designated for pedestrian crossing and can be either marked or unmarked. Unmarked crosswalks are the natural extension of the shoulder, curb line or sidewalk.

***Demand Management:*** Refers to actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include subsidizing transit for the journey to work trip, charging for parking, starting a van or car pool system, or instituting flexible work hours.

***Grade Separation:*** The vertical separation of conflicting travelways.

***Grade:*** A measure of the steepness of a roadway, bikeway or walkway, usually expressed in a percentage form of the ratio between vertical rise to horizontal distance. (eg. a 5% grade means that the facility rises 5 feet in height over a 100 feet in length.)

***Impervious Surfaces:*** Hard surfaces that do not allow water to soak into the ground, increasing the amount of stormwater running into the drainage system.

***Intermodal Connectors:*** Short lengths of roads that connect intermodal facilities to the state highway system.

***Intermodal Facilities:*** Facilities that allow transfers of a number of different modes for passenger and/or freight. Examples include airports, bus stations, ports and rail stations.

***Level of Service (LOS):*** A qualitative measure describing the perception of operation conditions within a traffic stream by motorists and or passengers. An LOS rating of "A" to "F" describes the traffic flow on streets and at intersections, ranging from LOS A, representing virtually free flow conditions and no impedance to LOS F representing forced flow conditions and congestion.

***Local (Street):*** A street designated in the functional class system that's primary purpose is to provide access to land use as opposed to enhancing mobility. These streets typically have low volumes and are very short in relation to collectors and arterials.

***Local Street Standards:*** Include but are not limited to standards for right-of-way, pavement width, travel lanes, parking lanes, curb turning radius, and accessways.

***Metropolitan Planning Organization (MPO):*** An organization in each federally recognized urbanized area (population over 50,000) designated by the Governor which has the responsibility for planning, programming and coordinating the distribution of federal transportation resources.

***Multi-Modal:*** Involving several modes of transportation including bus, rail, bicycle, motor vehicle etc.

***Multi-Use Path:*** A path separated from motor vehicle traffic by open space or barrier used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers.

***National Highway System (NHS):*** The National Highway System is interconnected urban and rural principal arterial and highways that serve major population centers, ports, airports and other major travel destinations, meet national defense requirements and serve interstate and interregional travel.

***ODOT :*** Oregon Department of Transportation.

***Peak Period or Peak Hour:*** The period of the day with the highest number of travelers. This is normally between 4-6 PM on weekdays.

***Pedestrian:*** A person on foot, in a wheelchair or walking a bicycle.

***Pedestrian Connection:*** A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. These connections could include sidewalks, walkways, accessways, stairways and pedestrian bridges.

***Pedestrian District:*** A comprehensive plan designation or implementing land use regulation, such as an overlay zone, that establishes requirements to provide a safe and convenient pedestrian environment in an area planned for a mix of uses likely to support a relatively high level of pedestrian activity.

***Pedestrian Facility:*** A facility provided for the benefit of pedestrian travel, including walkways, crosswalks, signs, signals and benches.

***Pedestrian Scale:*** Site and building design elements that are oriented to the pedestrian and are dimensionally less than those sites designed to accommodate automobile traffic.

***Realignment:*** Rebuilding of existing roadway where the geometry changes, but the connection between original roadway and the intersecting road is maintained.

***Right-Of-Way (ROW):*** Publicly-owned land or property upon which public facilities and infrastructure is placed.

***Regional Transportation Plan (RTP):*** Federally mandated transportation planning document completed by MPO's identifying current conditions, deficiencies, and alternatives for a 20 year time horizon.

***Shared Roadway:*** A type of bikeway where bicyclists and motor vehicles share a travel lane.

***Sight Distance:*** The distance a person can see along an unobstructed line of sight.

***Single Occupancy Vehicle (SOV):*** A non-commercial vehicle with only one occupant.

***Special Transportation Area (STA):*** Designation that may be applied to a highway segment when a downtown, business district or community center straddles the state highway within an urban growth boundary or an unincorporated community. Emphasis is placed on local auto, pedestrian, bicycle and transit movements as opposed to through traffic. Through traffic is de-emphasized by on street parking, landscaping and pedestrian facilities.

***Traffic Control Devices:*** Signs, signals or other fixtures placed on or adjacent to a travelway that regulates, warns or guides traffic. Can be either permanent or temporary.

***Transit-Oriented Development (TOD):*** A mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused around a major transit stop designed to support a high level of transit use.

***Transportation Analysis Zone (TAZ):*** A geographic sub-area used to assess travel demands using a travel demand forecasting model. Often defined by the transportation network and US Census blocks.

***Transportation Disadvantaged:*** Individuals who have difficulty obtaining transportation because of their age, income, physical or mental disability.

*Transportation Planning Rule (TPR)*: Directs cities, counties and MPO's to prepare TSP's consistent with the state TSP, providing for an integrated, multi-modal plan that address local, regional and statewide transportation, mobility and livability goals.

*Transportation System Plan (TSP)*: A comprehensive plan that is developed to provide a coordinated, seamless integration of continuity between modes at the local level as well as integration with the regional transportation system.

*Urban Area*: The area immediately surrounding an incorporated city or rural community that is urban in character, regardless of size.

*Urban Growth Boundary (UGB)*: The area surrounding an incorporated city in which the city may legally expand its city limits.

*Vehicle Miles of Travel (VMT)*: Automobile vehicle miles of travel excluding buses, heavy trucks and trips that involve commercial movement of goods. VMT is estimated through the transportation demand model of the local MPO and only includes trips with both an origin and destination within the MPO boundary.

*Volume to Capacity Ratio (V/C ratio)*: A measure of roadway congestion, calculated by dividing the number of vehicles passing through a section of highway during the peak hour by the capacity of the section.