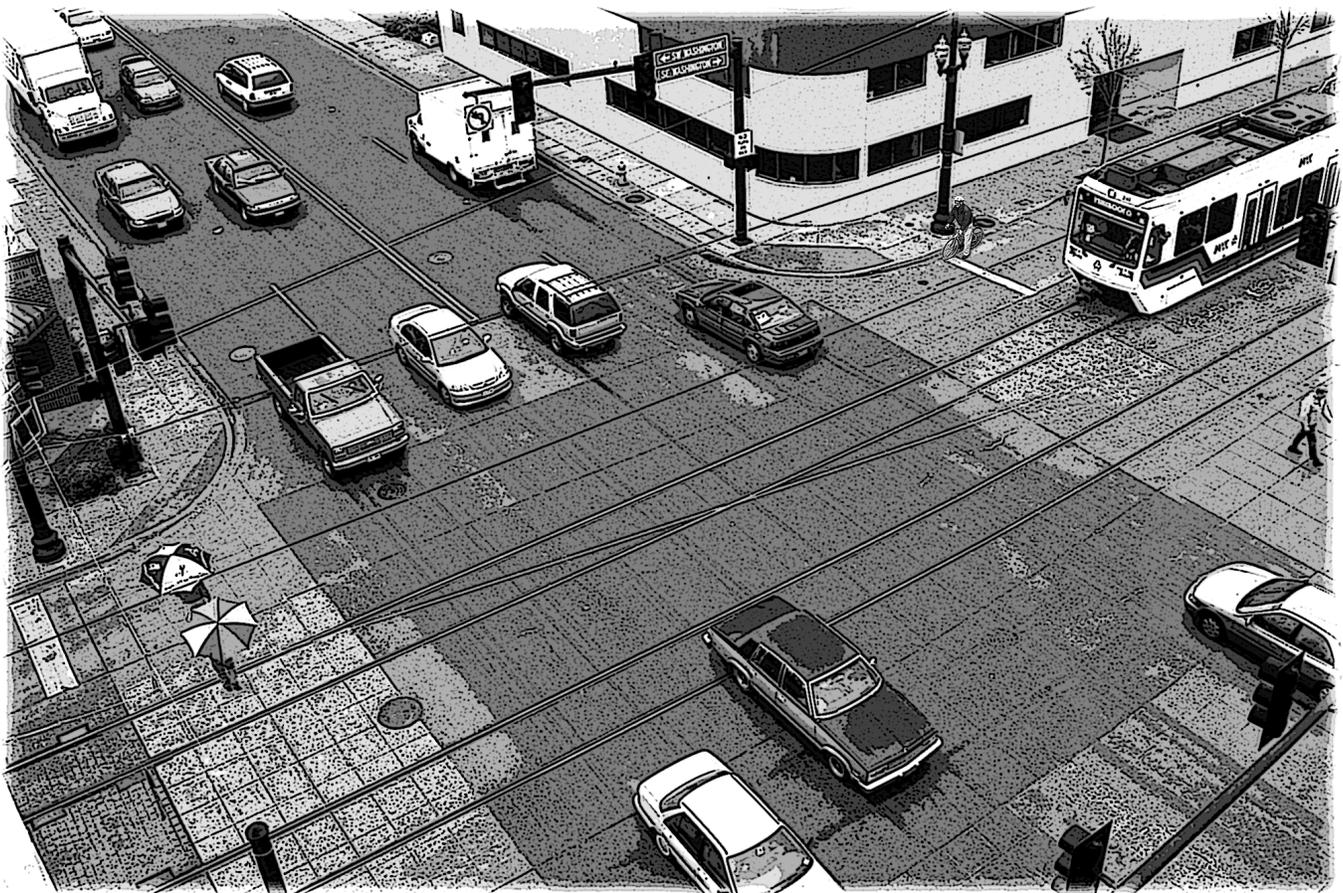


Washington County
2020
**Transportation
Plan**



WASHINGTON COUNTY

OREGON

Washington County **2020** Transportation Plan

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Preface

The Washington County 2020 Transportation Plan is one of several elements that comprise the Washington County Comprehensive Plan. The other elements are:

- County Resource Document
- Comprehensive Framework Plan for the Urban Area
- Rural/Natural Resource Plan, which includes the Exceptions Statement Document
- Community Plans and their Background Documents
- Community Development Code
- Unified Capital Improvements Program, including the Transportation Capital Improvement Program
- Urban Planning Area Agreements

The Transportation Plan supports the adopted development patterns in the community plans, the Rural/Natural Resource Plan, and city comprehensive plans. The Transportation Plan also implements the applicable policies and strategies of the community plans and the Rural/Natural Resource Plan. The Transportation Plan also addresses provisions of the Regional Transportation Plan and the state Transportation Planning Rule.

The Transportation Plan is a comprehensive analysis and identification of transportation needs associated with the development patterns described in the community plans and the Rural/Natural Resource Plan. Prepared from both the county-wide and community planning area perspectives, the Transportation Plan addresses the major roadway system (i.e., non-local roadways), transit, pedestrian and bicycle transportation issues and focuses on specific and system requirements. Existing and future roads and streets that are part of the major roadway system are provided a classification in the Transportation Plan indicative of their existing or planned function, right-of-way, alignment and structural dimensional standards. The local street system is designated on the community plans and the Rural/Natural Resource Plan, which are best suited for addressing the local street system.

Many provisions of the Transportation Plan are implemented by the community plans, the Rural/Natural Resource Plan and the Community Development Code. For example, localized street and pedestrian connectivity and major bus stops are addressed in the community plans. The Community Development Code contains specific standards and procedures necessary to implement the Transportation Plan, such as standards for access spacing, major bus stops, and neighborhood circulation. In the event there is a conflict between the requirements of the Transportation Plan and a community plan or the Rural/Natural Resource Plan, the requirements of the Transportation Plan shall control. If there are provisions in a community plan or the Rural/Natural Resource Plan that conflict with the requirements of the Transportation Plan, the applicable community plan or Rural/Natural Resource Plan shall be amended to be consistent with the Transportation Plan.

The Washington County 2020 Transportation Plan is a compilation of policies, strategies, maps, figures and other text adopted by Ordinance No. 588 and Resolution and Order No. 02-125. Resolution and Order No. 02-125 adopts the Plan's Technical Appendix.

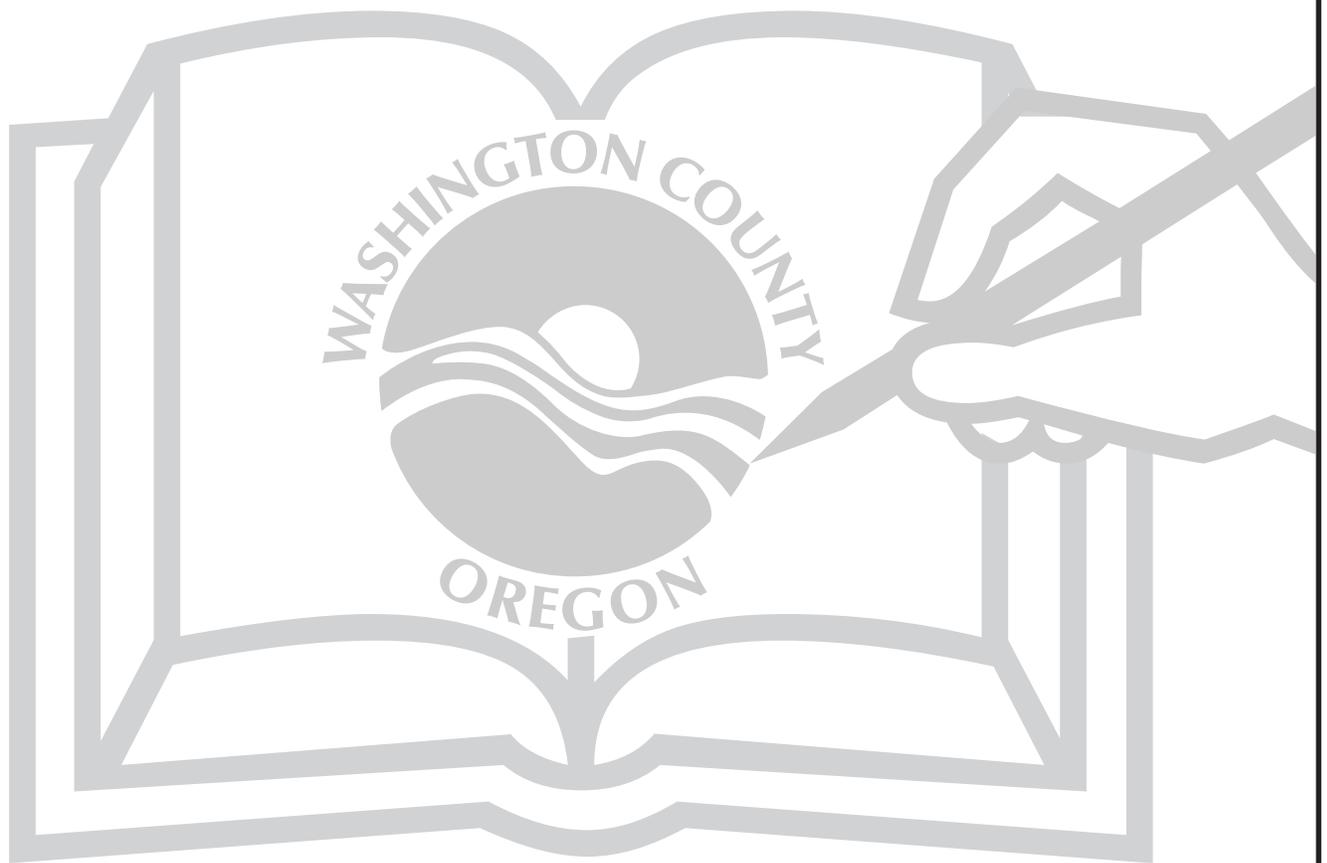
Ordinance No. 588 contains the Plan's policies, strategies and maps, as well as informational and background statements. Chapters 1 and 2, including the 2040 Growth Concept Design Types map (an illustrative map showing county- and city-adopted 2040 designations), and the introductory and background statements for each policy are informational and background statements and are not regulatory Plan provisions. The Plan policies and their strategies and system maps are regulatory requirements. Specific strategies and system maps that are applicable to private and public development are identified in the Community Development Code. Amendments to text and maps adopted by Ordinance No. 588 shall be made through the legislative process, unless specified otherwise by the Transportation Plan.

The Transportation Plan's Technical Appendix, adopted by Resolution and Order No. 02-125, contains the information used to develop, support and provide direction for the application of Plan policies and strategies and are findings to demonstrate compliance with federal, state and regional planning requirements. The provisions of the Technical Appendix are not regulatory requirements. Amendments to the Technical Appendix shall be made by resolution and order.

The Background Report for the Transportation Plan, adopted by Resolution and Order No. 02-124 contains the information and analysis used in the development of the Plan. The information in the Background Report is non-regulatory.

Washington County 2020 *Transportation Plan*

*Introduction &
Background*



Introduction

Washington County adopted its previous transportation plan in 1988. At the time, the County's transportation system served approximately 263,000 residents and 121,000 employees. The 1988 Plan identified transportation policies, capital improvement projects and transportation related programs necessary to support growth for 410,000 residents and 227,000 employees by 2005. Urban economic growth in the 1990's outpaced the Plan forecasts, and as of the year 2000, the county had about 445,000 residents and 258,000 employees. This rapid growth has focused attention on urban commuting transportation issues in recent years, but other equally important traffic, maintenance and safety issues have surfaced in the resource-rich rural areas in Washington County.

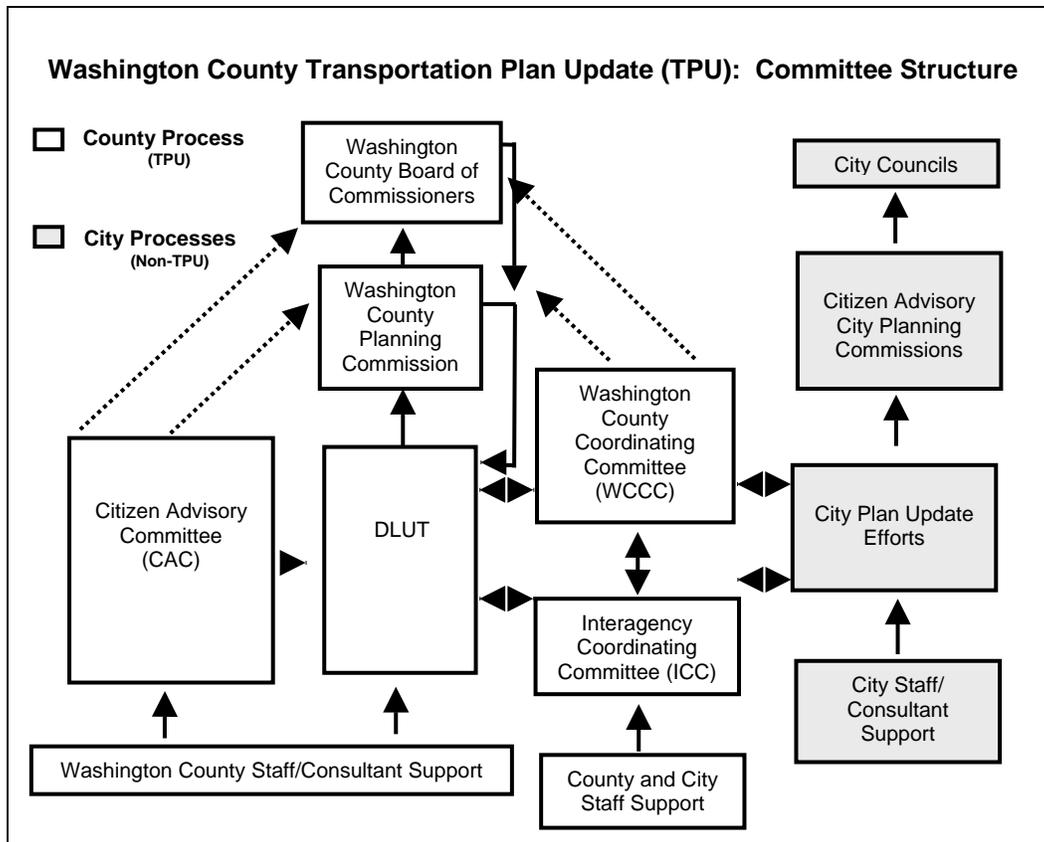
This Plan update has been undertaken to address these and other prominent transportation issues. The 1988 Transportation Plan was incrementally amended over the years to respond to changes in local growth patterns and policy changes in state and federal planning regulations, but a comprehensive update has not been completed until now.

Plan Process

The Washington County Transportation Plan Update process began in September 2000 and included the following major work elements:

- Policy and Strategy Review and Development
- Inventory/Data Collection
- Evaluation of Existing Travel Conditions and Future Needs
- Identification of Needs by Travel Mode and Consideration of Alternatives
- Identification of Improvements to Mitigate Deficiencies by Mode For 2020 Conditions
- Preparation of Planning Cost Estimates of Improvements
- Preparation of Draft Transportation Plan

The Plan update was coordinated with the Citizen Advisory Committee (CAC) appointed by the Board of County Commissioners, the Rural Road Operations and Maintenance Advisory Committee (RROMAC) and a technical committee (Intergovernmental Coordinating Committee — ICC) comprised of staff from local cities, Tualatin Hills Park and Recreation District (THPRD), TriMet, Metro, Port of Portland and the Oregon Department of Transportation (ODOT). Regular meetings were held with both the CAC and ICC over the course of the study to review interim work products and to develop direction for the Plan. These committees addressed policies and strategies related to transportation in Washington County, transportation needs by mode (motor vehicles, bicycle, pedestrian, transit, and other modes), strategies for choosing transportation alternatives and reviewed and commented on a draft of the Plan. The ICC review also considered the proposed projects and the policy implications within affected jurisdictions.



Public open house meetings were held in February, March, September and October 2001 and in February 2002 to solicit comments and feedback on interim work products. These public meetings were held at several locations around the county to make them convenient for citizens.

The Draft Plan, which was broadly distributed and posted on the Web, was reviewed by the CAC and ICC and interested parties through March 2002. Based upon comments received during this period, staff revised the Draft Plan and developed an ordinance and resolution and order to submit to the Planning Commission and Board of Commissioners for formal review.

During Spring, Summer and Fall of 2002, Ordinance 588 and Resolution and Order 02 - 125 were considered through two series of public hearings – one before the Planning Commission, which formulated a recommendation for the Board of County Commissioners, the second before the Board itself. During these hearings, staff presented and explained the Ordinance, and Washington County residents and interested parties provided formal comments on the Ordinance. The Washington County 2020 Transportation Plan links urban form to transportation and reflects a commitment to efficient use of land and a safe, cost-effective transportation system that serves all forms of travel. The Plan represents a pragmatic balance between the need to maintain existing infrastructure and keep pace with expected growth in the county. It views transportation infrastructure like other urban utilities, as a scarce commodity that needs to be managed in a manner that balances a desire to accommodate travel demand against the growing cost and complexity of expanding the system and services necessary to do so.

Planning Approach

The Transportation Plan provides specific information about transportation needs and how they might be met. Forecasts and analysis upon which the Plan is based are for the year 2020 and are driven by the adopted comprehensive land use plans for the county and the cities and their respective estimates about how development might occur. Though developed with considerable local input, the 2020 travel forecasts used in this update are adopted at the regional level by Metro and reflect forecasted development growth across the Portland-Vancouver Metropolitan area.

The analysis of 2020 travel demand identifies which elements of the system are not expected to provide adequate service, and where alternative system expansion or service programs should be considered for each travel mode. The Transportation Plan contains the accumulation of recommended system and service improvements and programs that will be needed to serve long-term growth to 2020. The Plan assumes the Urban Growth Boundary remains in its current location. Any future modifications of the boundary that add land to the urban area would be accompanied by an analysis of the transportation system impacts and necessary adjustments, as required by law.

Urban and rural needs were addressed as part of Plan work, and differences were acknowledged. Efforts were made to provide adequate support for urban and rural needs, and to acknowledge and balance tensions between them.

Addressing planning and regulatory provisions driven by changes in federal, state and regional transportation policy also was a critical element of Plan development. From the federal level on down a new emphasis has been put on encouraging non-auto travel and more efficient uses of existing facilities before motor vehicle system capacity is increased. These provisions are generally addressed in the Plan Coordination and Consistency Requirements section below.

System Needs Identification

A primary Plan objective was to define a role for each mode of transportation within Washington County to serve 2020 forecasted travel demands. The Transportation Plan contains five basic modes (or mode groups):

- Motor Vehicles
- Transit
- Bicycles
- Pedestrians
- Other Modes (Including Rail, Air, Water, Pipeline, etc.)

Motor vehicle travel (auto, truck and rubber-tired transit) represents over 90% of all travel in the county. Motor vehicle travel forecasts were evaluated along corridors and at major road junctions to test where future peak period demand would significantly exceed capacity.

Transit service proposed in the Regional Transportation Plan was evaluated based on frequency and accessibility. Areas where planned transit service did not meet minimum levels of service were flagged for consideration by TriMet. Other transit service opportunities were considered in the study evaluation.

Bicycle and pedestrian travel routes and facilities were reviewed to determine where system connectivity and roadway crossings were most critically needed. In many cases, it was found that the pedestrian and bicycle needs overlapped with roadway needs such that the same corridor improvement project would resolve needs for all three modes. However, in many cases the identified pedestrian and bicycle systems require “in-fill” projects to fill system gaps that are not likely to be addressed as part of a multi-modal project. In these cases, stand-alone bicycle and pedestrian projects were identified.

A range of options for addressing motor vehicle capacity deficiencies was considered, including roadway widening, street extensions and intersection improvements. As possible and appropriate, new projects and programs were developed to improve level of service in deficiency areas, and a preferred alternative was defined.

Plan Coordination and Consistency Requirements

Coordination with other jurisdictions and service providers and achieving consistency with other planning work were important parts of Transportation Plan development. In this regard, primary objectives of the transportation plan update included:

- *Comply with the Oregon Transportation Planning Rule (TPR) requirements that were enacted after the 1988 Plan was adopted* — The TPR (Oregon Administrative Rule 660-12) has many requirements that define the process, elements, and decisions that should go into adopting a transportation system plan. Most requirements relate to planning for all travel modes, coordinating system plans between affected transportation agencies and identifying how the Plan will be implemented. Many TPR provisions have already been addressed through previous plan and code modifications. These are referenced in the Transportation Plan as appropriate.
- *Coordinate with the Regional Transportation Plan (RTP) adopted by Metro in 2000* — The Regional Transportation Plan recommends system improvements on major travel routes and corridors, suggests design guidelines for improvements in designated Regional and Town Centers, and identifies performance targets for long-range planning.
- *Coordinate with the Oregon Transportation Plan (OTP) and Oregon Highway Plan (OHP)* — The Oregon Transportation Plan provides the State policy and transportation system planning framework. The Oregon Highway Plan defines the functional hierarchy of the state freeway and highway system, design guidelines for access, and performance standards for long-range planning.
- *Coordinate with city Transportation System Plans (TSP)* — Most cities in Washington County are developing or have adopted TSPs including Sherwood, Tualatin, Tigard, Beaverton, Hillsboro, North Plains, Cornelius and Forest Grove.
- *Address planned growth in housing and employment through 2020, consistent with the regional plan* — Most of the adopted city TSPs and the Metro’s RTP use 2020 as their plan horizon year. The County’s 2005 plan horizon year must be updated to match these TSPs.

- *Confirm sufficiency of existing programs* — Strategies for capital improvements and system maintenance were reviewed to highlight where county residents and businesses were not effectively served, and where new funding strategies and priorities were required. The rural road system, in particular, was reviewed in terms of how the facilities were maintained and how growth in traffic volumes has heightened safety improvement needs.

Role of the Regional Transportation Plan

The Regional Transportation Plan (RTP) adopted by Metro in August 2000 identifies transportation goals and the major travel systems in Washington County that should be implemented by 2020. The foundation for the RTP is Metro's Region 2040 Growth Concept. This concept consists of land-use and transportation policies that are intended to allow Metro and local jurisdictions manage growth, protect natural resources, and make infrastructure improvements while maintaining the region's quality of life. The "building blocks" of the 2040 Growth Concept are the design types shown on the 2040 Growth Concept Map. These design types, more fully described in the glossary, serve as focal points for specific land-use and transportation strategies that support a particular design type designation. In most cases, areas identified on the 2040 Growth Concept Map are intended to offer a mix of land uses, good pedestrian and bicycle systems and strong transit links with other areas, all with the intent of providing areas where people can reside or travel to and pursue daily activities without relying as heavily on motor vehicle travel. The RTP, in turn, identifies programs and transportation projects to support these design types. The RTP incorporates transportation improvements that best meet the performance standards during peak travel periods.

Local agency transportation plans must respond and coordinate with the RTP by:

- Confirming that the recommended major system improvements appropriately serve local needs in terms of land use compatibility, environmental impacts, and overall system integration.
- Identifying other system improvements on lower tiered systems (collector streets, neighborhood routes, local streets and trails) that augment the overall regional system in meeting the design and performance guidelines.
- Identifying strategies that enhance transportation demand management and alternative mode usage to make significant progress towards achieving vehicle occupancy targets during peak periods (RTP Table 1.3: 2040 Regional Non-SOV Model Targets; Washington County Transportation Plan Strategy 5.3).
- Incorporating suggested street design guidelines for Arterial and Collector facilities on the Regional Street Design Overlay Map, which serve 2040 designated centers and communities, industrial, intermodal and employment areas and corridors. This typically includes more space for sidewalks, on-street parking and medians than is provided in current street design standards.
- As part of the Transportation Plan, Washington County will adopt a Transit System map consistent with the transit functional classification map in the RTP. Washington County will also continue to implement development regulations that require development at major bus stops (as defined in the RTP) to provide certain transit amenities.

While it is important to achieve Regional objectives, it is also important to recognize that local governments have their own issues and concerns, and establish their own policies, priorities and mechanisms for implementing and managing their transportation systems. Local agencies do have discretion and flexibility in addressing the above issues in the RTP. The RTP identifies a process through which local governments can request an amendment to the RTP to reflect local planning decisions. If local government decisions propose changes to the adopted RTP (e.g., substituting one roadway project for another), the subsequent amendments must be processed by Metro to maintain consistency.

Plan Structure: Overview

The Washington County Transportation Plan, first adopted by the Board of County Commissioners in 1988, was updated periodically to reflect changing conditions in the region. The 2020 Transportation Plan presents the culmination of a two-year process that has included extensive input from county residents, businesses and local government partners. The Plan is organized into the following elements, and includes a separate Technical Appendix.

- Chapter 1 introduces the Plan process and approach to the Plan update and presents the highlights from background information and alternative analyses and observations regarding how the system operates under the 1988 Plan. A general description of the planning context and impacts of state, regional and other local planning work is also provided.
- Chapter 2 presents the preferred transportation elements including the supporting policies and system maps that comprise the County's new Transportation Plan for each travel mode. This chapter is the heart of the Transportation Plan.
- Chapter 3 summarizes the financial aspects of how the Plan will be built and maintained. Existing funding and finance programs must be expanded to fully deliver the preferred plan elements to the residents of the county. Some options foreclosing this projected funding gap are presented in the Plan.
- Chapter 4 describes the steps required to implement the plan, and to monitor progress towards the Plan's implementation. The other key aspects of implementation are coordinating with local government partners and transportation providers and providing opportunities for broad public discussion of implementation mechanisms and actions.

Two additional documents provide support and background for the Plan:

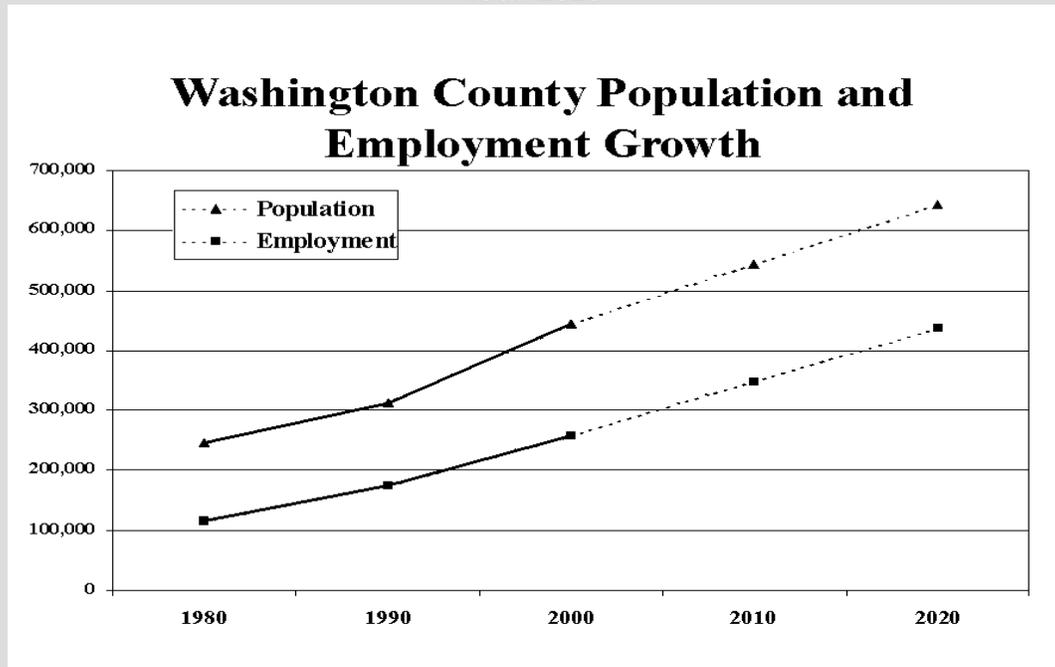
- The Technical Appendix contains the technical information used to develop and support this Plan.
- The Background Report is a separate document containing all information and analysis that went into the development of this Plan.

Background

Washington County has grown considerably during the last 20 years. As indicated in Table 1, from 1980-2000, the population in Washington County (including all cities) increased from 245,860 to 427,500, an increase of 74 percent, or 181,640 residents. Over a comparable time period, 1985-1996, countywide employment exhibited an even greater rate of growth than population. During that period employment increased from 115,970 to 235,654, an increase of 103 percent, or 119,684 employees. Several cities and the unincorporated areas more than doubled their employment work force and population; Hillsboro nearly tripled in growth of both jobs and housing.

These increases were at a higher rate than projected in the 1988 Transportation Plan. County population increased during 1985-2000 an average of 3.1% annually, compared to a predicted increase during 1985-2005 of 2.2% annually. County employment increased during 1980-1996 an average of 4.4% annually compared to a predicted increase during 1985-2005 of 3.1% annually. The transportation needs predicted by the 1988 Plan have changed over time; part of that change is in response to the higher-than-expected rate of population and employment growth.

Table 1: Population and Employment Growth in Washington County 1980-2020



Growth in population, employment and travel demand is expected to continue in Washington County. Forecasts adopted by Metro and developed with local government participation indicate we can expect Washington County's population to increase from 445,000 in 2000 to approximately 643,000 (50 percent) by 2020 and employment to increase from 258,000 in 2000 to 438,000 (69 percent) by 2020.

We're in this together

How we accommodate this growth will be influenced by some important planning and policy changes that have been established at the state and regional level during the past decade. Some significant developments include:

- *Metro's Region 2040 Growth Concept*, adopted in 1994, provides general guidance regarding how lands within the Regional Urban Growth Boundary (UGB) should develop and how much expansion may be necessary. The 2040 Growth Concept land use arrangement, which focuses growth in mixed-use centers and corridors around the region and allows for modest expansion of the Region's urban growth boundary, has been or is being incorporated into the comprehensive plans of counties and cities in the metro area.
- *Oregon's Transportation Planning Rule (TPR)*, adopted in 1991, provides state-level guidance in transportation planning matters for Oregon's regions, counties and cities. This administrative rule implements Statewide Planning Goal 12. It provides a regulatory framework for transportation system development, as well as system performance objectives that regional and local governments in the state are charged with achieving.
- *Metro's Regional Transportation Plan (RTP)*, adopted in 2000, provides a framework within which county and city transportation plans are developed. Consistent with State policy, the RTP places a high priority on encouraging alternatives to the automobile, managing and reducing travel demand and examining alternatives for making the transportation system more efficient.

Overview of Regional Transportation Plan Provisions

The Regional Transportation Plan provides both a policy framework and regional transportation system elements and services that local governments must recognize and address in their transportation planning work. An understanding of some of the RTP provisions is helpful in understanding some provisions of the Washington County Transportation Plan.

First, while recognizing that the significant majority of trips will continue to be taken by automobile, the Regional Transportation Plan places a premium on encouraging non-auto travel and on creating an environment where mode choice is possible:

- **Transit:** The RTP calls for significant investment in the regional transit system. The RTP calls for light rail to be extended from about 38 miles today to 60 miles in 2020, commuter rail to be added between Wilsonville and Beaverton, a 225-mile system of "rapid bus" routes (an express "light rail" type of bus service), and a 19 percent increase in local routes (958 miles in 1994 vs. 1144 miles in 2020). The number of transit service hours along these routes is planned to nearly triple from the 1994 level (4400 in 1994 vs. 12,950 in 2020). Because of improved services, transit ridership in the region is expected to range between 450,000 and 590,000 per day in 2020, according to the RTP, up from 172,000 per day in 1994. Transit's share of total trips in the region increases from 3.55 percent to 6.92 percent under these assumptions.

- **Biking and Walking:** The addition of approximately 450 miles each to the bicycle and pedestrian networks and the more pedestrian-friendly development they serve is expected to cause an increase in the percentage of total trips utilizing these modes from 6.15 percent in 1994 to 8.04 percent in 2020 (RTP 5-27).
- **Management of travel demand:** Implementation of transportation demand management (TDM) programs – flexible work hours, carpool and vanpool programs, parking management, etc. – is expected to provide an alternative to drive alone trips and driving within the peak travel periods, further reducing the number of vehicles on the road and the resulting traffic congestion.

As a result of Regional Transportation Plan policies, facilities, services, and programs that support and encourage the development and use of non-auto travel, the percentage of daily trips taken by some means other than driving alone is expected to increase from 9.7 percent in 1994 to 15 percent in 2020 (RTP pg. 5-27). Increasing travel demand also results in a significant increase in motor vehicle trips on the system, however. A comparison of the number of trips by mode in 1994 (the model base year) and 2020 is shown in Table 2 below. These are trips taken during the evening peak two-hour travel period.

Table 2: Washington County Travel Demand (PM 2-Hour Period)

| <i>Mode</i> | <i>1994</i> | <i>2020 (RTP)</i> | <i>Percent Change</i> |
|--------------|-------------|-------------------|-----------------------|
| Person trips | 511,667 | 917,867 | + 79 % |
| Auto | 467,672 | 817,204 | + 75 % |
| SOV* | 357,139 | 605,609 | + 70 % |
| HOV** | 110,533 | 211,595 | + 91 % |
| Transit | 8,790 | 48,819 | + 455 % |
| Ped/Bike | 35,205 | 51,844 | + 47 % |

Notes:
 *SOV – A Single Occupancy Vehicle is one in which the driver is traveling alone. This is a subset of the Auto category.
 **HOV – A High Occupancy Vehicle is one in which there is more than one person in the car. This is a subset of the Auto category.

A focused look at identified 2040 mixed use areas, including Regional Centers, Town Centers and Light Rail Station Communities (See 2040 Growth Concepts Design Type Map) indicates that a large number of trips to and within these areas will be made by walking, biking or transit – varying from 34 percent to 41 percent, depending on location -- during the critical two-hour peak travel period in these areas.

Achieving these results depends upon the facilities, services and strategies necessary to support this non-auto travel being in place. The RTP identifies local government and transportation service provider responsibilities in this regard. The Washington County Transportation Plan contains systems, services and strategies intended to recognize and respond to those provisions.

Different Ways of Doing Things

Alternatives for accommodating travel needs were examined during Plan development.

All alternatives assumed that the transit system identified in the Regional Transportation Plan would be in place in 2020. While the primary need for bicycle and pedestrian systems was identified as putting them in place on existing and proposed facilities, alternative implementation strategies were considered for these systems. Plan strategies that support and encourage the funding, construction and use of the each element of the system are included, as are strategies for transportation demand and system management, which manage and reduce system demand and ensure efficient system operation.

However, even with planned facilities and services for other modes of travel in place, these modes will not accommodate anticipated growth in travel demand. A significant increase in motor vehicle trips in Washington County is expected to accompany population and employment growth during the next 20 years. More upgrades of the roadway system will be required to accommodate this demand at an acceptable level of performance.

The planning effort examined five alternative approaches for accommodating anticipated motor vehicle traffic and identified the service levels and costs of each. Performance measures enabling these alternatives to be compared were identified and used in the evaluations of the approaches. Descriptions of the alternative approaches follow:

- Existing and Committed System - Used to establish a “worst case” scenario, this system consists of the existing roadway network as well as committed projects that are currently funded for construction. For the most part, committed projects include County MSTIP3 projects programmed through 2006 as well as ODOT and various city projects funded through their funding mechanisms.
- Alternative 1: Freeways and Highways - Regional and state facilities including Highway 26, Highway 217, Highway 99W and Interstate 5 were expanded to better serve forecast 2020 demand.
- Alternative 2: Arterials - County Arterials including Walker Road, Baseline Road, Murray Boulevard and others were expanded and extended to better carry forecast corridor demands. This alternative considered marginal gains from controlling access to these arterials in addition to roadway widening.
- Alternative 3: Connectivity - City and County Arterials and Collector facilities were added or extended to provide shorter and more direct routes on the roadway system. This type of improvement helps both disperse local trips away from heavily congested Arterial intersections and make travel more direct. In some cases, road extensions were tested even though they might have environmental or neighborhood impacts in order to better understand the dynamics of travel demand in the neighborhoods.

- Alternative 4: Combined - Many of the aspects of the three primary alternatives (the Existing and Committed Alternative excluded) were combined into a single system to attempt to achieve acceptable performance, consistent with the two-hour Level of Service E criteria supported by Metro and ODOT. At this standard, the number of cars on the roadway begins to exceed the capacity of the roadway. (Traffic volume divided by capacity is equal to or greater than 1.0) A variant of Alternative 4 that seeks to maintain the current Washington County level of service standard (Level of Service D, at which traffic volume divided by capacity is less than .9.) was also explored.

Following analysis and review of the alternatives, the Combined Alternative was further refined to create the core of the Plan. Utilizing some of the measures used in the analysis, the performance and costs associated with each of these alternatives are summarized in Table 3 that follows:

Table 3: Washington Countywide PM 2-hour Peak System Performance Comparison for 2020

| | Vehicle Miles Traveled | Vehicle Hours of Travel | Average Speed (miles per hour) | Vehicle Hours of Delay | Miles of Roadway with "serious congestion" | Estimated Cost (\$Million) |
|-------------------------------|------------------------|-------------------------|--------------------------------|------------------------|--|----------------------------|
| Base Year 1994 | 1,179,100 | 35,279 | 33 | 4,634 | 22 | - |
| Committed | 1,903,905 | 76,189 | 25 | 24,012 | 175 | - |
| Freeway & Highways | 1,922,931 | 70,074 | 27 | 18,065 | 131 | \$1,054 |
| Arterial | 1,891,666 | 68,014 | 28 | 15,839 | 105 | \$857 |
| Connections | 1,874,067 | 71,145 | 26 | 19,304 | 150 | \$387 |
| Combination | 1,897,739 | 63,292 | 30 | 12,394 | 76 | \$1,373 |
| County Plan | 1,839,409 | 59,282 | 31 | 9,572 | 55 | \$1,978 |

Notes:

- Most information estimated with the Metro Regional Transportation Model.
- Vehicle Miles Traveled (VMT): Means automobile vehicle miles of travel. Automobiles include cars, light trucks, and other similar vehicles used for movement of people.
- Vehicle Hours of Travel (VHT): Means time spent on the roadways.
- Average Speed: Rounded to the closest mile per hour. Reflects an average of roadway speeds (weighted by length not travel time).
- Vehicle Hours of Delay (VHD): Total vehicle travel time on road segments where Volume / Capacity Ratio > 0.9.
- Serious Congestion: Demand exceeds roadway capacity for the entire 2-hour peak period.
- Estimated Cost: in FY2000 dollars, calculated using generalized cost assumptions.
- Costs are for capital system improvements beyond the committed system.

Washington County’s Transportation Future: Between the Extremes?

The following table provides a comparison of the extremes of experience Washington County might face in 2020 – between the Committed System that assumes only those projects funded today will be completed, and the system outlined in this Plan. Clearly the Committed System is worse than any reasonable worst case scenario: projects other than those for which funding is already committed will be funded and built during the next twenty years. But how many, and which ones? This comparison is intended to illustrate theoretical extremes of possible Washington County transportation system characteristics in the year 2020.

**Table 4:
Washington County System Performance Comparison
PM Two-hour Peak**

| | Committed System* | Plan System | Difference |
|---------------------------------|-------------------|--------------|------------|
| Miles of “serious congestion”** | 175 miles | 55 miles | -69 % |
| Hours of delay | 24,012 hours | 9,572 hours | -60 % |
| Vehicle hours of travel | 76,189 hours | 59,282 hours | -22 % |
| Average Travel Speed | 25 mph | 31 mph | +24 % |

Notes:

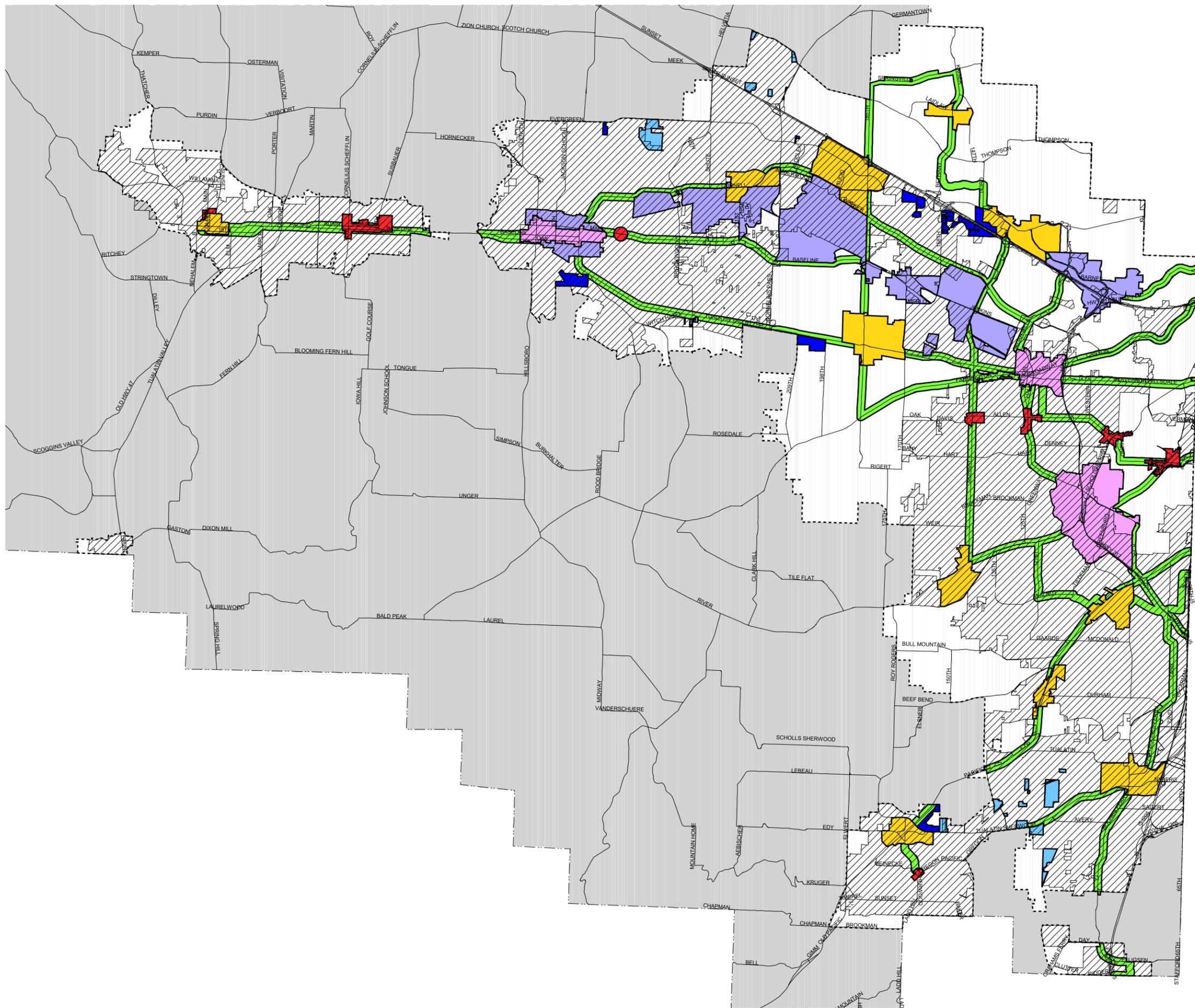
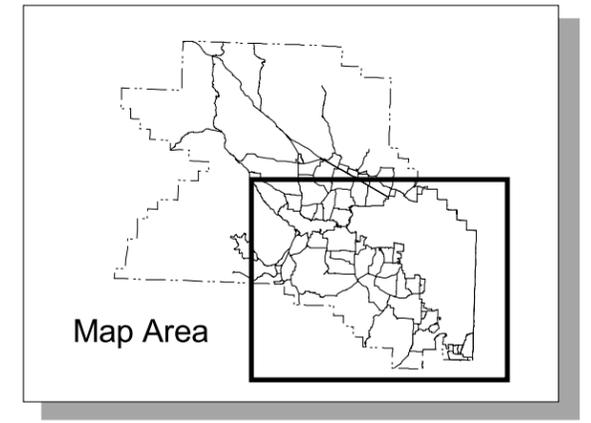
* Only projects already funded would be built.

** Where the model indicates demand for travel on a roadway segment exceeds capacity (i.e., the demand/capacity ratio exceeds 1.0)

Overview of Plan Approach

Most broadly viewed, the Plan’s strategy for meeting future travel demand is three-tiered:

- First, Plan policies, strategies and systems reflect approaches that provide and support multiple modes of travel, both to provide Washington County residents with travel alternatives and to reduce the need to provide additional roadway capacity for auto travel;
- Second, the Plan includes strategies for transportation system and travel demand management, which ensure that the system is operating efficiently and that steps are taken to manage and reduce travel demand; and
- Third, to identify system improvements and programs necessary to improve system safety and to maintain an acceptable level of service for system users.



2040 Growth Concept Design Types

- Transit Corridor
- Employment Area
- Industrial Area
- Main Street
- Regional Center
- Station Community
- Town Center
- Cities
- Area outside the Urban Growth Boundary
- Major Roads
- Countyline
- Urban Growth Boundary

NOTE: Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

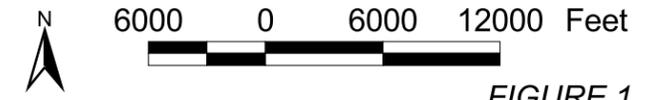


FIGURE 1

Washington County 2020 *Transportation Plan*

Policies & Modal Elements



General Policies

Introduction

The broad policy objectives established in the General Policy section provide the framework within which the transportation systems, programs and strategies described in this Plan will be developed and implemented through the year 2020. The policies provide direction, identify values and define basic system characteristics required to adequately serve existing and future travel needs and to carry out the County's Comprehensive Plan. The General Policies have been shaped by statewide planning goals, the Regional Transportation Plan, city transportation plans and discussions with the Citizen Advisory Committee, the Interagency Coordinating Committee and county residents.

These General Policies apply to all aspects of the Plan, while policies in later sections establish direction for specific elements of the transportation system and for system financing and implementation. Every policy in the Plan contains one or more strategies that more specifically define how the policy will be implemented.

All decisions relating to amendment of this Plan are required to address applicable policies and strategies in the plan.

Policies and strategies in this Plan which relate to the use and development of land for transportation facilities and improvements are implemented in the Community Development Code, and no person requesting a development permit or filing an application to divide a lot or parcel shall be required to address, consider, or implement any policy or strategy contained in the Transportation Plan unless required by the Community Development Code.

In addition to the implementing standards in the Community Development Code, public transportation facilities are subject to other regulations that are not land use regulations and other practices and procedures that do not involve land use decision-making. While this Plan acknowledges those regulations, practices, and procedures, it is not the intent of this Plan to convert them into land use criteria or proceedings. Rather, they are mentioned to inform the public that the transportation processes involve actions that extend beyond land use decision-making. These regulations, procedures and practices include the following:

- A. Uniform road improvement design standards and other uniformly accepted engineering design standards and practices that are applied during project development
- B. Procedures and standards for right-of-way acquisition as set forth in Oregon Revised Statutes.
- C. Public involvement guidelines and practices for involving the public during the project development phase of a public transportation improvement, as approved by the Washington County Board of Commissioners.
- D. Interagency coordination, including coordination among affected departments and divisions within Washington County, and coordination with cities, TriMet, special districts, state and federal agencies, public utilities, and other service providers.
- E. Compliance with applicable local, state, or federal rules and regulations outside of the Community Development Code, unless such compliance is provided for in the Code.

Travel Needs Background

Continuing growth and urbanization help shape both the degree and definition of travel needs in Washington County. Generally, this section calls for development of a multi-modal system that people can use with reasonable ease, a system that enables users to take care of their daily business, and a system that is open and useful to all County residents, including people who have traditionally been underserved.

1.0 TRAVEL NEEDS POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO PROVIDE A MULTI-MODAL TRANSPORTATION SYSTEM THAT ACCOMMODATES THE DIVERSE TRAVEL NEEDS OF WASHINGTON COUNTY RESIDENTS AND BUSINESSES.

Strategies:

- 1.1 Provide a multi-modal transportation system that supports the land uses delineated in the County's and other applicable comprehensive plans, minimizes reliance on any single travel mode, and makes progress toward achieving mode share targets identified in Strategy 5.3 of this Plan.
- 1.2 Provide a transportation system that meets the mobility and accessibility needs of Washington County residents and businesses, including movement of goods and services, as defined by performance standards identified in Table 5 of this Plan.
- 1.3 Provide an interconnected transportation network that effectively links subareas of the County and the regional system, encourages non-auto travel and minimizes out-of-direction travel through appropriate sizing and spacing of its major elements, and which, when properly managed in conjunction with other strategies in the Plan, reduces growth in vehicular miles traveled per capita.
- 1.4 Provide a transportation system with facilities that are accessible to all people, complying in the process with applicable provisions of the Americans With Disabilities Act (ADA).
- 1.5 Encourage and support transportation services that meet the needs of the transportation disadvantaged, including children, elderly and low-income area residents as provided for in the Regional Transportation Plan.
- 1.6 Ensure that progress toward meeting travel needs in Washington County is financially, environmentally, geographically and modally balanced as defined by Plan implementation and management priorities.

System Safety Background

Safety is paramount. This section calls for ensuring our transportation system is structurally and operationally safe. It calls for utilizing standards that ensure safe design, adequate monitoring of the system for safety problems and ensuring maintenance and preservation activities necessary to maintain system safety are carried out.

2.0 SYSTEM SAFETY POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO PROVIDE A TRANSPORTATION SYSTEM THAT IS SAFE.

Strategies:

- 2.1 Ensure systems supporting motor vehicle, bus, bicycle and pedestrian travel are structurally and operationally safe.
- 2.2 Periodically conduct the review necessary to identify and correct transportation facility and system design and operation problems.
- 2.3 Identify solutions for safety problems utilizing design standards that provide or preserve the intended multi-modal function of system facilities as defined in the Transportation Plan.
- 2.4 Identify and prioritize transportation system safety capital improvement projects through the Washington County Transportation Capital Improvement Program.
- 2.5 Program transportation system maintenance expenditures through the annual Washington County Road Maintenance Program to ensure that systems supporting all modes of travel are maintained in a safe condition.
- 2.6 Work with other agencies and organizations to provide educational programs that improve public understanding of safe and efficient use of the transportation system.

Built and Natural Environment Impacts Background

Defining the balance between meeting transportation needs and maintaining Washington County's natural and built environments is a major and continuing challenge. As long as growth occurs -- as long as the system must be modified or expanded to accommodate growth and our changing needs -- there will be impacts. How to manage and balance them is the question. This section calls for ensuring applicable regulations are adhered to and that impacts on natural resource and developed areas are identified, understood and either avoided, limited or mitigated as construction and maintenance work is undertaken. This section also calls for developing and managing the system to keep regional or long-distance traffic from detouring through neighborhoods.

3.0 BUILT AND NATURAL ENVIRONMENT IMPACTS POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO AVOID, LIMIT AND/OR MITIGATE ADVERSE IMPACTS TO THE BUILT AND NATURAL ENVIRONMENT THAT ARE ASSOCIATED WITH THE TRANSPORTATION SYSTEM AND ITS IMPROVEMENT, OPERATION AND MAINTENANCE.

Strategies:

- 3.1 Ensure that the Transportation Plan is consistent with statewide planning goals and federal, state and regional requirements, and supports land uses in applicable comprehensive plans.
- 3.2 Apprise appropriate agencies of proposed transportation projects in a timely manner to ensure coordination, identify project-related environmental issues and address applicable federal, state and regional air, water, wetland and noise regulations, standards and design guidelines.
- 3.3 Utilize the project development process to identify, then avoid, limit and/or mitigate potential adverse impacts to the natural and built environments.
- 3.4 Use system design guidelines and criteria outlined in this Plan and the Community Development Code to promote conservation and efficient use of energy, complement planned adjacent land uses and mitigate adverse impacts to the built and natural environments.
- 3.5 Address potential impacts of long-distance trips on neighborhoods or communities by 1) ensuring that the major elements of the transportation system are designed to adequately accommodate these trips and 2) designing and managing local systems to accommodate local trips and to discourage long-distance trips.
- 3.6 Provide flexibility at the plan and project development levels to respond to location-specific considerations, consistent with environmental, community and transportation system objectives and safety.

System Funding Background

Determining how to adequately fund transportation systems and services necessary to achieve the types and levels of service we want is a major challenge, but determining how to do it equitably is just as important. Like its predecessors, this Plan seeks to establish links between those who create needs or utilize facilities and services and the responsibility to pay for those services. Because much of the local funding for transportation system improvements is developed jointly by the County and fourteen cities in the county, this policy also addresses the need for consistency and coordination among local governments. This section lays out the basic funding policy framework, which is then more fully developed in the Plan's System Funding and Financing Element.

4.0 SYSTEM FUNDING POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO AGGRESSIVELY SEEK ADEQUATE AND RELIABLE FUNDING FOR TRANSPORTATION FACILITIES AND SERVICES, AND TO ENSURE THAT FUNDING IS EQUITABLY RAISED AND ALLOCATED.

Strategies:

- 4.1 Develop funding mechanisms adequate to support the Transportation Plan, that provide resources in a manner that is consistent with Plan policies, and in cases where improvements are jointly funded, consistent with the priorities and policies of other involved jurisdictions.
- 4.2 Address transportation system maintenance and operations needs through financing mechanisms that recognize the primary responsibility of system users, distinguishing between countywide and local responsibilities.
- 4.3 Recognize that addressing transportation system needs on local government facilities is primarily the financial responsibility of Washington County residents, businesses and system users who create those needs.
- 4.4 Provide a transportation system improvement funding structure in which the benefits from tax- and fee-funded improvements and services accrue to those who pay for them.

System Implementation and Plan Management Background

How plan provisions are carried out is at least as important as what is in the Plan itself. Among its most important provisions, it stresses the need for efficient management of the system over time; it calls for formalized capital improvement project and maintenance prioritization processes that ensure we get to the most important things first; and it establishes mechanisms and criteria for modifying or amending the Plan incrementally over time. This section also generally lays out Washington County's responsibility to develop local strategies that will support progress toward achieving common system objectives laid out in the Regional Transportation Plan. Again, this section lays out the basics, which are further developed in the Plan Implementation and Monitoring Element.

5.0 SYSTEM IMPLEMENTATION AND PLAN MANAGEMENT POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO EFFICIENTLY IMPLEMENT THE TRANSPORTATION PLAN AND TO EFFICIENTLY MANAGE THE TRANSPORTATION SYSTEM

Strategies:

- 5.1 Provide a transportation system that accommodates travel demand consistent with applicable performance standards for all modes of travel, recognizing a need to minimize or mitigate impacts on existing neighborhoods.
- 5.2 Efficiently manage the allocation of County resources for capital projects through the Washington County Transportation Capital Improvements Program.
- 5.3 Implement plan strategies that are necessary to make progress toward achieving the 2040 Regional Non-Single Occupant Vehicle mode share targets prescribed in the Regional Transportation Plan, these being 45-55 percent in Regional Centers, Town Centers, Main Streets, Light Rail Station Areas and Corridors; and 40-45 percent in Industrial and Employment areas, Inner and Outer neighborhoods and for Intermodal facilities.¹
- 5.4 Efficiently manage County resources for transportation system maintenance and preservation through the Washington County Road Operations and Maintenance Program.
- 5.5 Develop a long-term financial strategy that supports cost-effective and timely implementation of transportation system capital improvement and operations and maintenance programs.
- 5.6 Communicate and coordinate with other jurisdictions and transportation agencies to ensure orderly and efficient development and operation of the system as a whole and that applicable federal, state and regional planning directives are met.

¹ The targets apply to trips *to* and *within* each 2040 Design Type. The targets reflect conditions appropriate for the year 2040 and are needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single occupancy vehicles.

- 5.7 Develop, emphasize and support plan transportation demand management and demand reduction strategies as mechanisms for reducing vehicle trips and shifting travel to off-peak travel periods.
- 5.8 Develop, emphasize and support transportation system management strategies as mechanisms for maximizing transportation system operating efficiency.
- 5.9 Research, develop and implement new technologies that improve transportation services.
- 5.10 Encourage the identification of issues in the plan monitoring process that may not be adequately addressed during plan implementation, and address these issues through plan amendments or the next plan update.

Washington County 2020 *Transportation Plan*

Roadway Element



Roadway Element

Roadway System Background

The Roadway System section contains policy and strategy provisions that call for developing system capacity, connectivity and design attributes that support all modes of travel. It also establishes a number of important roadway system priorities, including the need for efficient roadway system operation, roadway design attributes and standards, and concerns about the performance and management of local and neighborhood streets.

The Plan must demonstrate that it defines a transportation system that adequately serves planned land uses. The Plan considers roadway system design and connectivity as the most influential variables for determining the level of support for bicycle and pedestrian travel. The Plan considers roadway system capacity as the most influential variable in determining the level of support for motor vehicle travel. The motor vehicle performance measures defined in Table 5 serve as a basis for the determination of whether sufficient capacity exists.

The Plan calls for system management techniques to be emphasized in preference to expanded motor vehicle capacity where appropriate. It also recognizes that there are many types of motor vehicle trips including personal errands, commuting, commerce and recreation.

Streets where Regional Street Design standards will be considered are shown on the Regional Street Design Overlay Map. The intent of this map is to identify those Arterial and Collector streets where certain design treatments may be used to enhance pedestrian, bicycle and transit functions while also seeking to provide adequate motor vehicle capacity resulting in safer, modally balanced streets. The Regional Street Design Overlay Map identifies Boulevards, Boulevard Intersections and Streets, the designs for which are discussed below.

Boulevards may have three or more lanes and may include landscaped medians, on-street parking, landscape buffered sidewalks and enhanced pedestrian crossings. These roadways also include bicycle lanes and wide sidewalks that can accommodate transit enhancements such as benches or bus shelters. Boulevard Intersections may include broad sidewalks up to 12 feet in width as well as special lighting and crossing features to improve pedestrian, bicycle and transit safety and accessibility.

Streets may range from two to more than four travel lanes and may include continuous two-way left turn lanes or median treatments, with landscaping where possible, bike lanes, and landscape buffered sidewalks of six or more feet. Streets include pedestrian crossings at all intersections and may include special crossing amenities at major intersections. Specific treatments/designs for those streets designated on the Regional Street Design Overlay Map shall be determined via the project development and/or land development review process.

Many major street elements and intersections (see Background Report) already operate at or below the acceptable performance standards during the peak two-hour travel period. Analysis anticipating year 2020 level of travel demand points out the substantial challenge of modifying the system to accommodate this demand in the years ahead.

The Plan makes the presumption that building a system to accommodate all motor vehicle traffic at the acceptable standards during the two-hour PM peak travel period may not be practical. Where project(s) necessary to provide acceptable peak-period motor vehicle

performance would be extremely difficult to build for reasons of physical impacts and/or cost, the plan identifies areas or corridors where this two-hour peak travel period standard is not met as Deficiency Areas.

The Plan also establishes Study Areas – areas where a general need has been identified but a determination of how to meet that need is yet to be developed. Several of these study areas are also identified in the Regional Transportation Plan, and it is anticipated that in most cases, the additional study necessary to define specific solutions in these areas will occur at the regional level.

The Plan also identifies problems in the rural area, where many intersections have major traffic flows during peak periods. These peak weekday volumes frequently exceed the capacities provided by rural traffic controls, and major vehicle queues and delays can occur. Other rural area transportation issues include the direct driveway access to relatively high-speed roads; conflicts with rural agriculture, forestry, farming and resource activity; non-standard roadway designs and substandard condition; and, during certain parts of the day, commuter traffic.

6.0 ROADWAY SYSTEM POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENSURE THAT THE ROADWAY SYSTEM IS DESIGNED IN A MANNER THAT ACCOMMODATES THE DIVERSE TRAVEL NEEDS OF ALL USERS OF THE TRANSPORTATION SYSTEM.

Strategies:

- 6.1 Provide a roadway system necessary to support travel demand associated with anticipated future development of land uses identified in the County's Comprehensive Plan at or better than the standards identified in Table 5 and consistent with policies identified in this plan.
- 6.2 Design and implement a roadway system with characteristics necessary to encourage and support non-auto travel and not negatively impact neighborhoods.
- 6.3 Identify and implement projects necessary to improve performance and reduce system design deficiencies in roadway corridors and segments that are operating or forecasted to operate at less than acceptable standards as identified in Table 5.

TABLE 5: WASHINGTON COUNTY MOTOR VEHICLE PERFORMANCE MEASURES
 Maximum Volume to Capacity (V/C) Ratio Standards, and Deficiency Areas

| Location ² | AM/PM Peak Two-hour Period | | | |
|-----------------------|-----------------------------------|--------------------------|-----------------------------------|--------------------------|
| | Target ¹ | | Acceptable ¹ | |
| | Performance Measures ³ | | Performance Measures ³ | |
| | First Hour ⁴ | Second Hour ⁴ | First Hour ⁴ | Second Hour ⁴ |
| Regional Centers | | | | |
| Town Centers | .99 | .9 | .99 | .99 |
| Main Streets | (E) | (D) | (E) | (E) |
| Station Communities | | | | |
| Other Urban Areas | .9 | .9 | .99 | .9 |
| | (D) | (D) | (E) | (D) |
| Rural Areas | .9 | .9 | .9 | .9 |
| | (D) | (D) | (D) | (D) |

Deficiency Areas are facilities, system elements or sub-areas of Washington County which are expected to exceed the acceptable performance measures defined above by 2020. Additional improvements and strategies to raise the motor vehicle performance in these areas, if any, will be approached on a case by case basis.

| Deficiency Area ⁵ | Description |
|---|--|
| Cornell – 25 th to Arrington | Boulevard section – recent study indicated turning problems |
| Cornell – Dale to Cedar Hills | Limited capacity in the boulevard section in and near the Cedar Mill Town Center |
| Farmington – Kinnaman to Hocken | Limited link capacity, deferred until after TV HWY Corridor Study |
| Murray – Walker to Brockman | Excessive signalized intersection delay predicted during peak period |
| Walnut / Gaarde – Barrows to HWY 99W | Inadequate capacity on East/West connections |
| Beaverton Regional Center | Limited capacity in and near the Regional Center Area |
| Washington Square Regional Center | Limited capacity in and near the Regional Center Area |
| HWY 99W – I-5 to Durham Rd | Excessive signalized intersection delay predicted during peak period |
| Tualatin Town Center | Limited capacity in and near the town center area |

¹ For development review purposes, these performance standards will be used in assessing safety improvements. For plan amendment purposes, if a plan amendment is predicted to exceed the acceptable performance standard, the performance on applicable facilities will not be allowed to deteriorate further, and mitigation may be necessary.

² For location reference see 2040 Growth Concept Design Types Map.

³ Vehicle performance shall determined by using volume to capacity ratios. Volume to Capacity equivalencies to LOS are as follows: LOS C = V/C of 0.8 or lower; LOS D = V/C of 0.81 to 0.9; LOS E = V/C of 0.91 to 0.99. Further discussion of vehicle performance is provided in the Technical Appendix.

⁴ First Hour is defined as the highest hour of the day. Second hour is defined as the hour following the first hour.

⁵ For location reference see the Deficiency Area Map. Deficiency areas do not affect development review, but apply for planning purposes. Not all placeholder projects in study areas solved the predicted problems; it is anticipated that further study will address the issues.

DEFICIENCY AREAS

Deficiency areas result from an evaluation of 2020 conditions based upon the projects identified in this plan being in place. Even with the planned projects certain facilities, system elements and sub-areas are expected to exceed the acceptable performance measures defined and no appropriate feasible solution has been identified. Additional strategies to raise the motor vehicle performance in these areas, if any, will be approached on a case by case basis.

Cornell - 25th to Arrington:

This 5-lane section of Cornell is to be considered for boulevard treatments. During the peak-period, left hand turns (particularly from North-South streets and driveways on to Cornell) are very difficult to make. Future growth in Hillsboro is anticipated to exacerbate this problem. No solution is currently identified, and further study is needed.

Cornell – Dale to Cedar Hills Blvd.:

The section of Cornell from Dale to Cedar Hills Boulevard is currently being designed for a 3-lane boulevard improvement. The design of this section through the Cedar Mill Town Center has many trade-offs and many decisions about these were made as part of the Cedar Mill Town Center planning process. It is realized that construction to 3 lanes will not support future peak period traffic demand. Considering the overall transportation system, right-of-way impacts and the Town Center environment the decision was to limit the number of lanes. This provides an emphasis on the bicycle and pedestrian environment rather than motor vehicle mobility.

Farmington – Kinnaman to Hocken:

Future forecasts show this segment as being significantly congested even with 7 lanes. Decisions regarding the future needs of this facility are being deferred until after the results of the Tualatin Valley Highway corridor study.

Murray – Walker to Brockman:

Future forecasts show this segment as being significantly congested even with 7 lanes. Grade separation is being considered at the intersections with Farmington and Tualatin Valley Highway. Additional improvements have not been identified.

Walnut/Gaarde – Barrows to Highway 99W:

An East/West Arterial connection in the Tigard area is needed in the future. The neighborhood nature of the East/West routes precludes development of such a facility. The deficiency itself is a problem on both Walnut and Gaarde. Both are projected to marginally exceed standards, but the constrained nature of the existing land-uses precludes any easy solution.

Beaverton Regional Center:

This area has been identified as an Area of Special Concern in the RTP. Beaverton has historically been defined as a crossroads of transportation, with both the advantages and limitations that heavy through traffic brings. While the level of access has helped make the Beaverton Regional Center a focus of commerce in Washington County, it also presents barriers to local circulation where congested through-streets isolate some parts of the area. These congestion problems persist in the 2020 system analysis, despite strategies to improve connectivity in the Beaverton Regional Center.

Washington Square Regional Center:

Washington Square, while not being defined in the RTP as an Area of Special Concern, is predicted to have significant congestion in the future. Congestion related to highway interchanges and Arterials in the area is being addressed through ongoing planning activities. Currently proposed solutions may not achieve the acceptable performance standard.

Highway 99W – I-5 to Durham Road:

This area has been identified as an Area of Special Concern in the RTP. This area has been reviewed and studied extensively in several planning efforts. While minor improvements are anticipated, there are no improvements planned that will solve the congestion problem on the highway. For planning purposes a placeholder project of 7 total lanes was assumed from I-5 to Greenburg. Even with the placeholder many links along Highway 99W and intersecting with Highway 99W have greater demand than capacity. Many of these trips access the local businesses. Solutions have yet to be identified.

Tualatin Town Center:

The Tualatin Town Center has been identified as an Area of Special Concern in the RTP. New street connections and capacity improvements parallel to 99W and I-5 help improve local circulation and maintain adequate access to the industrial and employment areas in Tualatin. However analysis shows that several streets will continue to be congested in Tualatin despite the new routes provided.

- 6.4 Implement the roadway system in a manner that enhances accessibility by all modes by developing projects necessary to address access deficiencies.
- 6.5 Implement the roadway system to provide access to choices for transportation disadvantaged people, including youth, elderly and disabled. Provide barrier free roadways and other transportation facilities that comply with the Americans with Disabilities Act of 1990. Identify and assess structural barriers for transportation disadvantaged populations in the current transportation system, and address these through a comprehensive program.
- 6.6 Design and manage the transportation system to minimize excessive traffic volumes and speeds on Neighborhood Routes and Local streets, while maintaining adequate neighborhood access.
- 6.7 Develop County Street Design standards, as appropriate, consistent with the Regional Transportation Plan and Metro's publication entitled 'Creating Livable Streets – Street Design Guidelines for 2040'.
- 6.8 Until the revisions contemplated in Strategy 6.7, above, are completed, consider the street design characteristics set forth in the Regional Transportation Plan and Metro's publication entitled 'Creating Livable Streets – Street Design Guidelines for 2040' during development review and project development, when construction or reconstruction is proposed on roadway segments and intersections identified on the Regional Street Design Overlay Map, either in association with private development or as part of a public project.
- 6.9 Identify and prioritize roadway capital improvements through the Transportation Capital Improvement Program.
- 6.10 Identify and mitigate potential impacts of roadway system improvement projects on the built and natural environments utilizing the transportation project development and development review processes.
- 6.11 Require new development or redevelopment projects to comply with local street connectivity, access management, parking and other applicable regulations in the Community Development Code, the Community Plans and the Rural/Natural Resource Plan.
- 6.12 There continues to be considerable discussion in the Washington County community about how best to define and address north-south circulation and capacity needs in the western urban areas – between Hillsboro and the Tualatin/Sherwood area. This Plan identifies these needs and the facilities, programs and services necessary to accommodate them in a manner that is consistent with State, Regional and other local government transportation plans. This approach includes planned construction of numerous large projects within the Urban Growth Boundary and requires acceptance of several “deficiency areas” throughout the County.

In recognition of the substantial debate over whether alternative ways to define and meet these north-south circulation needs have been adequately explored, the Board has determined that additional attention should be given to this issue. This study should examine the effects of commuter rail and all other possible improvements along existing and proposed roads or corridors, including the possibility of a north-south circumferential highway. The Study should also consider, among other things, relevant land use laws, regulations, goals and objectives. If the Study recommends amendments to the Transportation Plan and identifies new projects not found in the 2002 version of the County's Transportation Plan, these issues should be addressed during a future appropriate ordinance period and in coordination with other affected planning agencies.

Transportation System Management Background

Programs that allow better use of the existing transportation system benefit all users. Transportation System Management (TSM) is a general term used to describe techniques for increasing the efficiency, safety, capacity and/or level of service of a transportation facility without major new capital improvements. This may include signal improvements, facility design treatments, access management, HOV lanes, ramp metering, incident response, targeted traffic enforcement and programs that smooth transit operations.

The federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) initiated support for development of Intelligent Transportation System (ITS) technology to improve surface transportation. This initiative was retained in the Transportation Equity Act for the 21st Century (TEA-21). Intelligent traffic management techniques that use computer processing and communication technologies to optimize performance of multi-modal roadway and public transportation systems are called advanced traffic management systems (ATMS). A blueprint of the region's planned ATMS system is described in the ODOT / FHWA-sponsored Portland-area ATMS plan published in 1993. The ATMS plan recognizes the relationship between high-speed, limited access through-routes and the parallel system of regional and local Arterials and Collectors, and how they interact with one another. Most important, the ATMS plan emphasizes the importance of fully integrating through-route and local system traffic management for optimum performance of the region's roadways. This section calls for development and management of an Arterial surface street management system and Traffic Management Center.

Access management, traffic calming, and facility design are important elements of managing the transportation system. Access management reduces conflicts between through movements and vehicles turning off and onto the roadway, as well as conflicts between motor vehicles and pedestrians or bicycles. Facility design addresses roadway safety and operations with striping, geometry, turn movement channelization, and other minor roadway reconstruction. Traffic calming devices may be applied to local streets and neighborhood routes. Traffic calming devices protect neighborhoods from intrusion of through-traffic seeking to avoid congestion, and help protect neighborhoods from speed violations. Traffic calming techniques include signage, speed bumps, curb extensions, traffic barriers, narrowed travel lanes, planted medians and other features.

7.0 TRANSPORTATION SYSTEM MANAGEMENT (TSM) POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO EFFECTIVELY MANAGE THE URBAN ARTERIAL ROADWAYS WITHIN THE COUNTY.

Strategies:

- 7.1 Identify, evaluate, and support transportation system management techniques to mitigate and limit congestion.
- 7.2 Work and coordinate efforts with ODOT, Metro, Multnomah County, the City of Portland, TriMet, Clackamas County, emergency services providers, and others as appropriate, to cooperatively develop sub-regional Arterial surface street management systems and programs that include signal system coordination and optimization, video data collection, data retrieval and archiving.

- 7.3 Investigate the potential for public/private participation to provide driver information services.
- 7.4 Develop and implement a Traffic Management Center in Washington County.
- 7.5 Continue to implement community development code access management and spacing standards on Principal Arterials, Arterials, Collectors, and Special Area Streets, as appropriate.
- 7.6 Integrate traffic calming elements into Local Streets and Neighborhood Routes where appropriate, as methods to optimize street system operations without creating excessive local traffic on the countywide road system.
- 7.7 Continue to restripe and/or conduct minor reconstruction of existing transportation facilities, to address roadway safety and operations.

Roadway Safety Background

The Roadway Safety section describes how to define and address system safety problems. Washington County uses technical evaluation systems for assessing intersection and bridge safety.

Intersection safety is evaluated using the Safety Priority Indexing System (SPIS) developed by ODOT for use throughout the state of Oregon. A SPIS score is assigned to an intersection based on the number, rate and severity of reported accidents occurring over a moving three year time period. Washington County conducts a SPIS evaluation on approximately 400 intersections of county with other jurisdiction's roads where three or more accidents or a fatality have occurred over the most recent three-year time period. SPIS scores are calculated for each of these intersections and each intersection is assigned a ranking, with higher scores and rankings indicating a more serious safety problem. Due to the large number of intersections analyzed and the need to focus on a more manageable list, only those intersections ranked in the 50th percentile and above are considered for safety improvements as part of an official SPIS list that is annually adopted through resolution and order by the Board of County Commissioners. A map and complete ranking of SPIS locations is contained in the Technical Appendix.

Washington County evaluates the condition and safety of its 181 bridges on a regular schedule. Bridge decks, superstructures and substructures are evaluated for structural sufficiency and assigned an appraisal rating. Based on this rating, bridges may be improved or replaced. Bridges may also be placed on an accelerated inspection schedule based upon standard inspections or load rating analysis, and may be weight limited to prohibit use by heavy vehicles. Washington County also identifies functionally obsolete bridges that are narrow and require widening. The existing conditions of County maintained bridges are identified in the Technical Appendix.

8.0 ROADWAY SAFETY POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO PROVIDE A ROADWAY SYSTEM THAT IS SAFE FOR MOTORISTS, PEDESTRIANS AND BICYCLISTS.

Strategies:

- 8.1 Identify motor vehicle, bike and/or pedestrian safety problems on County roads and develop a list of projects necessary to eliminate deficiencies.
- 8.2 Identify access management problems and apply access management standards as set forth in the Community Development Code in order to reduce traffic conflicts and improve safety.
- 8.3 Ensure adequate access and mobility for emergency service vehicles throughout the system.
- 8.4 Utilize the Safety Priority Index System (SPIS) to help evaluate the priority for safety improvements on County roads.
- 8.5 Work with other agencies and organizations to provide bicycle and pedestrian safety and education programs.

- 8.6 Work with school districts, including individual schools, to identify barriers and hazards to children walking and bicycling to and from school. Develop strategies for funding improvements designed to reduce these barriers and hazards and give priority to these improvements in the Washington County Operations and Maintenance Work Program and the Transportation Capital Improvement Program.

- 8.7 Provide street lighting along all new streets within the urban area.

Roadway Maintenance Background

The Roadway Maintenance section contains a policy and strategies to ensure adequate general maintenance of the County's 1,271 miles of roadway and 181 bridges.

Of the 1,271 miles of maintained roadway, about 600 miles are in the urban area and 670 in the rural area. Nearly 300 of the 670 miles in the rural area are unpaved local roadways. Pavement conditions are evaluated through the Pavement Management System, which analyzes pavement structure and assigns an average Pavement Condition Index (PCI) to each section of paved roadway. Washington County strives to maintain its paved roadways in Fair or Better condition with PCIs of 50 or greater. Over the past decade Washington County has improved the condition of its major road system significantly, so that the Collector and Arterial system now exhibits the Very Good rating with average PCI's ranging from 84 to 87.

The Local road system has not fared as well as the major system. Overall, Local roads exhibit a Fair rating with average PCIs of 67, but 17 percent of the Local road system has Poor to Very Poor ratings. Furthermore, more than half of the rural Local roadways are unpaved (gravel) with travel surfacing quality that varies significantly after winter rains and heavy vehicle use. More detailed information about average PCI by functional class is contained in the Technical Appendix.

9.0 ROADWAY MAINTENANCE POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENSURE THE ROADWAY SYSTEM IS STRUCTURALLY SOUND AND ADEQUATELY MAINTAINED.

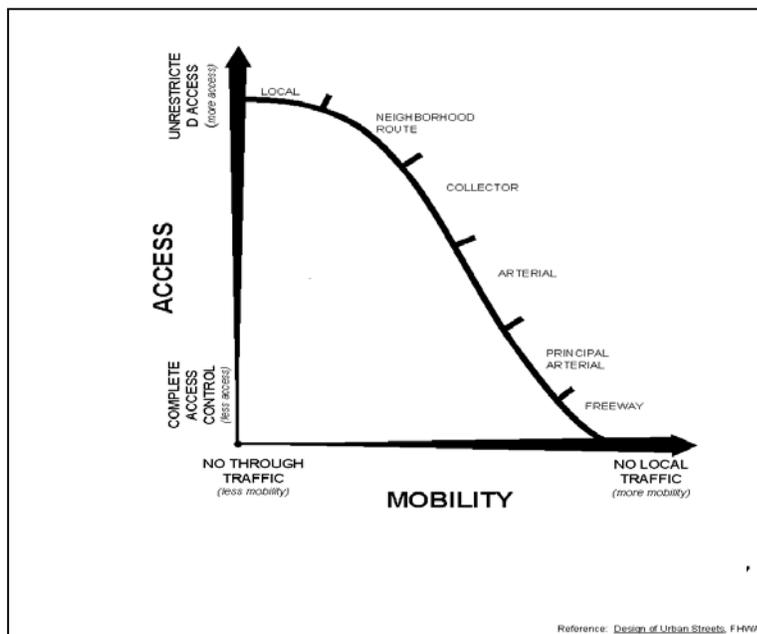
Strategies:

- 9.1 Identify current and future County roadway maintenance and reconstruction needs.
- 9.2 Carry out maintenance activities through the annual Washington County Road Maintenance Program.

Functional Classification Background

The Functional Classification section describes the hierarchy of roadway types, their relative roles in the system, and provides direction with regard to appropriate classification criteria and facility design. This section references and is to be used in conjunction with the Functional Classification System Map.

Roads perform two essential functions: they facilitate mobility and they provide access to individual properties. At the top end of the system, a Freeway's main function is to provide a continuous route that enables traffic to move easily over long distances. At the bottom end, a Local Street's primary function is to provide access to individual properties. Between these extremes, roadways provide access and mobility to varying degrees, as illustrated below.



The Functional Classification System in the Plan is modified somewhat from that in the previous plan in order to provide more flexibility. The new functional classification system enables better management of neighborhood traffic in urban areas and maintains consistency with other local governments in Washington County. Also important to determining roadway design are the designations in the Plan's Road Lane Numbers Map, Regional Street Design Overlay Map, Planned Bicycle System Map, Pedestrian System Map, Transit System Map and Through-truck Route Map.

While not part of the Functional Classification System, the Rural Resource Route designation in the rural area is used to differentiate and give higher maintenance priority to the subset of local roadways that are most important to the rural economy. While the 1988 Plan required a plan amendment to remove or apply the Rural Resource designation, this Plan proposes addressing these roads at a program rather than plan level to allow more flexibility in responding to the changing locations of active farming, mining and timber harvesting activities.

10.0 FUNCTIONAL CLASSIFICATION POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENSURE THE ROADWAY SYSTEM IS DESIGNED AND OPERATES EFFICIENTLY THROUGH USE OF A ROADWAY FUNCTIONAL CLASSIFICATION SYSTEM.

Strategies:

- 10.1 Apply the Washington County roadway system functional classification system described below and illustrated in the Functional Classification System Map (See Figures 4a-f).

Functional Classification Descriptions:

- A.** Principal Arterials (Freeways and Highways) form the backbone of the motor vehicle network. These routes connect over the longest distance (sometimes miles long) and are spaced less frequently than other Arterials or Collectors. These highways generally span several jurisdictions and often have statewide importance. At a minimum, highways that are classified by ODOT as Interstate or Statewide Highways are considered Principal Arterials. Important characteristics of Principal Arterials include:

- Freeways have the highest level of access control, including grade-separated interchanges. No at-grade driveways or connections are allowed.
- Highways generally have limited at-grade connections.
- Freeways and highways provide connections for the movement of people, services and goods between the central city, regional centers and destinations beyond the region.
- Principal Arterials that aren't freeways will be managed to minimize the degradation of capacity while providing limited access to abutting properties.

- B.** Arterial streets interconnect and support the Principal Arterial highway system. Arterials intended to provide general mobility for travel within the region. Correctly sized Arterials at appropriate intervals allow through trips to remain on the Arterial system thereby discouraging use of Local streets for cut-through traffic. Arterial streets link major commercial, residential, industrial and institutional areas. Characteristics of Arterials include:

- Arterials serve as primary connections to Principal Arterials, and should also connect to other Arterials, Collector and Local streets, where appropriate.
- Arterials in the rural area provide urban-to-urban secondary connections to neighboring cities, and farm-to-market access between urban and rural areas. Urban-to-urban rural Arterials provide key connections to the regional motor vehicle system and 2040 land-use components inside the urban growth boundary. Farm-to-market rural Arterials provide farm-to-market access between urban and rural areas. Most rural Arterials serve a mix of urban-to-urban and farm-to-market traffic.
- Arterials provide freight movement in support of Principal Arterials.
- Arterials have moderate access control for cross streets and driveways. Typically, residential driveways are not allowed access to Arterials.

- C. Collector streets provide both access and circulation between residential, commercial, industrial and agricultural community areas and the Arterial system. As such, Collectors tend to carry fewer motor vehicles than Arterials, with reduced travel speeds. Collectors may serve as freight access routes, providing local connections to the Arterial network. Collector characteristics include:
- Collectors connect neighborhoods to nearby centers, corridors, station areas, main streets and nearby destinations in the urban area. Land development should not be sited to obstruct the logical continuation of Collector streets.
 - In the rural area, Collectors are a primary link between the local street system and Arterials for freight, people, goods and services.
 - Access control on Collectors is lower than on Arterials. Commercial, industrial and institutional uses will be eligible for direct access to Collectors in accordance with the provisions of Article V of the Community Development Code. Direct access to new residential lots is not permitted.
- D. Neighborhood Routes (generally former Minor Collectors) are in residential neighborhoods and provide connectivity to the Collector and Arterial system. They do not serve citywide or community circulation. 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 allowed (including devices such as speed humps, traffic circles and other devices). New neighborhood routes may be established via the land development process.
- The Neighborhood Route designation is appropriate for urban areas where neighborhood forms are more compact and the routes are much shorter than typically occur in the rural area.
 - Traffic management measures are allowed.
- E. Commercial/Industrial Streets are intended to provide access to commercial or industrial properties. The application of this designation through the development review process may require a different design standard than the underlying functional classification designation.
- F. Local Streets primarily provide direct access to adjacent land. While Local streets are not intended to serve through traffic, the aggregate effect of local street design impacts the effectiveness of the Arterial and Collector system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the Arterial street network. Local street connectivity maps in the Community Plans identify new local street connections that are required by the Community Development Code in conjunction with new development.

Rural local roads may be miles long because of large parcels and a relatively sparse street network. Many rural local roadways are unpaved (gravel) and serviceability can vary with rainfall and maintenance. Rural local roads provide direct access to a variety of rural land uses including agriculture, forestry, quarry activities, low-density rural residential uses as well as rural commercial and industrial uses. An objective of this Transportation Plan is to minimize the impacts of urban travel on rural land uses.

Rural Local street characteristics include:

- Paved or oftentimes unpaved surfaces
- Narrow lane widths with roadside ditches to provide drainage
- No access control and access points spaced far apart
- Lack of traffic calming measures, sidewalks and illumination

Urban Local street characteristics include:

- Traffic calming measures are allowed.
- Access control is minimal with direct driveway connections permitted from all land use types.
- A connected network of local streets is required as set forth in the Local Street Connectivity Maps of the Community Plans and in the Community Development Code.

- G. Special Area Collectors are intended to link traffic from Special Area Local Streets, Special Area Neighborhood Routes, and some Special Area Commercial Streets to Arterials. Speeds should be low to moderate. A moderate degree of non-transit oriented development traffic would be appropriate for these facilities.

The design of a Special Area Collector should provide multi-modal access to the Arterial system, station area employment and high-density residential areas while discouraging traffic infiltration on local streets. In addition to autos, these facilities should accommodate primary and secondary bus lines, bike lanes, and sidewalks separated from the street by a landscape strip. Left turn lanes in medium and low-density residential areas would be provided at intersections with Arterials.

Developments which are oriented to Special Area Collectors should be employment based or multi-family residential. Single-family residential developments that abut a Special Area Collector should be oriented away from this type of facility.

- H. Special Area Neighborhood Routes are intended to serve both a traffic collection and distribution function and to provide access to adjacent properties. These facilities are intended to have less volume and less through traffic than Special Area Collectors. Speeds should be low. A limited degree of non-transit oriented development traffic would be appropriate for these facilities.

The design of Special Area Neighborhood Routes should emphasize neighborhood orientation by accommodating on-street parking, transit service, and bicycles in a relatively narrow paved width which includes the use of traffic calming measures. Exclusive turn lanes are not appropriate for these facilities, unless needed for safety at intersections with Arterials.

Special Area Neighborhood Routes should primarily serve residential land-uses. Development which includes small to medium scale mixed use (commercial/residential) development is also appropriate.

- I. Special Area Commercial Streets are intended to serve local access and service needs associated with urban high density residential, mixed use and employment oriented land uses. These roads are not intended to serve through trips but may have significant traffic volumes. The street may not exceed two travel lanes in each direction. Speeds should be low.

The design of Special Area Commercial Streets should reflect local intensive urban use by all modes. The road must accommodate autos, trucks, buses and bicycles while also providing transit stop amenities and frequent opportunities for pedestrian crossings. Sidewalks should be wide with tree wells.

Special Area Commercial Streets should serve high density residential, mixed use and business districts.

- J. Special Area Local Streets are intended to provide direct property access. They are not intended to serve through traffic. Speeds should be low. Non-transit oriented development traffic would be inappropriate for these facilities.

The design of Special Area Local Streets should reflect the residential neighborhood function by accommodating on-street parking on a narrow paved width and which includes traffic calming measures that compel autos to drive slowly.

Special Area Local Street should serve only low to medium density residential districts.

- 10.2 Special Area Streets are identified on the Special Area Street Overlay Map as well as in the Community Plans. Special Area Street design standards are included in the Washington County Uniform Road Improvement Design Standards.
- 10.3 Utilize some or all of the following criteria for defining or modifying functional classification: the extent of connectivity, length of roadway, the spacing or frequency of facilities, land use along the roadway and traffic characteristics.
- 10.4 Determine ultimate street design requirements based on a facility's designation in the road Lane Numbers Map (Figure 5), the Planned Bicycle System Map (Figure 13), the Pedestrian System Map (Figures 12a-f), the Transit System Map (Figure 11), the Through-truck Route Map (Figure 14) and considering the Regional Street Design Overlay Map (Figure 3).
- 10.5 Utilize a facility's ultimate design requirements as defined in Strategy 10.4 to establish conditions of approval for private development projects.
- 10.6 Analysis and design for proposed new road alignments will be performed as funds become available or when development applications for affected property are received.
- 10.7 Additional Neighborhood Routes and Special Area Local Streets will be identified through the development review process.

- 10.8 Resolve conflicts between the Transportation Plan and transportation elements of Community Plans or the Rural/Natural Resource Plan in favor of the Transportation Plan.
- 10.9 Recognize that the functional classification system represents a continuum in which through traffic increases and provisions for access decrease in the higher classification categories. On higher classification roadways, access management will be implemented through the Community Plans and the Community Development Code.
- 10.10 The Transportation Plan also identifies several specific study areas where the function or alignment of the facility has not been determined. These study areas are described below and shown on the Study Area Map.

STUDY AREAS

Study areas relate to facilities or areas for which further study is required to determine specifically how an identified need should be met. In general, the function, proposed alignment, or other specific solution has yet to be identified. “Placeholder” projects have been used in many study areas for purposes of analysis of the rest of the transportation system. These projects are possible but not necessarily the most appropriate projects for addressing an identified transportation need. The purpose of the Study Area designations is to facilitate the additional analysis that will need to occur before the most appropriate solutions to the identified traffic problems can be defined. As appropriate, interim projects in these areas are allowed prior to completion of the additional analysis. The following study areas are identified on the Washington County Study Areas Map (Figure 9).

Hillsboro-Sherwood Improvement Area:

The study area will be evaluated to identify and improve safety and mobility on existing rural roads between Aloha/Hillsboro and Tualatin/Sherwood. For planning purposes various minor safety improvements on Arterials were assumed. This is not the Western Bypass. Specific improvements have not been identified.

Hornecker/Evergreen – Glencoe to Cornelius-Schefflin:

Tualatin Valley Highway, particularly the intersections in Cornelius and Hillsboro, is expected to be more congested in the future. Alternative routes and/or relief for this road needs further evaluation. This study may be conducted in 2 separate phases: 1) road improvements needed to accommodate traffic between Hillsboro, Cornelius and Forest Grove, 2) future expansion of commuter rail to Hillsboro, Cornelius and Forest Grove, ensuring that expanded services are integrated with the regional transit system. For planning purposes, an extension of Evergreen Road to connect to Hornecker, improvements to Hornecker and an extension of Hornecker to Cornelius-Schefflin was assumed.

Interstate 5 – Highway 217 to Wilsonville:

This corridor is over capacity even with widening of I-5. Identified in the RTP as a Study Corridor, the County will work with the region to develop a long-term solution. For planning purposes a placeholder project of 4 through lanes each way plus auxiliary lanes was assumed. Even with the placeholder many links both on the mainline and ramp connections still exceed acceptable motor vehicle performance. Solutions to this corridor will require further study.

Interstate 5 to Highway 99W Connector:

An improved regional connection between Highway 99W and I-5 is needed in the Tualatin area to accommodate regional traffic, and to move it away from the Tualatin, Sherwood and Tigard Town Centers. For planning purposes a placeholder project of a limited access 4-lane highway was assumed which is consistent with the corridor refinement study in the Regional Transportation Plan. Investigation of an at-grade interim Arterial solution will also be conducted.

Oregon 217:

Improvements in this corridor are needed to accommodate expected travel demand and maintain acceptable levels of access to the Beaverton and Washington Square Regional Centers. Identified in the RTP as a Study Corridor, the County will work with the region to develop a long-term solution for this corridor. For planning purposes a placeholder project of 3 through lanes each way plus reconfiguration of the ramps was assumed. Generally with the placeholder the highway operated within acceptable motor vehicle performance standards, except for spot locations. It is expected that solutions to these issues will be identified and resolved with further study.

Tualatin Valley Highway:

A number of improvements are needed in this corridor to address existing deficiencies and serve increased travel demand. One primary function of this route is to provide access to and between the Beaverton and Hillsboro Regional Centers. The corridor is identified as a Study Corridor in the RTP. Additional study is needed to identify how significant the problems are in the corridor and the nature of the improvements needed to address them. For planning purposes a placeholder project of 7 total lanes was assumed from Hocken to Cornelius Pass. Even with the placeholder project, many segments and intersections along Tualatin Valley Highway have greater demand than capacity. Many of these trips access the local businesses. It is expected that these issues will be identified and resolved with further study.

US 26 Sunset Highway:

The Sunset Highway has been identified as a Corridor Refinement Study in the Regional Transportation Plan. Improvements are needed in this corridor to preserve mobility to and from the Central City and the Sunset Corridor employment areas, as well as provide access to Hillsboro Regional Center. For planning purposes a placeholder project of 3 lanes each way was assumed from Highway 217 to Cornelius Pass Road. With the placeholder the model shows the highway mainline operating at acceptable motor vehicle performance or better. Some of the ramps and crossing routes may still have motor vehicle performance problems, particularly the Cornell Interchange (from WB 26 to SB Cornell). It is expected that these issues will be identified and resolved with further study.

Jackson School Road - US 26 to Evergreen:

With the development of a planned interchange at Jackson School Road, and US 26, there are some concerns about the impact. This study area calls for an evaluation of the alignment of Jackson School Road, its connection to both Evergreen and US 26, including the alignment of the route and traffic operations.

119th Avenue - Cornell to Barnes:

There is an identified need for a new Collector facility between Cornell and Barnes in the general alignment of 119th Avenue. This study will review alignment alternatives, for the extension of 119th between Cornell and Barnes.

Springville Road - 185th to West Union:

There has been concern that the design of the intersection of 185th and West Union will not be able to handle the projected traffic. One solution suggested has been an extension of Springville from 185th to West Union. This study will further evaluate the problem, and possible solutions, including potential environmental issues.

Meek Road - Realignment at Shute Road:

There has been concern regarding the proximity of the intersection at Meek Rd and Shute Rd to the interchange at US 26 and Shute Rd. This study will evaluate options for moving the intersection of Meek further south.

185th Avenue - US 26 to Baseline:

185th at the interchange with US 26 and further south to the intersection with Baseline is predicted to have significant intersection delay during the peak period. This study will evaluate the potential for transportation system management to mitigate the traffic congestion. There also will be continued study of intersection improvements.

South Hillsboro Urban Reserve Street Plan:

The urban reserve area street plan development in this area currently includes an extension of Cornelius Pass to connect to 209th Avenue. This extension was included as a placeholder for

evaluation purposes. It is recognized that the area will require further study, particularly resolution of issues along Tualatin Valley Highway, before inclusion in the UGB. The transportation study will evaluate the Cornelius Pass extension and the transportation needed to support the development prior to any UGB expansion in the area.

Fairfield - Terman Study Area:

The need for east-west connectivity and a street connection between Fairfield and Terman in this vicinity has been established, but a decision on how best to meet this need has not yet been made.

OHSU West Campus Study Area:

The OHSU West Campus Study Area is bounded by Northwest Cornell Road to the north, Northwest 185th Avenue to the east, Southwest Baseline to the south and Northwest Cornelius Pass Road to the west. The OHSU West Campus itself is bounded by Northwest Walker Road to the north, Northwest 185th Avenue to the east, the MAX light rail line to the south and Northwest 206th Avenue to the west. The OHSU West Campus currently has a need for east-west and north-south connections to provide connectivity and mitigate impacts of the Campus on adjacent transportation facilities. However, due to the unique uncertainty of the level or nature of further development on the OHSU West Campus, it is impractical to designate specific road alignments at this time. Therefore, additional streets to provide connectivity within the OHSU West Campus will be evaluated as part of the transportation impact analysis required for approval of a City of Hillsboro Concept Development Plan for the OHSU West Campus. In addition, the transportation impact analysis will also evaluate connectivity between the West Campus and the Quatama MAX Station and the Willow Creek Transit Center/MAX Station.

David Hill Road Extension Study Area:

A need for additional east-west and north-south travel connections in the area north of the current Forest Grove city limits and west of Hwy. 47 has been identified. The nature and location of these improvements, however, requires further study.

Saltzman Road Extension Study Area:

There is an identified need for a generally north-south Collector roadway in the vicinity of the Saltzman Road Extension Study Area shown on the Washington County Study Areas Map (Figure 9). The Study Area is more specifically described on the Saltzman Road Extension Study Area Overlay Map (Figure 9a), which identifies specific properties included in the study area. Land Development proposals affecting portions of properties within the Saltzman Road Extension Study Area shall be required to incorporate a Collector roadway in their development proposal and to indicate how that Collector might feasibly be extended to both serve other properties in the area and to connect with Saltzman Road to the South. It is anticipated that this study area and its provisions are interim measures. The County anticipates undertaking a broader planning process to address the needs of properties north and west of the study area that were recently added to the urban area. That study and its recommendations are expected to address this study area as well.

Table 6: Functional Classification Design Parameters

| Roadway Classification | Lanes ¹ | Bike Lanes ² | Max. ROW ³ | Max. Paved Width ³ |
|---|--------------------|-------------------------|-----------------------|-------------------------------|
| Principal Arterials & Arterials ⁵ | 7 | Yes | 122 Feet | 98 Feet |
| | 5 | Yes | 98 Feet | 74 Feet |
| | 3 | Yes | 90 Feet | 50 Feet |
| | 2 | Yes | 90 Feet | 48 Feet |
| Collectors ^{3,4} | 5 | Yes | 98 Feet | 74 Feet |
| | 3 | Yes | 74 Feet | 50 Feet |
| | 2 | Yes | 60 Feet | 36 Feet |
| Special Area Collectors ⁵ | 3 | Yes | 52 Feet | 46 Feet |
| | 2 | Yes | 40 Feet | 34 Feet |
| Neighborhood Routes | 2 | No | 60 Feet | 36 Feet |
| Special Area Neighborhood Routes ⁵ | 2 | No* | 44 Feet | 38 Feet |
| Commercial/Industrial | 4 | No | 70 Feet | 50 Feet |
| | 3 | Yes | 64 Feet | 50 Feet |
| | 2 | No | 64 Feet | 34 Feet |
| Special Area Commercial Streets ⁵ | 4 | No* | 70 Feet | 64 Feet |
| | 3 | No* | 58 Feet | 52 Feet |
| | 2 | No* | 46 Feet | 40 Feet |
| Locals | 24' Travel Way | No | 50 Feet | 32 Feet |
| Special Area Local Streets ⁵ | 16' Travel Way | No | 38 Feet | 32 Feet |

* While these facilities do not include bike lanes, they do include wide travel lanes of 14 feet due to constrained right-of-way width – see Footnotes 2 and 5.

Notes:

¹ The maximum number of travel lanes that can be built without a plan amendment is identified on the 'Road Lane Numbers' map in the Transportation Plan. This plan-level decision establishes the transportation system capacity necessary to adequately serve future travel demands identified in the plan. The number of lanes required to accommodate turning movements at intersections and interchanges will be determined through traffic analysis conducted during the transportation project development process. This project-level decision identifies physical improvements necessary at or near intersections and

(continued on next page)

interchanges to safely and efficiently move toward attaining the system capacity identified in the Plan. Improvements may include turn lanes and auxiliary lanes adjoining the traveled roadway to accommodate weaving, merging, speed changes, or other purposes supplementary to through traffic movement. Auxiliary lanes to address spot area capacity and safety needs may extend between intersections (including interchanges) and beyond an intersection. Opportunities for public involvement at the transportation project development level are provided as defined in Washington County's adopted Transportation Project Development Public Involvement Guidelines (R&O 93-124, August 25, 1993). Additional opportunities for public participation are available as provided by Article VII of the Community Development Code.

² Bikeways are required on all urban Collectors and Arterials, including Special Area Collectors. Six-foot wide, striped and stenciled bike lanes shall be constructed along these urban facilities except where special constraints exist; in these areas, 14-foot wide, outside travel lanes may be used and transitioned back to six foot bicycle lanes when the constraint ends. Outside of the UGB, refer to the Bicycle System map to determine which facilities are intended to have bikeways. These bikeways may be a minimum of four-foot wide paved shoulders.

³ Maximum right-of-way and pavement widths identified here are, as a rule, the maximum that can be built on roadway segments without an amendment to the Transportation Plan. However, plan amendments will not be required when it is determined during the project development or development review processes that these maximums should be exceeded to accommodate topography or project-level refinements associated with wider than standard pedestrian facilities; bus pullouts; on-street parking; project impact mitigation measures; and intersection, interchange or other project features identified as necessary for safe, efficient operation of the planned transportation system. All Arterial/Arterial, Arterial/Collector, Collector/Collector and Arterial/Neighborhood Route intersections shall plan for needed right of way for turn lanes within 500 feet of intersections, based on a 20-year analysis of intersection needs. Actual right-of-way requirements may be less than the maximums specified in the table based on roadway characteristics and surrounding land uses. Acquiring adequate right of way is important to avoid unnecessary and costly future roadway system improvement impacts. Efforts should be made to specifically define project right of way requirements during the project development process in order to avoid acquiring excess right of way, however. Doing the traffic safety and access analysis necessary to determine whether a center turn lane is needed, for instance. In cases where project development or other work necessary to specify the design of a roadway indicates no-turn lane will be needed, right-of-way and paved width maximums for two-lane roadways shall apply. In rural areas, the maximum right of way for Collectors shall be 60 feet. Opportunities for public involvement at the transportation project development level are provided as defined in Washington County's adopted Transportation Project Development Public Involvement Guidelines (R&O 93-124, August 25, 1993). Article VII of the Community Development Code identifies land use standards, public notice and public involvement provisions and appeal opportunities that are provided in the Land Use Permitting Process.

⁴ On those Arterials and Collectors designated on the 'Regional Street Design Overlay' map as 'Boulevards', 'Boulevard Intersections' or 'Streets', or located within identified 'Pedestrian Districts' on the Pedestrian System Map, sidewalk widths and other design features such as planter areas shall be determined based on the applicable standards in the Community Plans, Community Development Code.

⁵ 'Special Area' streets (Collector, Neighborhood, Commercial or Local classifications) are shown on the 'Special Area Street Overlay Maps'. Special Area Local Streets are also designated in the appropriate Community Plans and/or by the Community Development Code. Additional Special Area Neighborhood Routes and Special Area Local Streets may be designated using the development review process. Special Area Street designs will be determined via the development review process. While Special Area Commercial Streets do not include striped bicycle lanes, they shall include wide travel lanes of 14 feet to accommodate bicycle use. For Special Area Collectors, in addition to the right-of-way, a nine-foot minimum utility/sidewalk easement shall be dedicated on each side of the right-of-way. For Special Area Local streets, in addition to the right-of-way, a ten-foot minimum utility/sidewalk easement shall be dedicated on each side of the right-of-way. For Special Area Alleys, additional right-of-way may be required as part of development review.

Road Jurisdiction Background

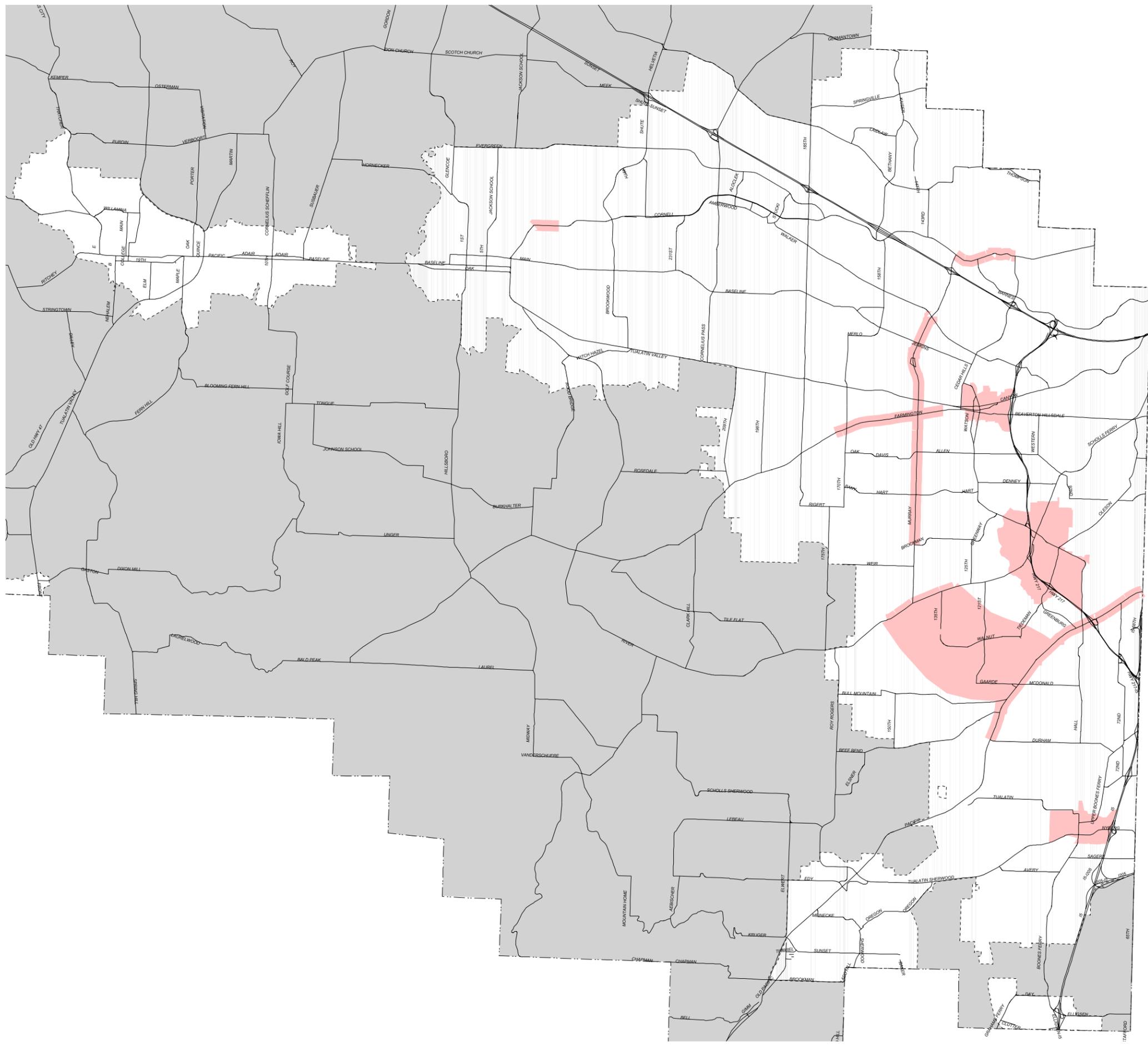
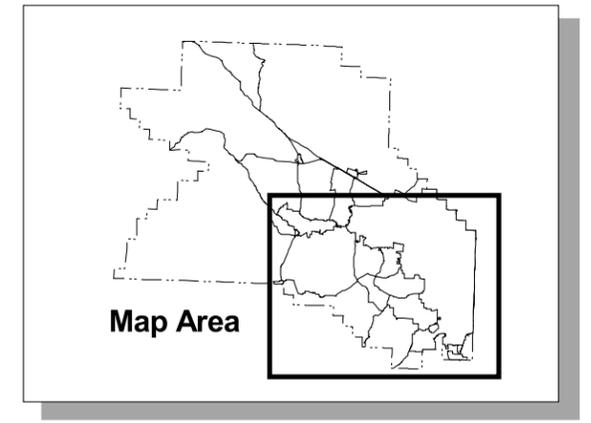
The Road Jurisdiction section addresses which portions of the system should be under the jurisdiction of the state, County and cities in the long-term. This section is to be considered in conjunction with the Countywide Road System Map. The Countywide Road System Map identifies roadways that are judged to be appropriately under County jurisdiction in the long-term, with remaining roadways either staying under state jurisdiction or becoming city roadways as currently unincorporated areas are annexed.

11.0 ROAD JURISDICTION POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO HAVE OR SEEK JURISDICTION OVER A COUNTYWIDE ROAD SYSTEM THAT SERVES MAJOR COUNTY TRAVEL MOVEMENTS, AND TO PURSUE THE TRANSFER OF ROADS THAT ARE NOT PART OF THAT SYSTEM TO OTHER JURISDICTIONS.

Strategies:

- 11.1 Work with ODOT and the cities in Washington County to identify a Countywide Road System consisting of Principal Arterials and Arterials and, if appropriate, some Collectors that serve countywide travel and maintain or obtain jurisdiction over these roadways.
- 11.2 Work with the cities to transfer roads not identified on the Countywide Road System Map to city jurisdiction as urban unincorporated areas are annexed.
- 11.3 Work jointly with ODOT to identify and resolve State/County jurisdiction issues.
- 11.4 Establish and adopt a map of the Countywide Road System (See Figure 10).



Deficiency Areas

- Deficiency Areas
- Area outside the Urban Growth Boundary
- Major Roads
- Urban Growth Boundary
- County Line

NOTE:
 Deficiency areas result from an evaluation of 2020 conditions based upon the projects identified in this plan being in place. Additional strategies to raise the motor vehicle performance in these areas, if any, will be approached on a case by case basis. Deficiency areas do not affect development review, but apply for planning purposes.

Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

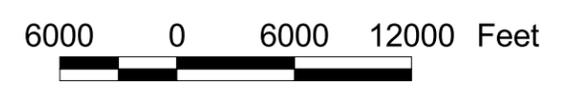
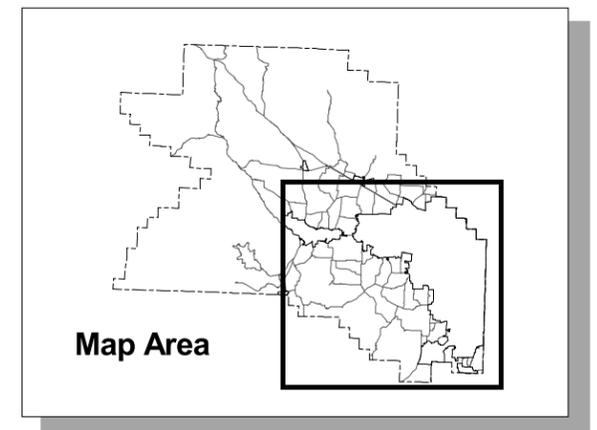


FIGURE 2



Regional Street Design Overlay Map

- 'Boulevard' Design Consideration with on-street parking
- 'Boulevard' Design Consideration
- 'Street' Design Consideration
- Boulevard Intersection Design Consideration
- Boulevard Study Area
- Area outside the Urban Growth Boundary
- Urban Growth Boundary
- Major Roads
- County Line

NOTE: Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

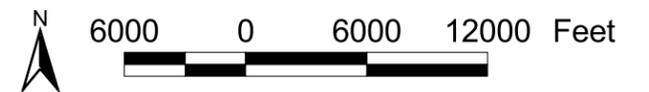
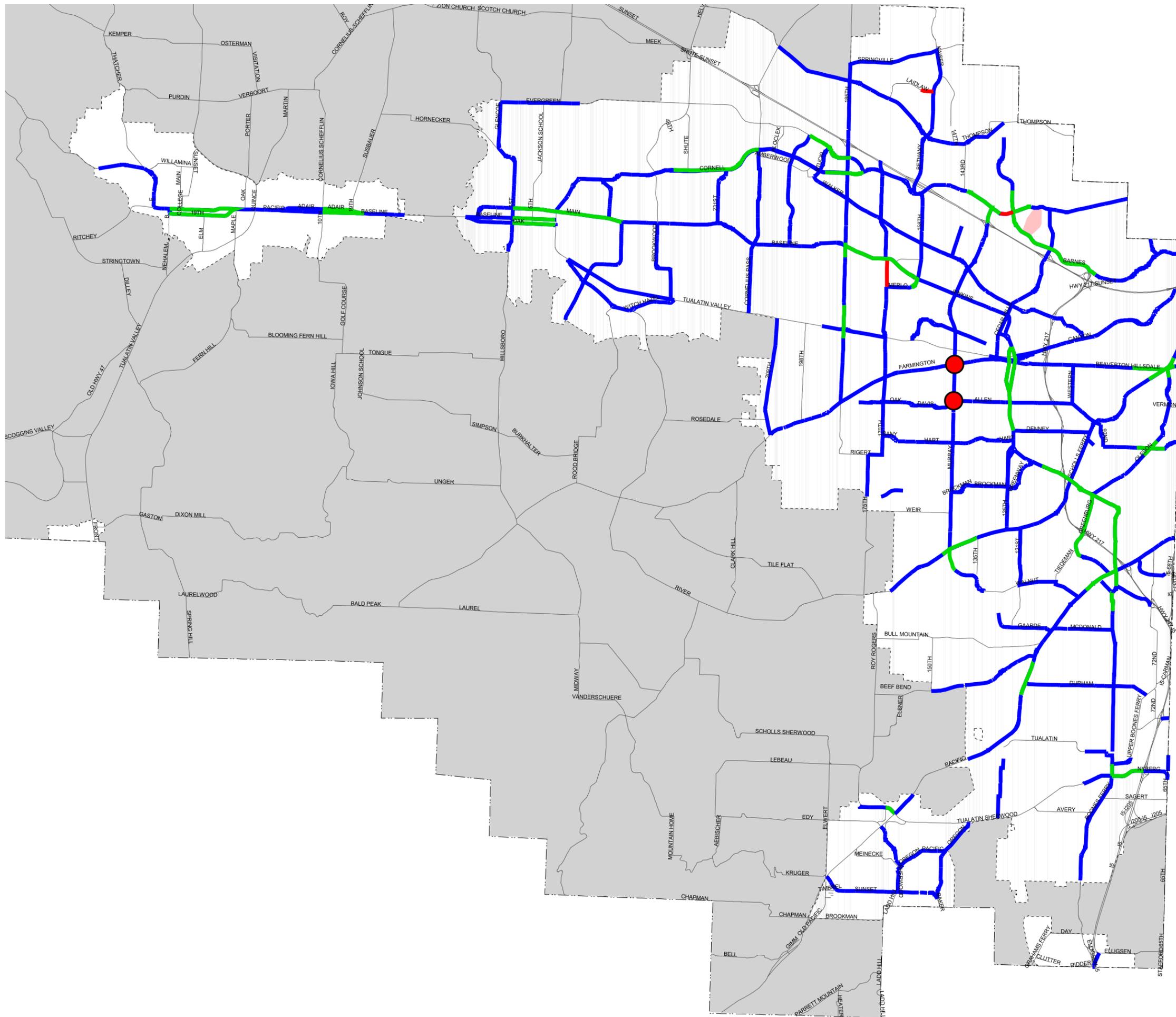
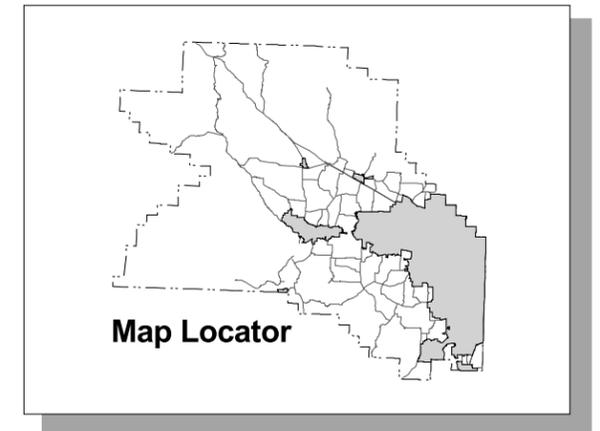
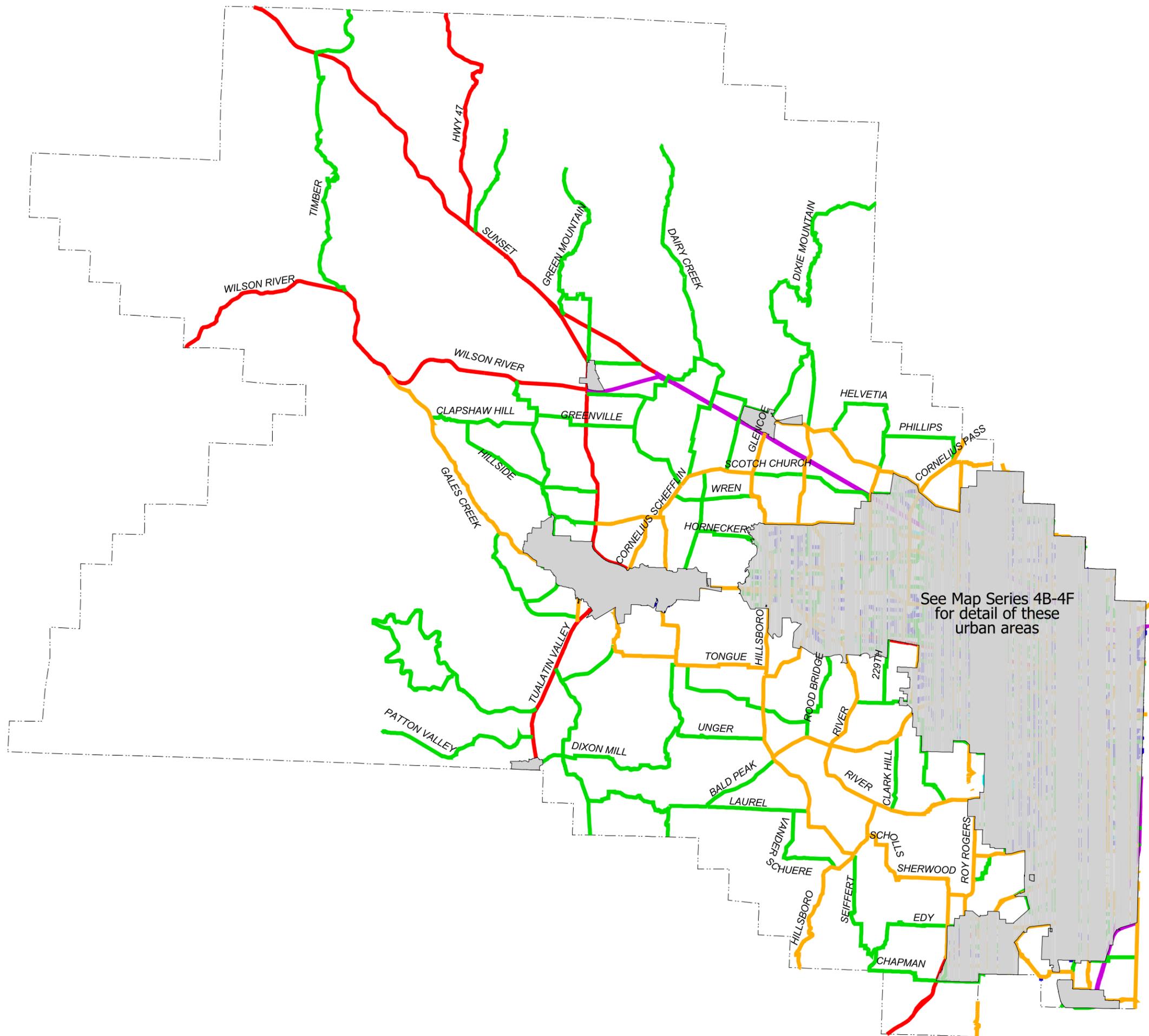


FIGURE 3





Washington County Functional Classification System

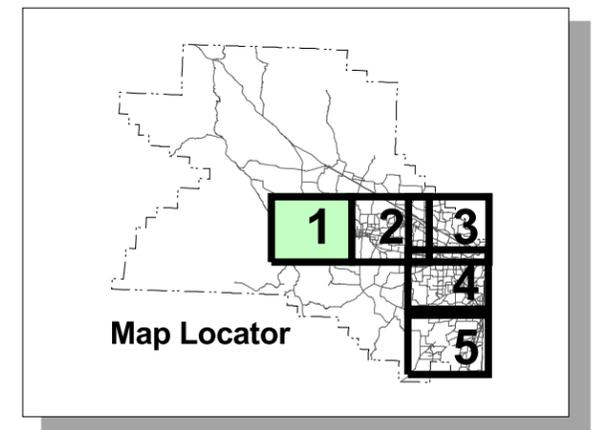


See Map Series 4B-4F for detail of these urban areas

- Freeway
- Principal Arterial
- Arterial
- Collector
- Proposed Arterial
- Proposed Collector
- Area inside the Urban Growth Boundary

NOTE:
 Roads and road classifications that were not on the 1988 Transportation Plan but are on this map are intentional additions to the plan.
 Roads and road classifications that were on the 1988 Transportation Plan but are not on this map are intentional deletions to the plan.
 Plan amendments are not required to change a "proposed" road to an existing roadway designation when those roads shown as "proposed" on this map are constructed.
 Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.
 Streets in the Sunset Light Rail Station Area, Cedar Mill Town Center and Willow Creek, Merlo and Elmonica Areas may be subject to Special Area Street Overlay designations that affect street design. See Special Area Street Overlay Maps to make this determination.





Washington County Functional Classification System

-  Freeway
-  Principal Arterial
-  Arterial
-  Collector
-  Neighborhood Route
-  Proposed Arterial
-  Proposed Collector
-  Proposed Neighborhood Route
-  Local Street
-  Area outside the Urban Growth Boundary
-  Urban Growth Boundary

NOTE:
Roads and road classifications that were not on the 1988 Transportation Plan but are on this map are intentional additions to the plan.

Roads and road classifications that were on the 1988 Transportation Plan but are not on this map are intentional deletions to the plan.

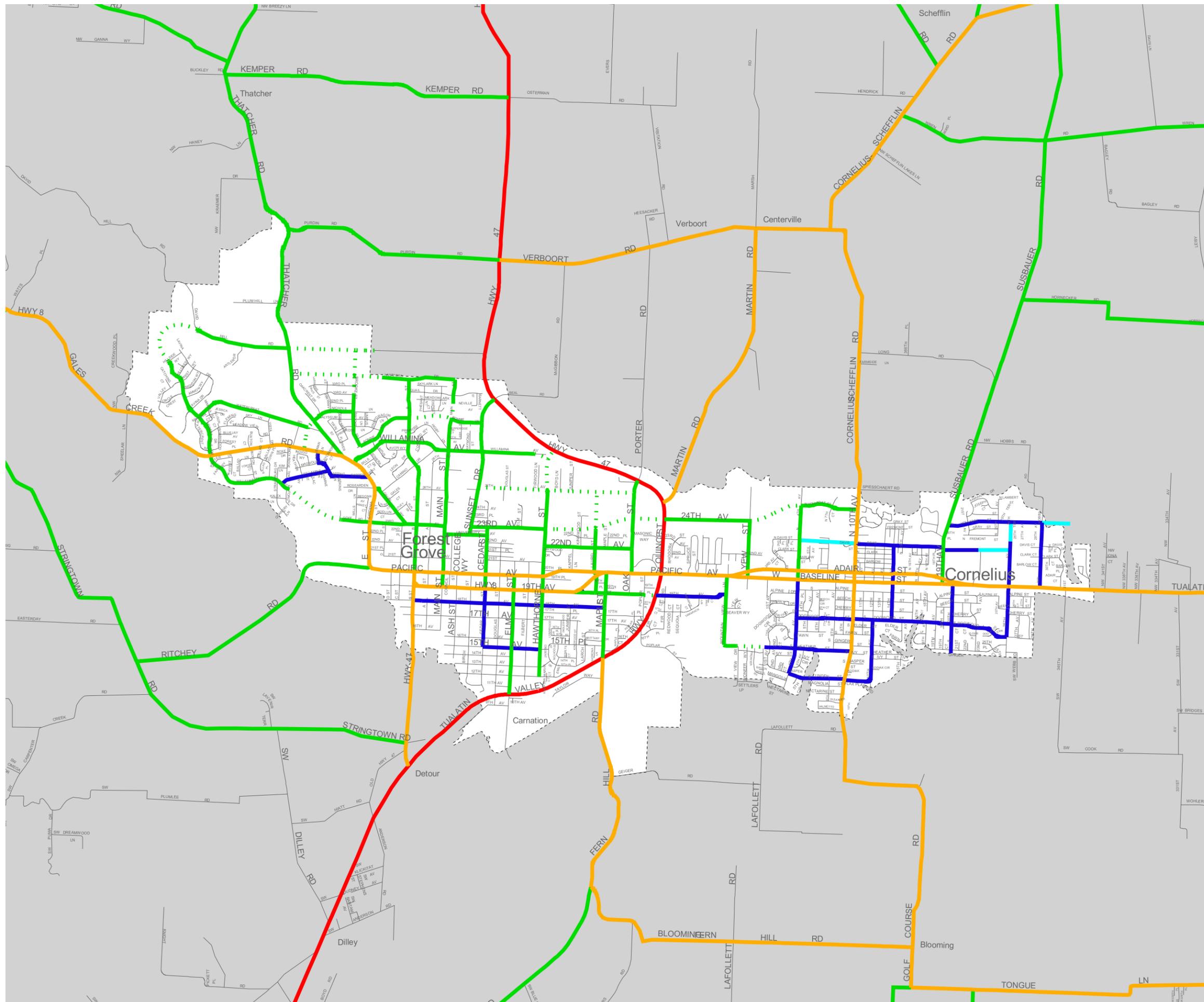
Plan amendments are not required to change a "proposed" road to an existing roadway designation when those roads shown as "proposed" on this map are constructed.

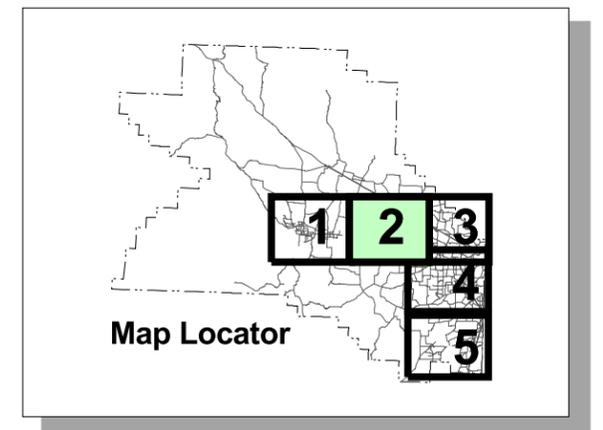
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Streets in the Sunset Light Rail Station Area, Cedar Mill Town Center and Willow Creek, Merlo and Elmonica Areas may be subject to Special Area Street Overlay designations that affect street design. See Special Area Street Overlay Maps to make this determination.



FIGURE 4B





Washington County Functional Classification System

-  Freeway
-  Principal Arterial
-  Arterial
-  Collector
-  Neighborhood Route
-  Proposed Arterial
-  Proposed Collector
-  Proposed Neighborhood Route
-  Local Street
-  Area outside the Urban Growth Boundary
-  Urban Growth Boundary

NOTE:
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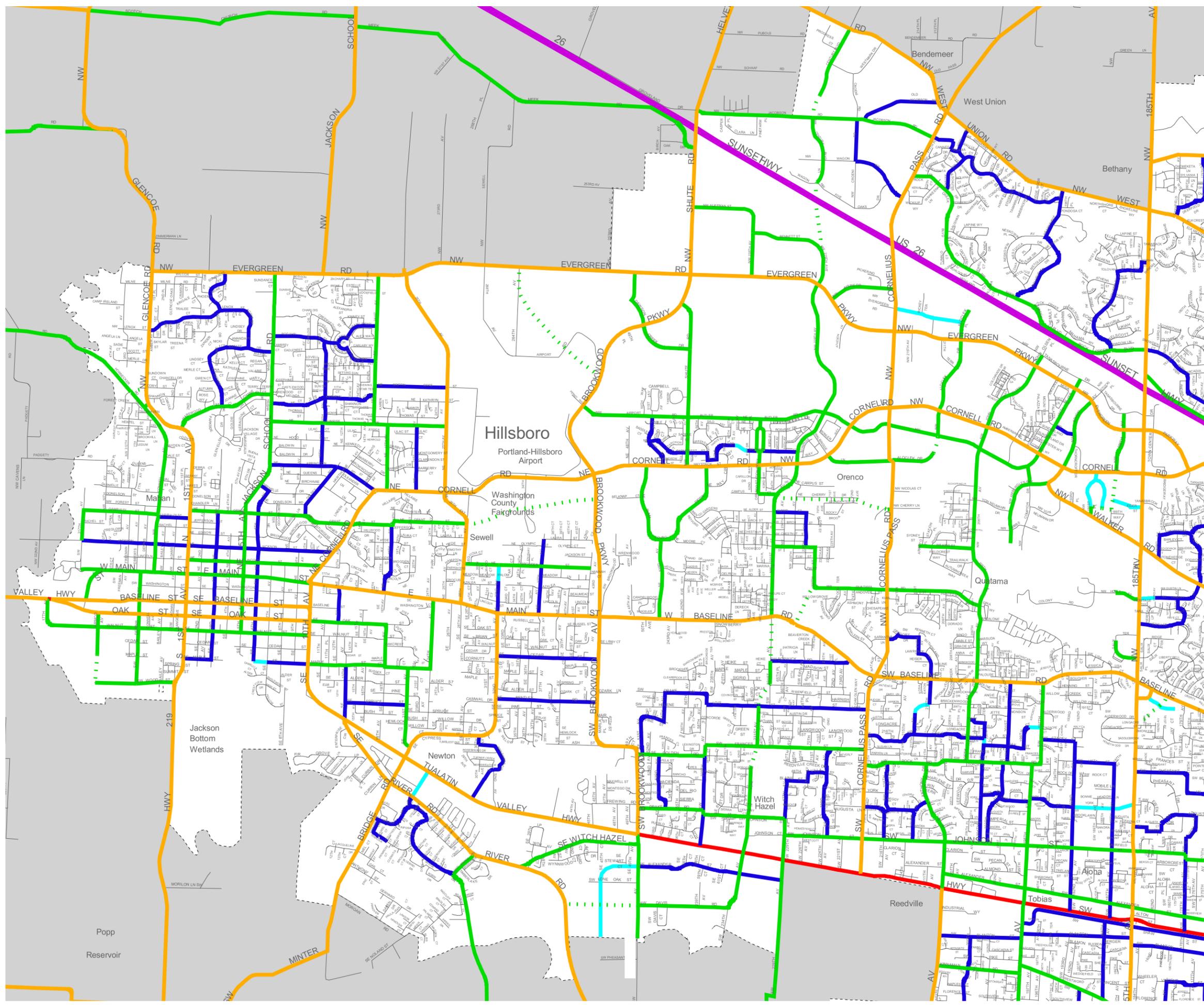
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

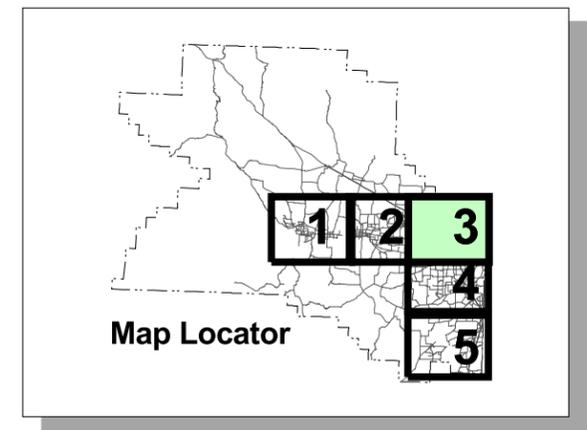
Streets in the Sunset Light Rail Station Area, Cedar Mill Town Center and Willow Creek, Merlo and Elmonica Areas may be subject to Special Area Street Overlay designations that affect street design. See Special Area Street Overlay Maps to make this determination.



Updated 11/27/03

FIGURE 4C





Washington County Functional Classification System

-  Freeway
-  Principal Arterial
-  Arterial
-  Collector
-  Neighborhood Route
-  Proposed Arterial
-  Proposed Collector
-  Proposed Neighborhood Route
-  Local Street
-  Area outside the Urban Growth Boundary
-  Urban Growth Boundary

NOTE: Roads and road classifications that were not on the 1988 Transportation Plan but are on this map are intentional additions to the plan.

Roads and road classifications that were on the 1988 Transportation Plan but are not on this map are intentional deletions to the plan.

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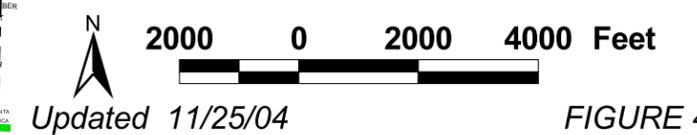
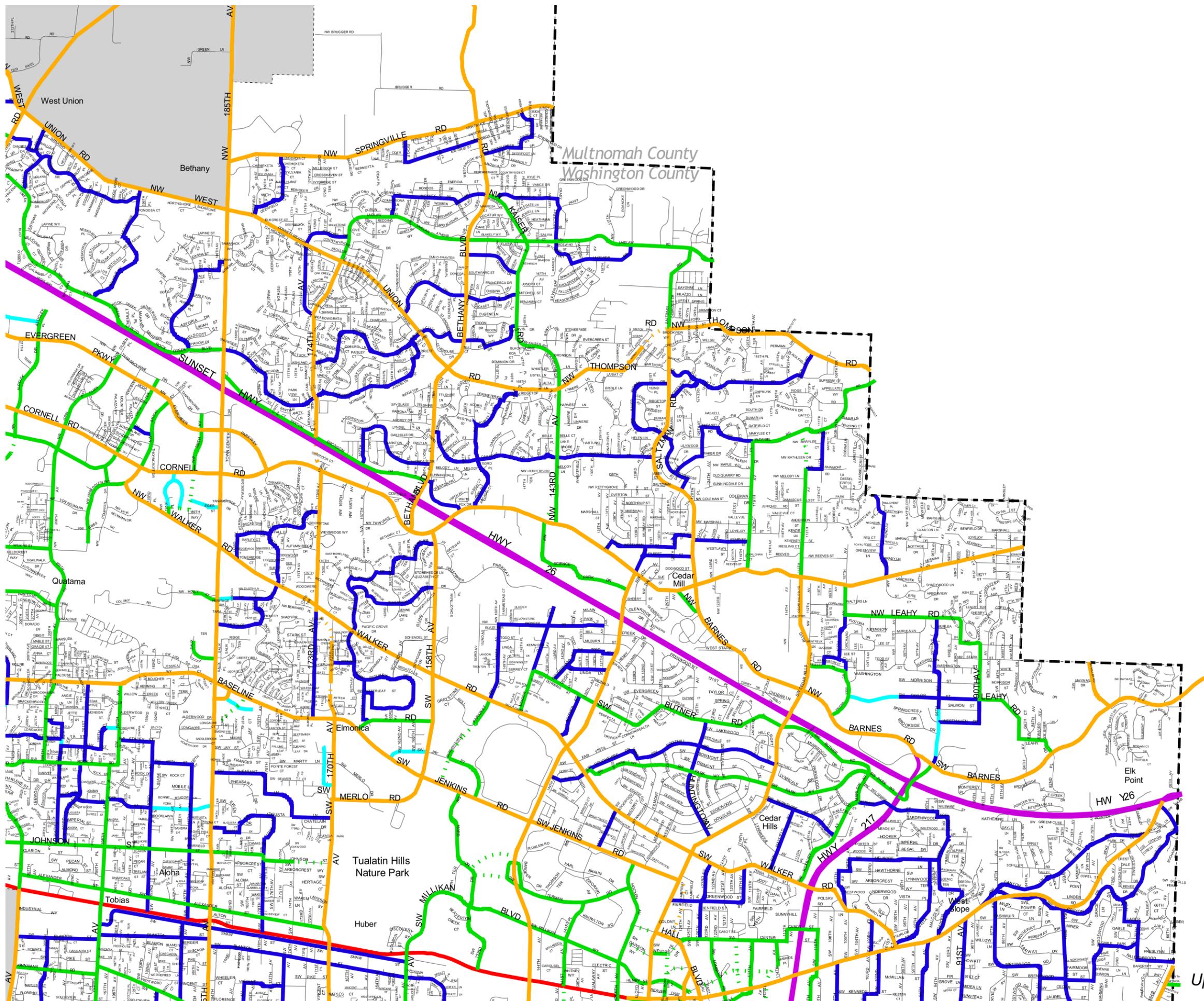
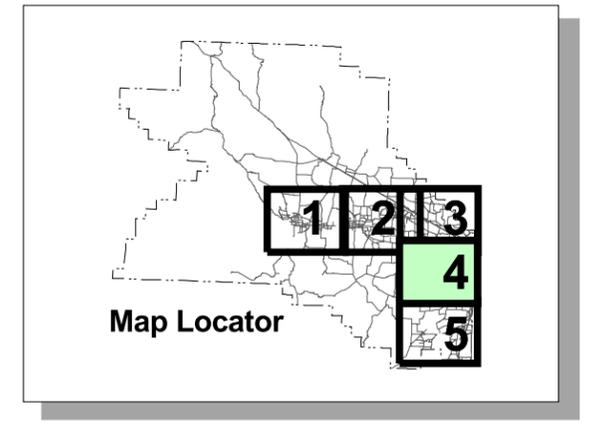
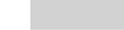


FIGURE 4D





Washington County Functional Classification System

-  Freeway
-  Principal Arterial
-  Arterial
-  Collector
-  Neighborhood Route
-  Proposed Arterial
-  Proposed Collector
-  Proposed Neighborhood Route
-  Local Street
-  Area outside the Urban Growth Boundary
-  Urban Growth Boundary

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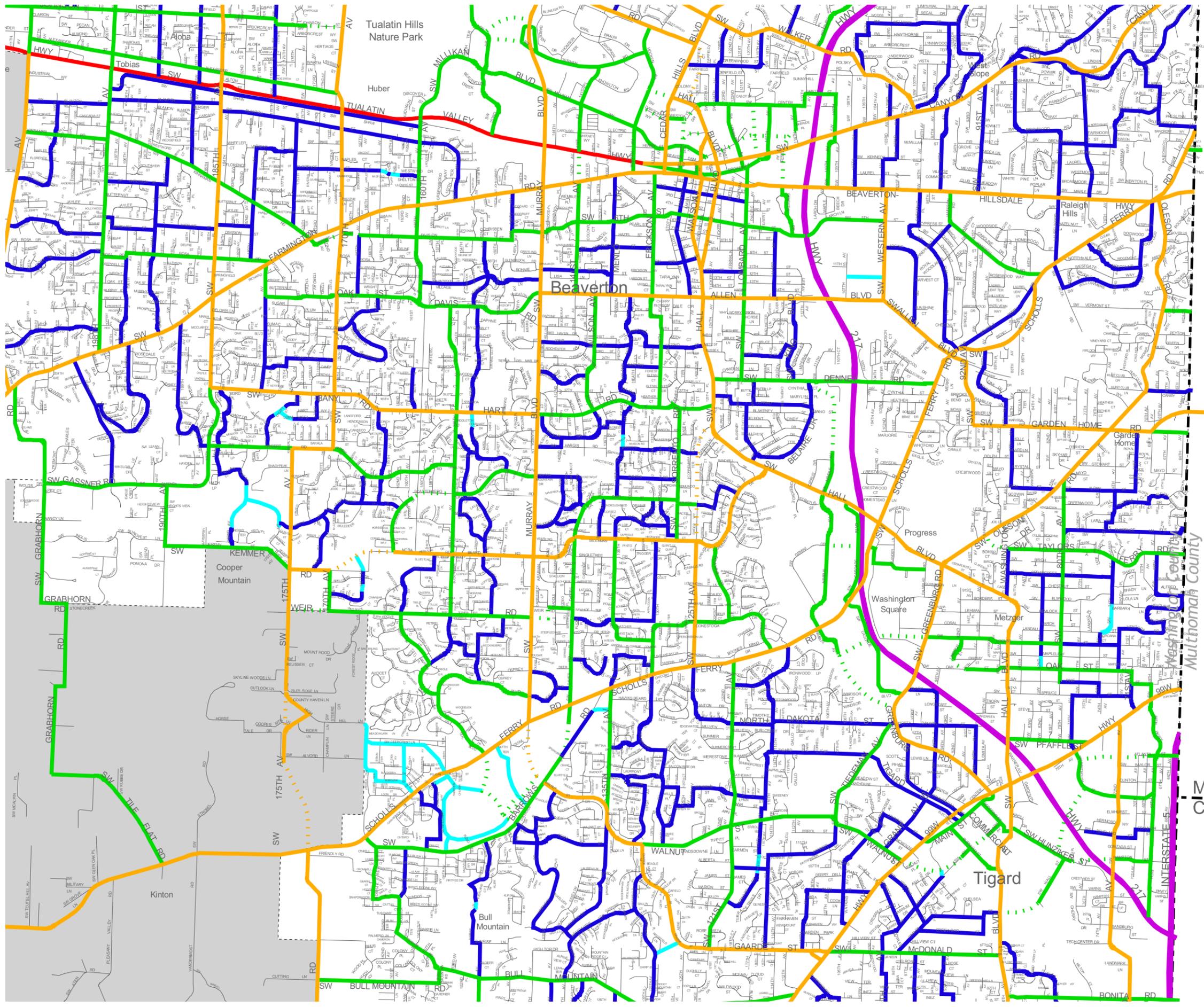
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

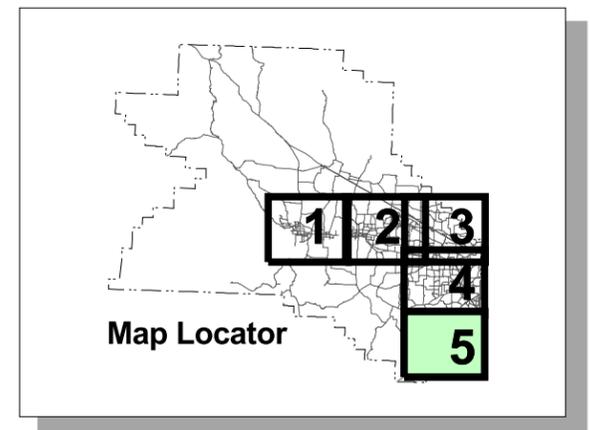
Streets in the Sunset Light Rail Station Area, Cedar Mill Town Center and Willow Creek, Merlo and Elmonica Areas may be subject to Special Area Street Overlay designations that affect street design. See Special Area Street Overlay Maps to make this determination.



Updated 11/27/03

FIGURE 4E





Washington County Functional Classification System

-  Freeway
-  Principal Arterial
-  Arterial
-  Collector
-  Neighborhood Route
-  Proposed Arterial
-  Proposed Collector
-  Proposed Neighborhood Route
-  Local Street
-  Area outside the Urban Growth Boundary
-  Urban Growth Boundary

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Roads and road classifications that were on the 1988 Transportation Plan but are not on this map are intentional deletions to the plan.

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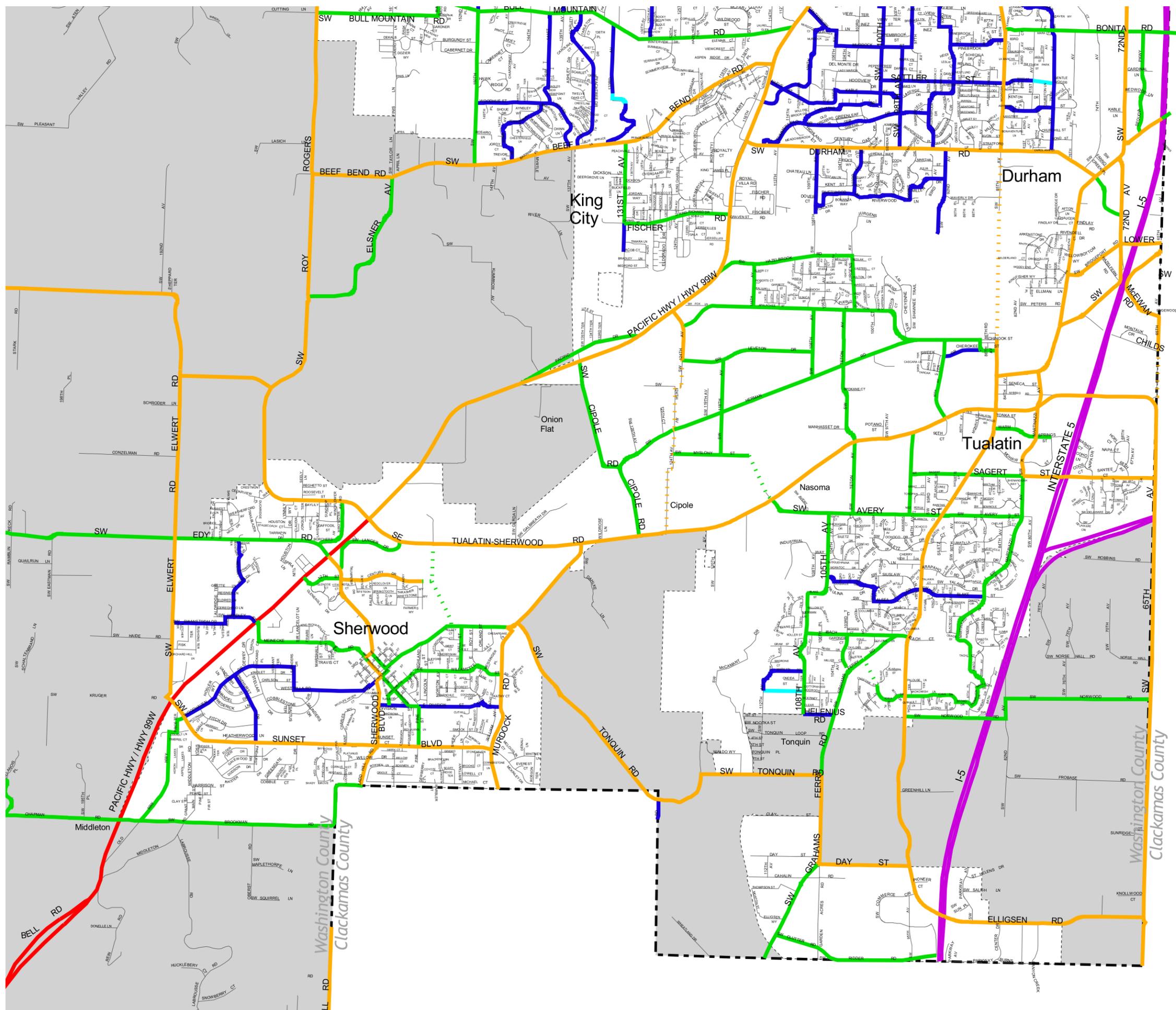
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

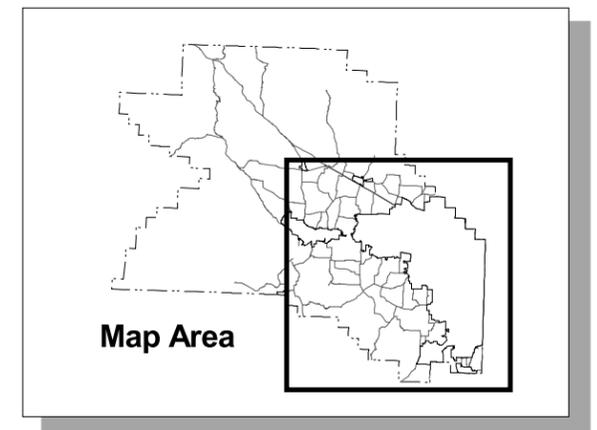
Streets in the Sunset Light Rail Station Area, Cedar Mill Town Center and Willow Creek, Merlo and Elmonica Areas may be subject to Special Area Street Overlay designations that affect street design. See Special Area Street Overlay Maps to make this determination.



Updated 11/27/03

FIGURE 4F





Washington County Lane Numbers

- +8 Lanes
- 6-7 Lanes
- 4-5 Lanes
- 2-3 Lanes
- 2 Lanes
- Potential Grade Separated Intersection
- Urban Growth Boundary
- Area outside the Urban Growth Boundary

NOTES:
 All Arterial/Arterial, Arterial/Collector, Collector/Collector and Arterial/Neighborhood Route intersections should plan for needed ROW for turn lanes within 500 feet of intersection. The plan should be based on a 20-year analysis of intersection needs.

Refer to Functional Class map for street classifications.

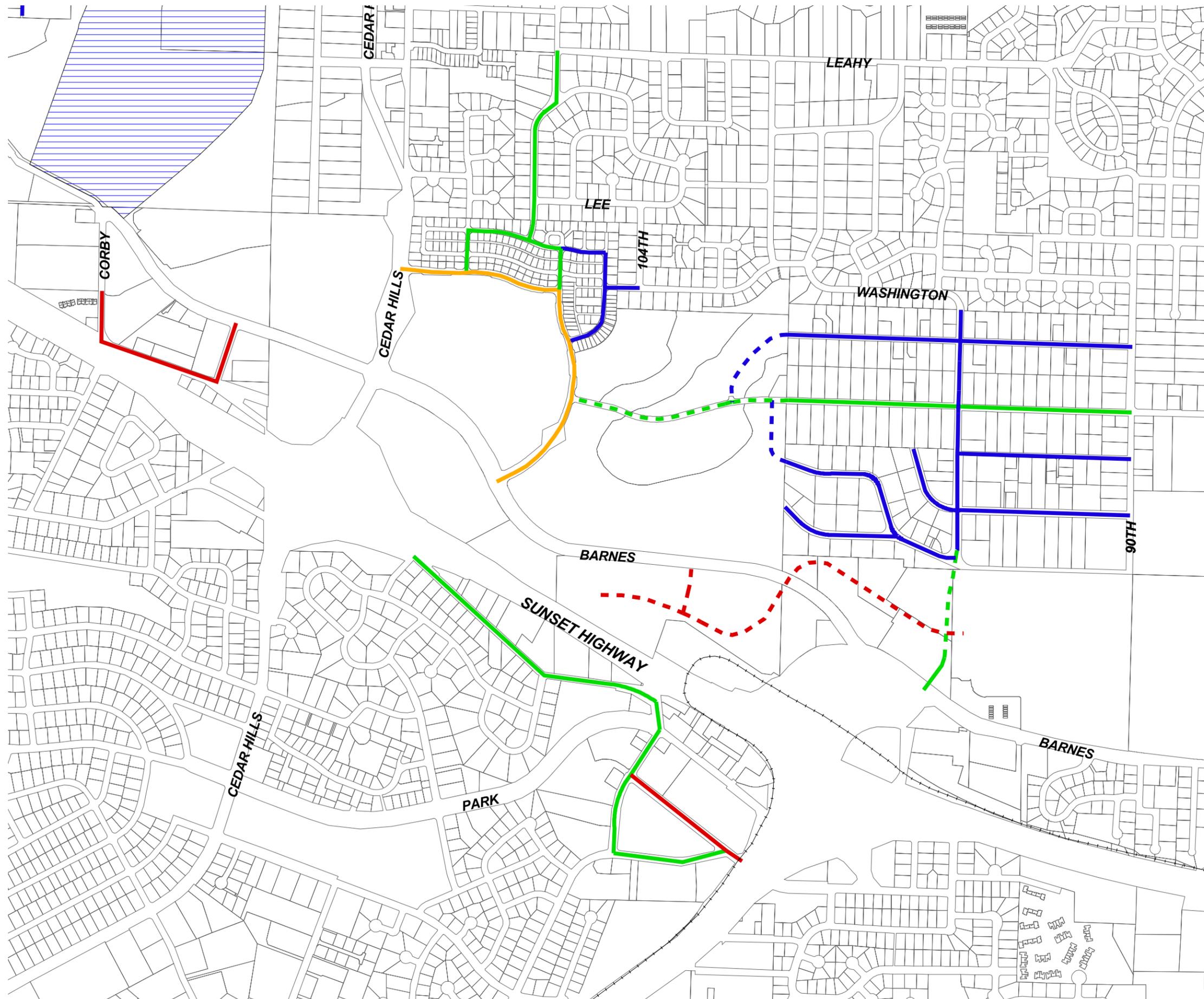
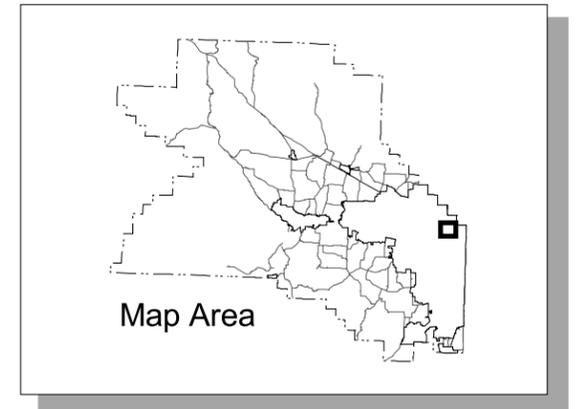
Road ROW to be maximum number of lanes as indicated. Refer to county road design standards for specific right-of-way dimensions. Less road lanes and ROW may be allowed where environmental constraints or other permanent prohibition to vehicles are present.

Non-County road lane numbers are based on City designations.

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Additional right-of-way may be needed at and near potential grade separated intersections, based upon additional traffic analysis. Other potentially grade separated intersections may be identified during the land development process.





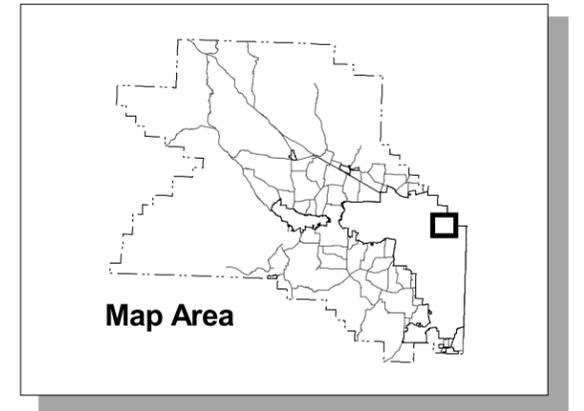
Special Area Street Overlay Sunset Station Area

-  Special Area Collector
-  Special Area Neighborhood Route
-  Special Area Local Street
-  Special Area Commercial Street
-  Proposed Special Area Collector
-  Proposed Special Area Neighborhood Route
-  Proposed Special Area Local Street
-  Proposed Special Area Commercial Street
-  Arterial Corridor
-  Westside MAX



Updated 11/04

FIGURE 6

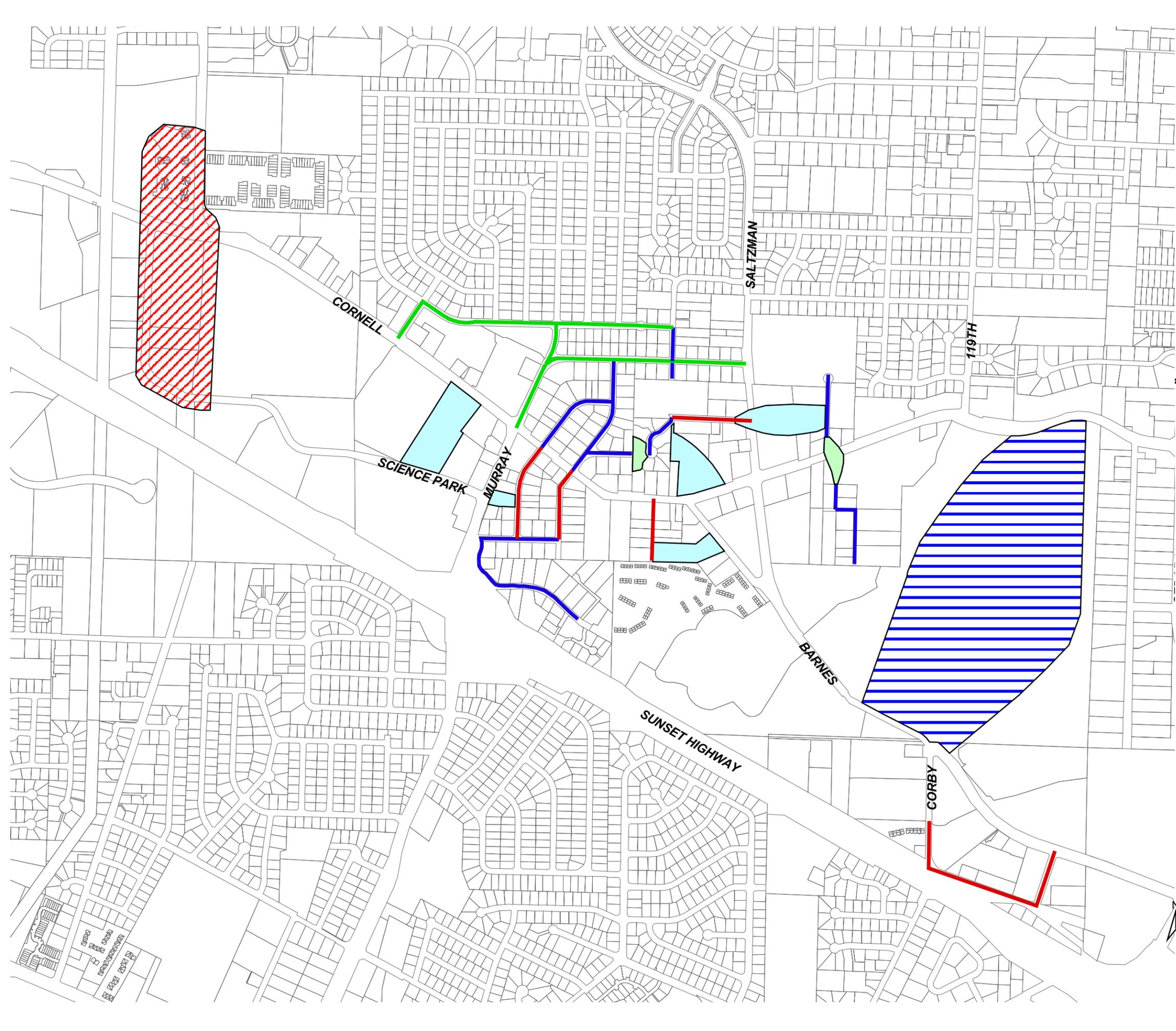


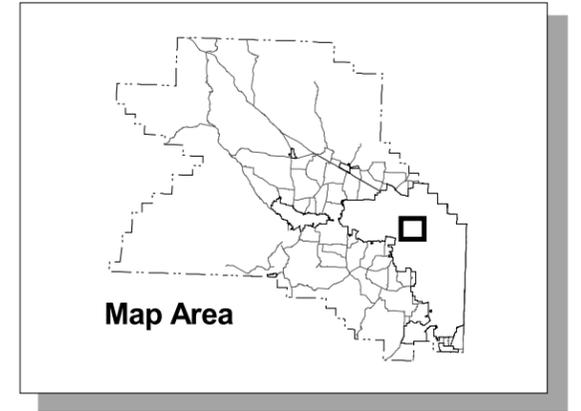
Special Area Street Overlay Cedar Mill Area

- Special Area Collector
- Special Area Neighborhood Route
- Special Area Local Street
- Special Area Commercial Street
- Proposed Special Area Collector
- Proposed Special Area Neighborhood Route
- Proposed Special Area Local Street
- Proposed Special Area Commercial Street
- Special Area Commercial Street Corridor
- Special Area Local Street Corridor
- Special Area Collector Corridor
- Arterial Corridor



FIGURE 7





Special Area Street Overlay Willow Creek, Merlo and Elmonica Area

-  Special Area Collector
-  Special Area Neighborhood Route
-  Special Area Local Street
-  Special Area Commercial Street
-  Proposed Special Area Collector
-  Proposed Special Area Neighborhood Route
-  Proposed Special Area Local Street
-  Proposed Special Area Commercial Street
-  Westside MAX

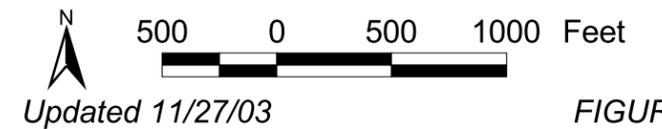
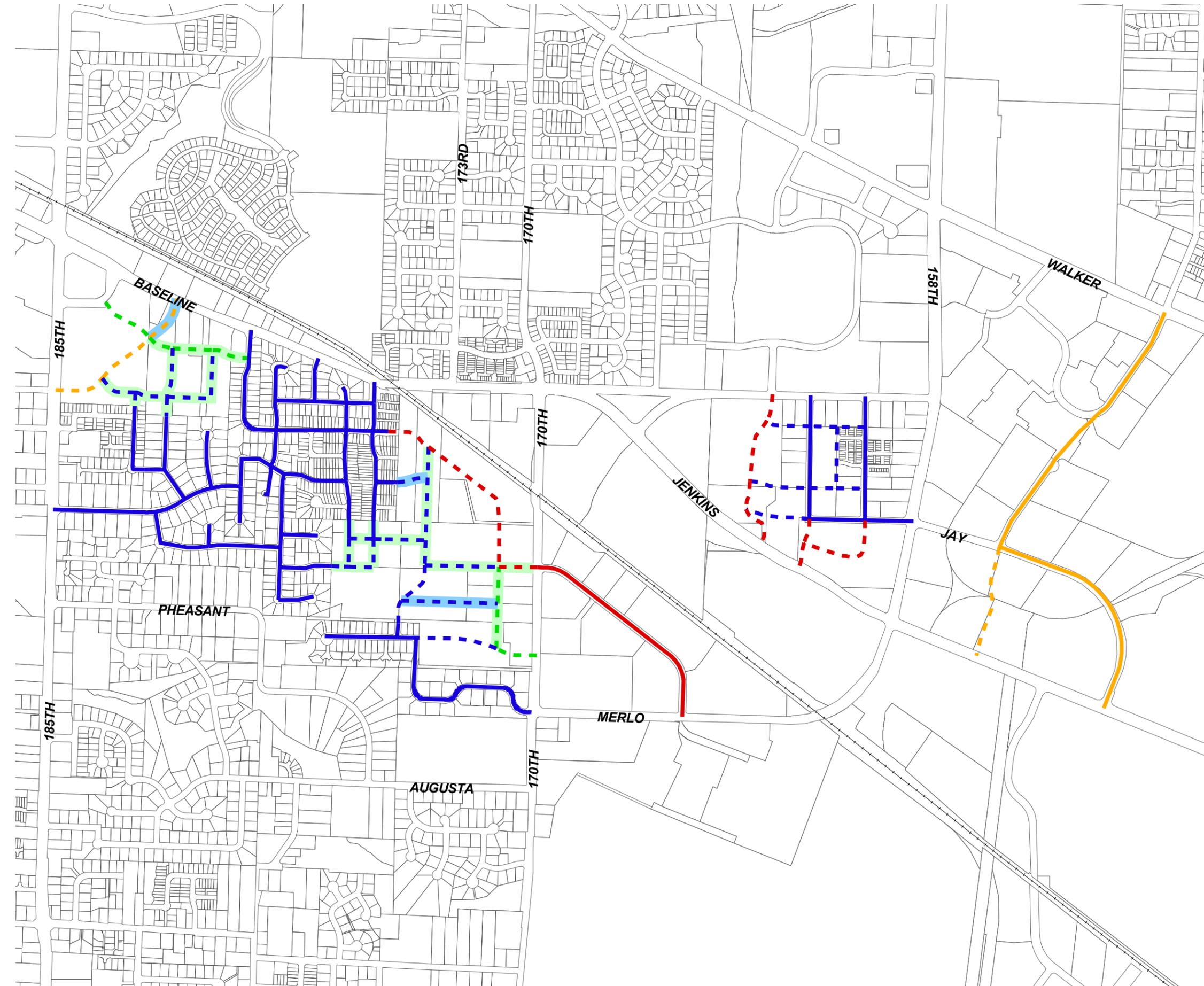
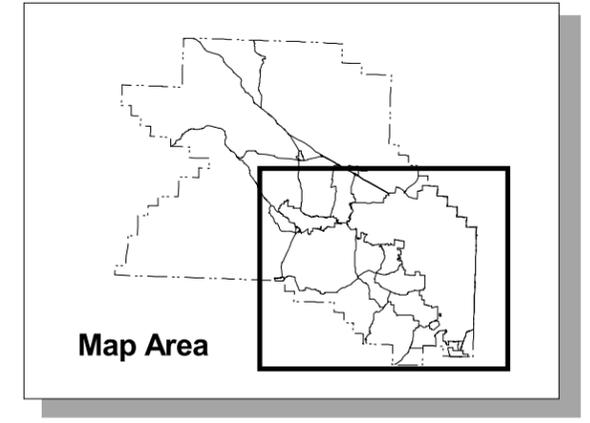
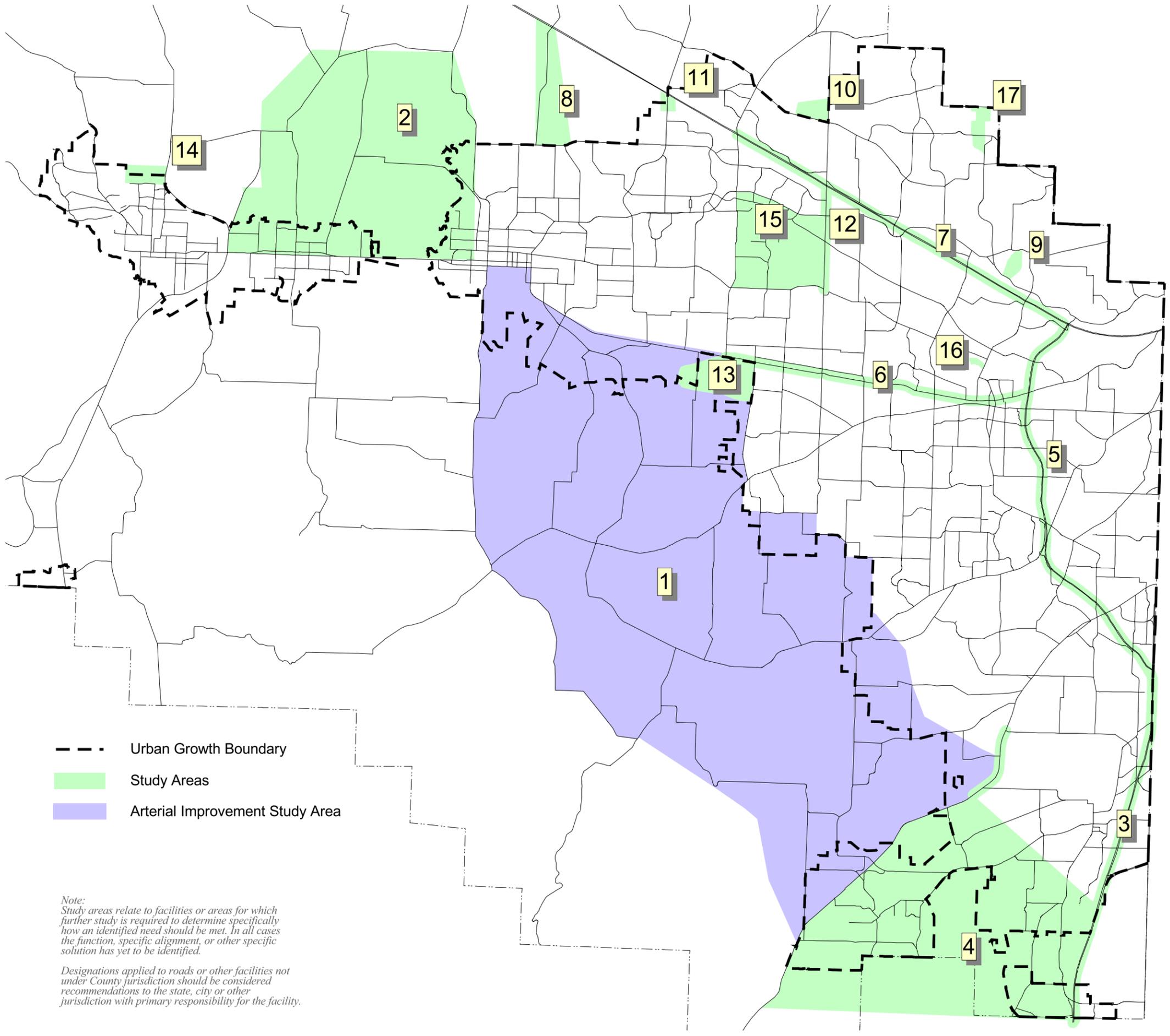


FIGURE 8





Washington County Study Areas



- 1 Hillsboro-Sherwood Improvement Area
- 2 Hornecker/Evergreen - Glencoe to Cornelius-Schefflin
- 3 Interstate 5 - Highway 217 to Wilsonville
- 4 Interstate 5 to Highway 99W connector
- 5 Highway 217
- 6 Tualatin Valley Highway
- 7 US 26/Sunset Highway
- 8 Jackson Rd. - US 26 to Evergreen
- 9 119th Ave - Cornell to Barnes
- 10 Springville Rd. - 185th to West Union
- 11 Meek Rd. - Realignment at Shute Rd.
- 12 185th Ave. - US 26 to Baseline
- 13 South Hillsboro Urban Reserve Street Plan
- 14 David Hill Rd. Extension Study Area
- 15 OSHU West Campus Study Area
- 16 Fairfield -Terman Extension Study Area
- 17 Saltzman Road Extension Study Area

--- Urban Growth Boundary
 Study Areas
 Arterial Improvement Study Area

Note:
 Study areas relate to facilities or areas for which further study is required to determine specifically how an identified need should be met. In all cases the function, specific alignment, or other specific solution has yet to be identified.

Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

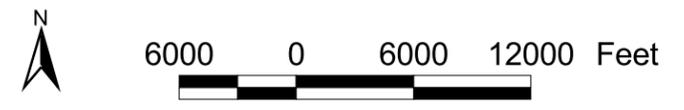
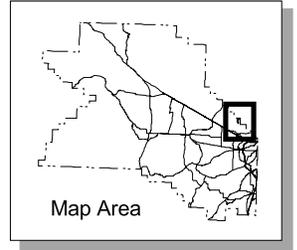
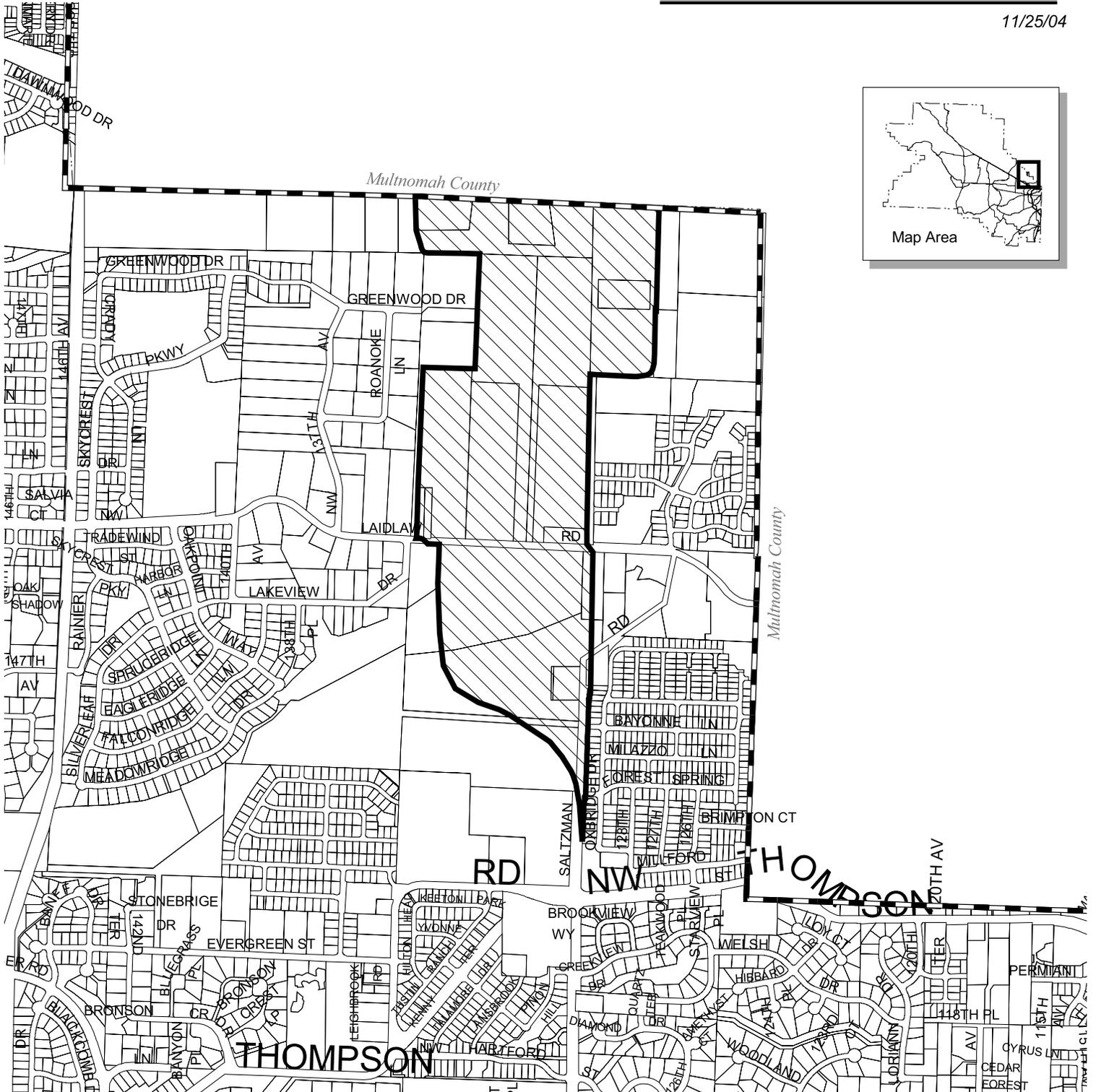


Figure 9A Saltzman Road Extension Study Area Overlay Map

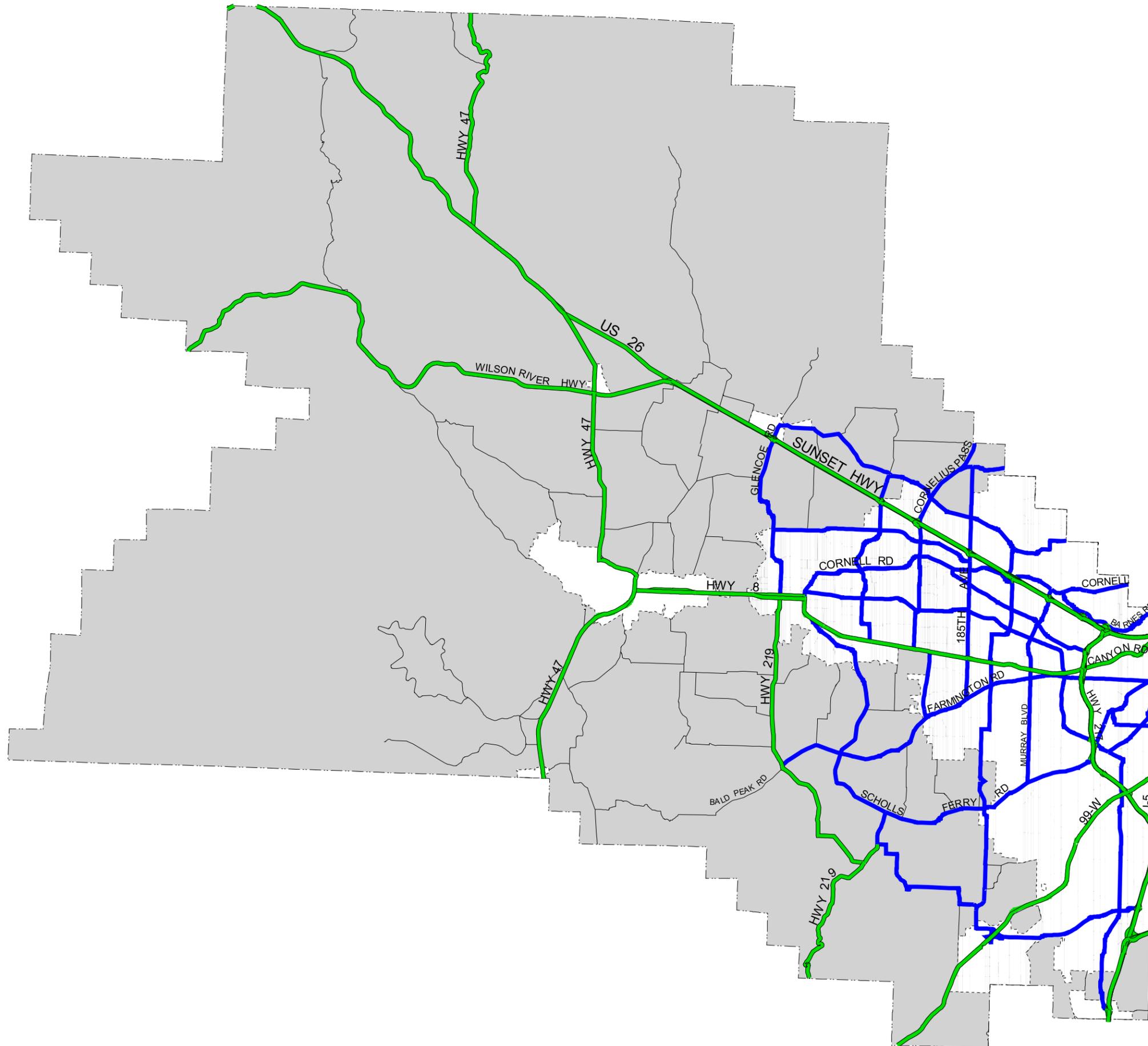
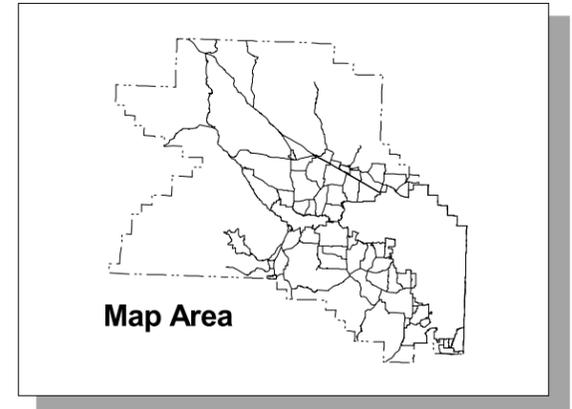
11/25/04



-  Saltzman Road Study Area
-  Urban Growth Boundary



700 0 700 Feet

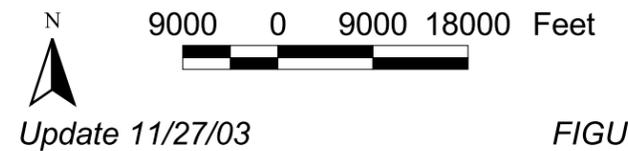


Countywide Road System

-  State-
Long term, these roadways are proposed to be under State jurisdiction.
-  County-
Long term, these roadways are proposed to be under County jurisdiction.
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

The Countywide Road System Map identifies a network of State, County and city roadways that serve major intra-county trips. Long-term elements of this network are proposed to be either under State or County jurisdiction as indicated on the Map. Transfer of jurisdiction would be considered and negotiated on a case-by-case basis.



Washington County 2020 *Transportation Plan*

Transit System Element



Transit System Element

Introduction

Although the County and other local jurisdictions participate in regional decisions affecting transit planning and system development, TriMet has primary responsibility for providing transit services within Washington County. In addition, since transit is a regional service, Washington County's interests must be considered within the context of other regional interests.

Transit Background

TriMet currently operates 32 fixed bus routes plus MAX light rail within Washington County. The existing system is designed with the Westside MAX as the spine for travel east-west with feeder bus routes to rail stations or transit centers. The total passenger activity for all bus and rail routes on a typical weekday is 91,000 (TriMet, 2001). The highest patronage is along the MAX line that carries about one-third of the riders in the county.

Generally, most of the urban area of the county is served by bus or light rail. Transit coverage compares the transit service area to land use. The results indicate that the transit service buffer currently covers approximately 83% of the transit supportive areas. In general, the frequency of transit service is adequate in the urban area today. Exceptions include Beaverton-Hillsdale Highway between ORE 217 and Scholls Ferry Road and the Durham area west of Boones Ferry Road.

Para-transit service is aimed at providing access to the transit system for the special needs population. For TriMet's LIFT program, the origin or destination must be located within TriMet's service boundary and within 3/4 of a mile of fixed route service. The LIFT program generally covers the entire urban area, with a few exceptions. There is also a service called "Ride Connection" that provides transportation services on an as-available basis for transportation disadvantaged persons who may be located outside TriMet's service area boundary in Washington, Clackamas or Multnomah County. Ride Connection is a private non-profit and includes a network of over 30 agencies and senior centers and over 500 volunteers providing 198,000 rides annually.

Future transit services within Washington County are largely determined through the regional transportation and transit planning processes of Metro and TriMet. The RTP responds to state and regional transportation directives to reduce reliance on the automobile. Strategies for accomplishing this include modifying land use patterns and improving systems and services supporting non-auto travel modes. Responding to this, the RTP makes a significant commitment to improving transit services.

Transit also has a major role in supporting recent land use changes made to further the 2040 Regional Growth Concept, the region's long-term growth strategy. This strategy calls for focusing a significant portion of future growth in Regional and Town Centers, in Light Rail Station Communities, and in Corridors. The transit element serves these areas by providing high-quality, relatively high-speed connections between them and by supporting access to and from them to nearby neighborhoods.

The transit plan for the County is based on the Priority Network in the RTP. Planned transit service types in Washington County are shown on the Transit System Map (Figure 11), and future transit service may include the following:

- Light Rail Transit - Provides frequent and high capacity service along a mostly exclusive right-of-way with limited stops. LRT runs at least every 10 minutes during the weekday and weekend midday base periods.
- Commuter Rail - Uses existing freight railroad tracks for passenger service, on either a shared or exclusive basis. Commuter rail service is most often concentrated during peak commute periods.
- Rapid Buses - Run at least every 15 minutes during the weekday and weekend midday base periods and are similar to LRT in terms of speed, service and comfort.
- Frequent Buses - Run at least every 10 minutes on selected transit corridors and may include reserved bus lanes, signal preemption and enhanced passenger amenities.
- Regional Buses - Operate with maximum frequencies of 15 minutes along routes with conventional bus stop spacing. Transit preferential treatments and passenger amenities are available at high ridership locations.
- Demand Response Transit - Demand Response Transit provides service to riders when and where it is needed. It includes types of dial-a-ride, shared ride and shuttle services. It provides flexibility that fixed route service can not, as well as more comprehensive transit coverage. Demand Response Transit service is intended to be in addition to the expanded fixed route service and express transit service.

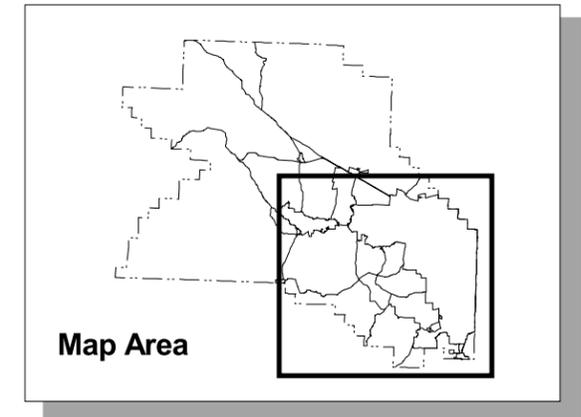
12.0 TRANSIT POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENCOURAGE AND SUPPORT DEVELOPMENT OF TRANSIT FACILITIES AND SERVICES THAT INCREASE TRANSIT USE IN WASHINGTON COUNTY.

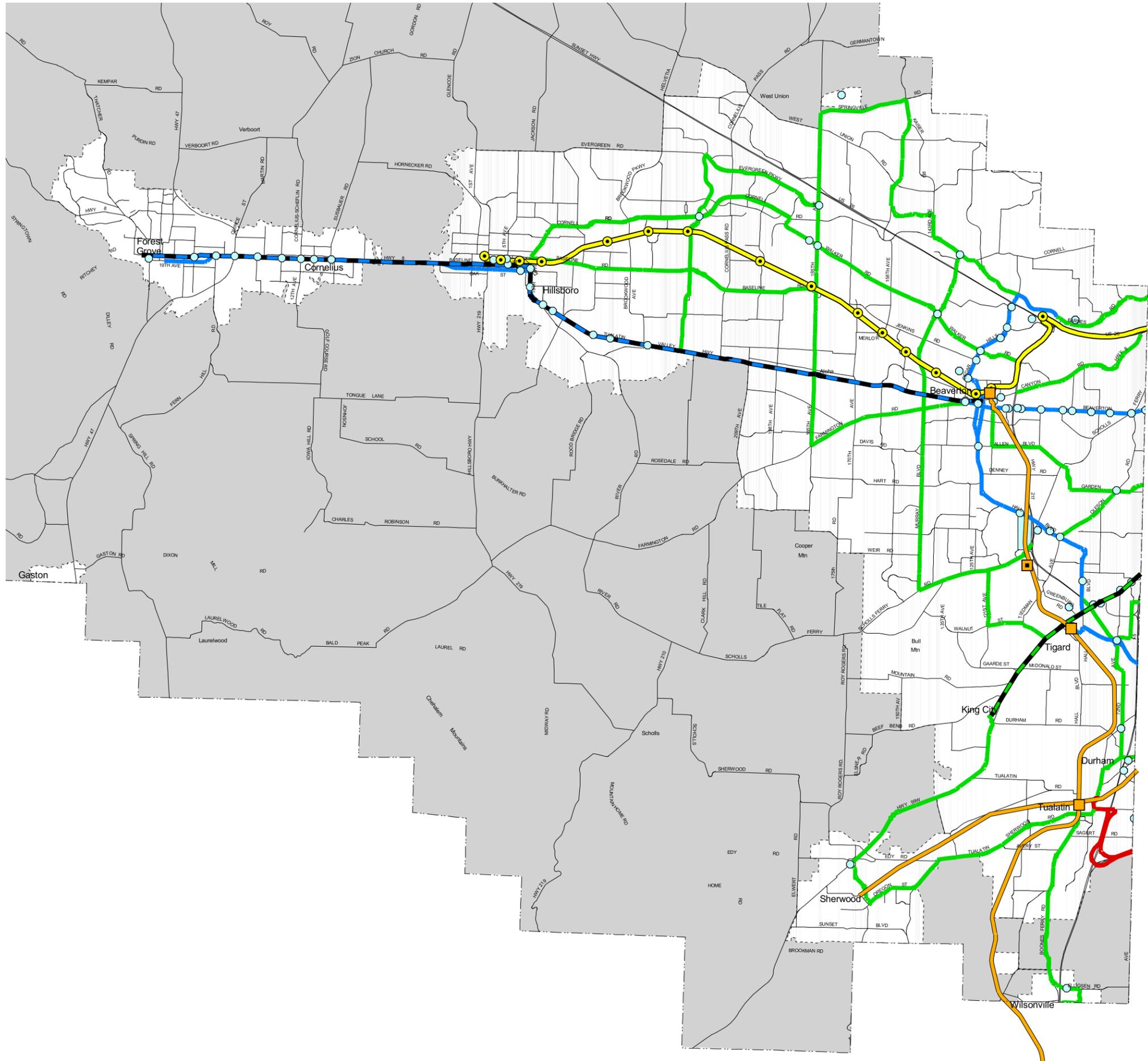
Strategies:

- 12.1 Work with TriMet, Metro, commercial rail carriers, ODOT, aviation service providers, transportation service providers, and other agencies to improve transit facilities and service to Washington County residents and businesses.
- 12.2 Coordinate with TriMet, Metro, ODOT and other agencies to provide appropriate signal priorities along frequent and rapid bus transit routes identified in the Regional Transportation Plan.
- 12.3 Partner with TriMet and other agencies to improve bike and pedestrian access to transit stops, particularly Major Transit Stops, and to make transit waiting areas safe and comfortable.
- 12.4 Partner with Metro, TriMet and other agencies to provide an appropriate level, quality and range of public transportation options to serve the variety of special needs individuals in the region and support the implementation of the 2040 Growth Concept. Rely on and support the implementation of the Tri-County Elderly and Disabled Transportation Plan as a guide for providing services for the special needs population.

- 12.5 Ensure that road improvements and private development in close proximity to major bus stops, commuter rail stations and existing and proposed light rail stations include appropriate features to support and complement existing and future transit services.
- 12.6 Participate in efforts to identify and provide transit facilities and services necessary to make progress towards mode share targets adopted in Strategy 5.3 of this Plan.
- 12.7 Support appropriate commercial bus service between Washington County and other parts of the state and ensure these services are integrated with the Regional transit system.
- 12.8 Provide pedestrian and bicycle access to existing and proposed light rail stations and bus stops through road, bicycle and pedestrian capital improvement and maintenance projects and in conjunction with new development.
- 12.9 Coordinate with federal, state, regional and local agencies to ensure the timely construction and operation of commuter rail between Wilsonville and Beaverton.
- 12.10 Work with TriMet, Metro and local governments to provide more north-south transit services throughout urbanized Washington County.
- 12.11 Work with TriMet, Metro and other affected agencies to research, investigate and develop new and alternative technologies that will lead to improved transit services.
- 12.12 Support the provision of public transit between rural cities and urban activity areas where it is cost-effective and warranted by demand.
- 12.13 Coordinate with federal, state, regional and local agencies to explore the expansion of commuter rail lines to Hillsboro, Forest Grove, Salem, Milwaukie and into Yamhill County.
- 12.14 Work with TriMet, Metro and local governments to implement, as appropriate, the Transit Choices for Livability Plan.



Transit System



- Future Commuter Rail
- West Side MAX
- Frequent Bus
- Regional Bus
- Rapid Bus
- Frequent Bus with Potential Light Rail or Rapid Bus
- Regional Bus with Potential Light Rail or Rapid Bus
- Commuter Rail Station
- Interim Commuter Rail Station
- Light Rail Stop
- Major Bus Stop
- Commuter Rail Station Study Area
- Area outside the Urban Growth Boundary
- Urban Growth Boundary
- County Line

NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 11

Washington County 2020 *Transportation Plan*

Demand Management Element



Demand Management Element

Introduction

Transportation Demand Management (TDM) is the general term used to describe any activity that provides an alternative to single occupant vehicle trips during peak travel demand periods. Demand management encompasses a range of strategies such as carpooling, staggered work shifts, or telecommuting. These strategies -- which encourage strategies such as ridesharing (e.g., car- or van-pooling); transit use (e.g., fare subsidies), bicycle commuting (e.g., on site showers, lockers or bike parking), walking to work, or providing flexible working hours -- are viewed as relatively low-cost initiatives that can help reduce traffic congestion and air quality problems. As growth in the Washington County area occurs, the number of vehicle trips and travel demand in the area will also increase. The ability to provide alternatives will help accommodate this growth.

Demand Management Background

Demand management strategies and programs have taken on increased importance and emphasis in recent years, as interests in improving air quality and reducing the need for additional capacity on our transportation system have increased.

In response to air quality problems, employers with more than 50 employees are now required by state regulations to have programs in place that reduce the percentage of employees who drive alone to work. Transportation Management Associations (TMAs), are typically public/private partnerships that have been established in some areas to coordinate and assist firms in complying with these regulations and to be advocates for activities that reduce demands on our roadway system. There are currently two TMAs in Washington County: the Westside Transportation Alliance and the Tualatin Transportation Management Association.

Heightened interest in these programs is reflected in shifts in state and regional policy, which is most clearly reflected locally in provisions of the recently adopted Regional Transportation Plan (RTP). The RTP establishes "mode share targets" for the region, which are expressed in the form of the percentage of trips that are made in some fashion other than driving alone in a car. The mode share targets are implemented by strategies that help achieve the targets on a county- or region-wide basis.

13.0 DEMAND MANAGEMENT POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENCOURAGE AND SUPPORT IMPLEMENTATION OF DEMAND MANAGEMENT PROGRAMS THAT REDUCE THE NUMBER OF SINGLE OCCUPANT VEHICLE TRIPS AND/OR SHIFT TRAFFIC TO OFF-PEAK TRAVEL HOURS.

Strategies:

- 13.1 Support and participate in development of travel demand management and reduction strategies, such as rideshare, preferential parking and flextime programs, among others.
- 13.2 Support and participate in Metro's, TriMet's and Transportation Management Associations' efforts to develop, monitor and fund regional TDM programs.
- 13.3 Work with and support Transportation Management Associations, major employers and business groups to develop and implement demand management programs to work towards mode share targets adopted in this Plan.
- 13.4 Regulate and manage the provision of parking facilities to achieve regional and state standards utilizing provisions in Community Plans and the Community Development Code.
- 13.5 Explore the use of new strategies to manage and reduce travel demand and to make more efficient use of capacity on the transportation system.
- 13.6 The County will examine the merit, feasibility and methodology involved in establishing a public education program to reduce trips by drivers of automobiles and trucks. The County may chose to engage its regional partners to pursue a region-wide effort that includes, but is not limited to, a substantial and sustained public education effort regarding strategies that will reduce the average number of vehicular trips made daily, especially in the peak hours.

Washington County 2020 *Transportation Plan*

Pedestrian Element



Pedestrian Element

Introduction

Washington County residents historically have recognized walking as an important form of transportation. Walking provides access to a variety of destinations, including schools, transit, shopping and employment. The 2020 Transportation Plan dramatically elevates the importance of and the need to support pedestrian travel from the 1988 County Transportation Plan, in part because of strengthened pedestrian policies at the state and regional levels, but also to implement Comprehensive Plan changes that have created and will continue to create mixed-use environments well-suited to pedestrian travel. Light Rail Station Communities, Regional and Town Centers, Transit Corridors and Main Streets are among the areas that are or will be in the future most amenable to pedestrian travel.

Pedestrian Background

Washington County's urban pedestrian system consists of sidewalks along streets, off-street trails, and off-street neighborhood connections built through the development process. In the rural area, the pedestrian system consists of an on-street pedestrian network consisting of wide shoulders along County and State roads. These wide shoulders also are intended for use by bicyclists and slow-moving farm equipment.

Key elements of the urban pedestrian system are on-street sidewalks, off-street trails, crossing locations, connectivity, illumination and streetscape amenities. On-street sidewalks form most of the pedestrian system in urban Washington County.

In the rural area, due to the low population density and the lack of pedestrian destinations, the Pedestrian System Map (Figures 12a-f) identifies specific areas where pedestrian improvements are called for. The rural pedestrian activity areas are locations where there is a pedestrian destination(s) and nearby residences within walking distance. Within these areas, wide shoulders are called for in order to provide for safe pedestrian travel.

The off-street pedestrian network consists of existing and planned paved multi-use trails and pathways that are generally located within drainage and utility corridors, parks and other public rights of way (See Figures 12a-f). In unincorporated Washington County, off-street trails are constructed and maintained by trail providers and homeowners' associations. Trail providers include THPRD and cities. Trails and pathways constructed as part of private development are often maintained by homeowner's associations. The trails and pathways shown on the Off-Street Trail System includes trails from the RTP's Regional Pedestrian System, Metro's Greenspaces Master Plan, THPRD's Trails Master Plan, and Special Area Off-Street Pathways and Trails identified through light rail station area and regional and town center planning efforts. All trail alignments are generalized. Specific alignments will be determined through the development review process or a specific planning process for a trail.

Gaps in the existing sidewalk system constitute the major deficiency in the urban pedestrian system. The February 2001 sidewalk inventory shows there are approximately 211 miles of missing sidewalks along urban county Arterial, Collector and Neighborhood Route streets. There are also approximately nine miles of missing sidewalks on state arterials. The missing sidewalks will be constructed over time as part of public roadway projects, private development of adjacent land and as infill pedestrian improvement projects. The majority of sidewalk improvements will be made as infill sidewalk improvement projects, independent of roadway projects.

There are a number of state and regional pedestrian provisions that are addressed in the Pedestrian Policy's strategies, including the state Transportation Planning Rule and the Regional Transportation Plan (RTP). Key requirements include constructing sidewalks along new urban streets and providing sidewalks along existing streets when they are reconstructed. New state legislation also requires the identification of safe routes to schools in order to increase pedestrian safety to and from schools. Strategy 8.6 in Policy 8, Roadway Safety, addresses this legislation. The RTP also identifies key pedestrian-oriented areas and streets that are to have enhanced pedestrian amenities. The Pedestrian policy's strategies identify other key actions needed to guide continued development of the pedestrian system over time, which will result in significant improvements to Washington County's pedestrian system. These strategies define a program that, over time, will result in a much more complete pedestrian system that is safe, convenient and attractive, making it easier for the public to walk to their destinations.

14.0 PEDESTRIAN POLICY

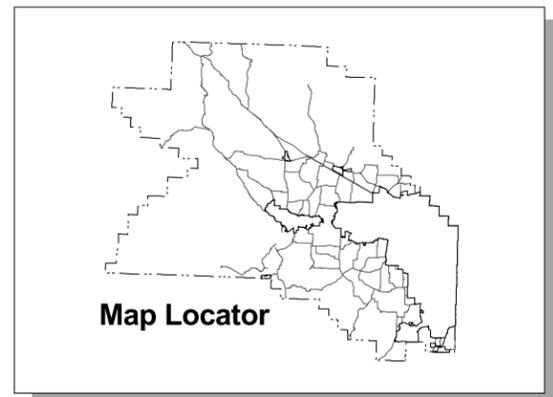
IT IS THE POLICY OF WASHINGTON COUNTY TO ENCOURAGE AND SUPPORT GREATER PEDESTRIAN ACTIVITY IN THE COUNTY BY PROVIDING AND MAINTAINING AN ENVIRONMENT WHERE WALKING IS A SAFE, CONVENIENT AND PLEASANT MODE OF TRAVEL.

Strategies:

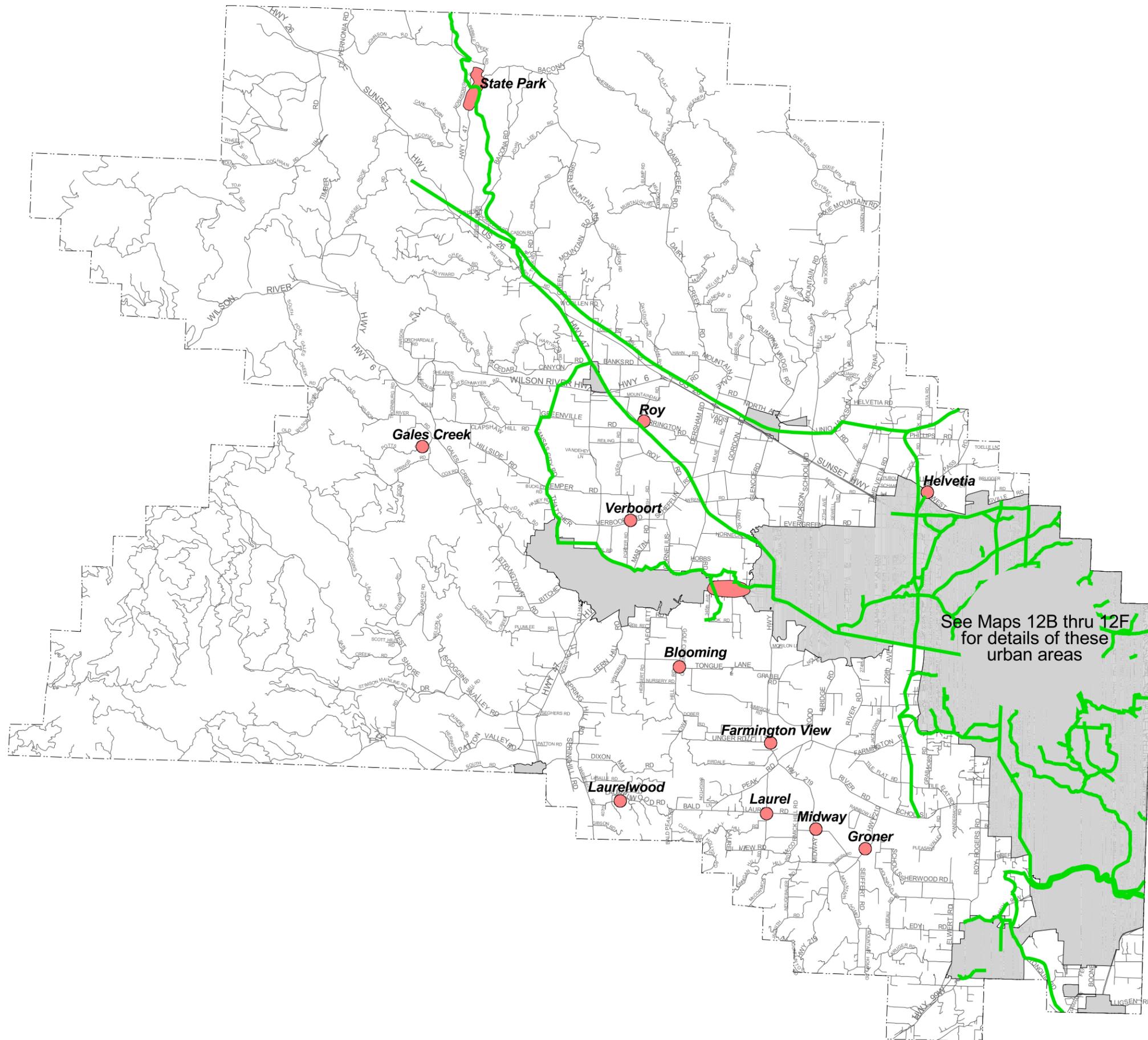
- 14.1 Foster a safe, convenient and pleasant pedestrian environment by providing for the development of a well designed, efficient and interconnected system of pedestrian facilities consisting primarily of sidewalks on the street system but utilizing separate accessways for pedestrians and bicycles when street connections are impractical or unavailable.
- 14.2 Construct pedestrian facilities on all new streets as provided in the Community Development Code and/or Community Plans. Provide pedestrian facilities and appropriate illumination on all new or reconstructed urban Arterials, Collectors, Neighborhood Routes, and Local and Special Area streets, including intersection improvements.
- 14.3 Consider activities on adjacent existing and planned land uses when determining appropriate pedestrian supportive features to be included with Arterial, Collector, and Neighborhood Route roadway improvements.
- 14.4 Construct pedestrian facilities, as appropriate, to full or interim standards on existing streets that are not built to ultimate standards. Develop standards for interim pedestrian improvements, including asphalt pathways.
- 14.5 Require that new urban development provide for safe, convenient and pleasant pedestrian travel as provided through the Transportation Plan, the Community Plans and/or the Community Development Code.
- 14.6 Identify and prioritize in the Transportation Capital Improvement Program and the Operations and Maintenance Annual Work Program the construction of missing pedestrian facilities, reconstruction of substandard pedestrian facilities and the provision of crossing and streetscape improvements on Arterials, Collectors, and Neighborhood Routes.

- 14.7 Work, as appropriate, with Metro, Tualatin Hills Park and Recreation District (THPRD), cities, other agencies and organizations, and private development to plan, map, and construct an off-street system of multi-use trails and pathways.
- 14.8 Develop and utilize standards for pedestrian facilities and amenities that adequately address pedestrian safety, sidewalk width, ease of street crossing, illumination, connectivity and streetscape improvements and amenities. In Pedestrian Districts and along Transit Corridors, Main Streets and Streetscape Improvement Areas shown on the Pedestrian System Map and roadways and intersections identified on the Regional Street Design Overlay Map, develop standards for enhanced pedestrian facilities and amenities that support the planned pedestrian environment. In areas where pedestrians are expected during non-day-light hours, such as transit routes, Main Streets and Pedestrian Districts, standards for pedestrian-scale lighting shall be developed. Appropriate improvements, based upon these standards, shall be included in new urban development and urban road projects. (See Appendix C of the Technical Appendix for examples of specific types of improvements.)
- 14.9 Employ the following pedestrian classification definitions:
- A. Major Bus Stops: Major bus stops are all stops on rapid bus lines and major bus stops designated in the Regional Transportation Plan. Development in close proximity of major bus stops shall comply with the standards of Community Development Code Section 380, Convenient Access to Transit Overlay District. Major bus stops are identified on the Transit System Map and in the Community Plans.
 - B. Off-Street Pathways (includes special area off-street pathways): These paved, multi-use pathways serve an important circulation function in areas not well served by the street system and provide short cuts between origins and destinations. An accessway, which provides a short connection between two roadways, is an example of a pathway serving a circulation function. Special area off-street pathways are pathways that are located in a transit-oriented district. Off-street pathways are identified on the Off-Street Trail System Map and the Community Plans.
 - C. Pedestrian Connectivity Areas: Pedestrian connectivity areas are locations in the urban, unincorporated area where pedestrian facilities are needed to enhance local pedestrian connectivity. Generally, these are areas where the pedestrian facilities will connect neighborhoods and/or provide a more direct route for pedestrians to use. Pedestrian connectivity areas identify the specific locations that are to be connected. Appropriate types of pedestrian improvements include sidewalks along streets, accessways, off-street trails, or a combination of two or more of these improvements. In some instances, a particular type of improvement may be identified for construction, such as an accessway or off-street trail. The appropriate type(s) of pedestrian facilities and their location will be identified through the development review process, except in those areas where a specific facility is shown, and constructed as part of development within these areas. Pedestrian connectivity areas are identified in the Community Plans.

- D. Pedestrian District: Pedestrian districts are Regional and Town Centers and Light Rail Station Communities. These areas are planned for dense, mixed-use development and are served by transit. All streets within these areas are important pedestrian connections. These areas shall be developed in a manner that makes walking a safe, convenient and interesting travel mode. These areas will be characterized by buildings oriented to the street, wide sidewalks, marked street crossings (with special crossing amenities at some locations), pedestrian-scale lighting, benches, bus shelters, awnings and street trees. The Pedestrian Districts located within urban, unincorporated Washington County are identified on the Pedestrian System Map. Regional and Town Centers and Light Rail Station Communities located within Washington County cities are shown in city comprehensive plans.
 - E. Pedestrian Focus Area: Pedestrian focus areas are located within pedestrian districts. They have nearby transit service and will exhibit the characteristics of a pedestrian district. Walking is promoted as the preferred transportation mode choice by developing a strong pedestrian scale and emphasizing pedestrian access and activities. Generally, these areas will have the highest level of pedestrian amenities and pedestrian-scale design. Pedestrian focus areas are identified in the Community Plans.
 - F. Pedestrian Plaza: A pedestrian plaza is a small semi-enclosed area which provides a place for pedestrians to sit, stand or rest. They are generally located at a transit stop, a building entrance or an intersection. They connect directly to adjacent sidewalks, walkways, transit stops and buildings. Pedestrian plazas have amenities, such as pedestrian scale lighting and seating.
 - G. Special Area Trails: Special area trails are located in transit oriented districts and are intended to serve recreational walking trips (for example, along a stream or through a park). Special area trails are identified on the Off-Street Trail System Maps and in the Community Plans.
- 14.10 Provide four-to six-foot wide shoulders along Arterials, Collectors and Neighborhood Routes in Rural Pedestrian Activity Areas to provide for safe pedestrian travel. Shoulder width will be dependent upon the functional classification of a roadway and if it is designated as a rural bike route.
 - 14.11 Develop criteria to prioritize the construction of needed pedestrian facilities, including crossing, connectivity and streetscape improvements.
 - 14.12 Update the pedestrian inventory map and pedestrian accident data on a periodic basis to assist in the identification of needed improvements.
 - 14.13 Review and modify as appropriate minimum landscaping and irrigation standards for the construction or reconstruction of Arterials, Collectors and Neighborhood Routes.
 - 14.14 In addition to the pedestrian improvements required by the Community Development Code, development shall provide needed pedestrian improvements as part of future development in Pedestrian Connectivity Areas. The type and location of the pedestrian facility (ies) in these areas will be determined through the development review process unless a specific improvement is called for. Pedestrian facilities may include sidewalks along streets, accessways or off-street trails.



Trails and Pedestrian System



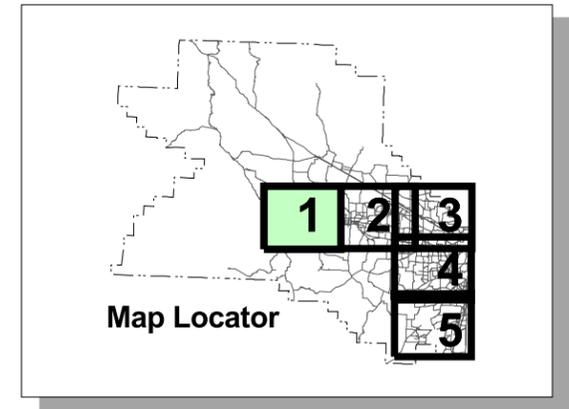
- Off Street Trails (existing and planned)
- Rural Pedestrian Activity Areas
- Area inside the Urban Growth Boundary

See Maps 12B thru 12F for details of these urban areas

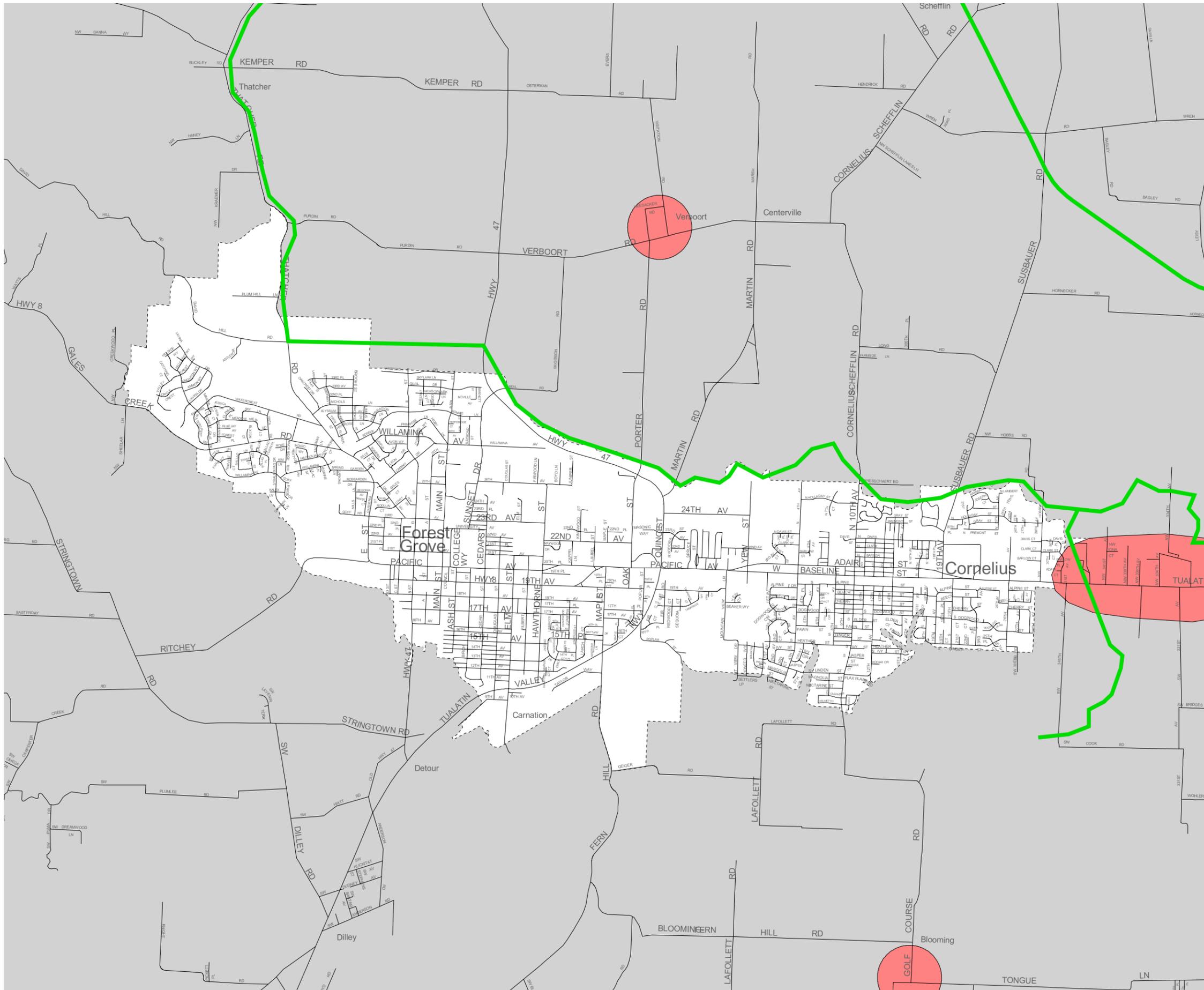
NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12A



Trails and Pedestrian System

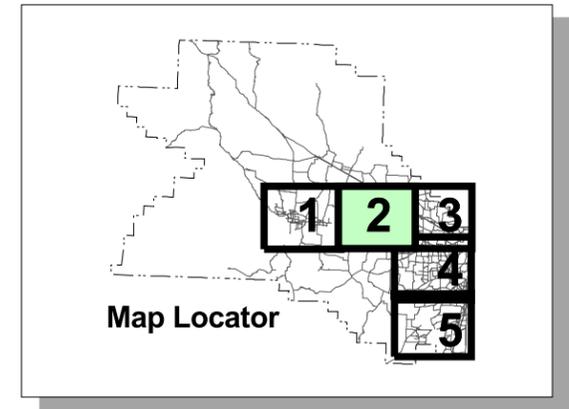


-  MAX Line
-  MAX Station
-  Proposed Commuter Rail Line
-  Proposed Commuter Rail Station
-  Off Street Trails (existing and planned)
-  Streetscape Improvement Areas
-  Pedestrian District
-  Rural Pedestrian Activity Areas
-  Street System
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

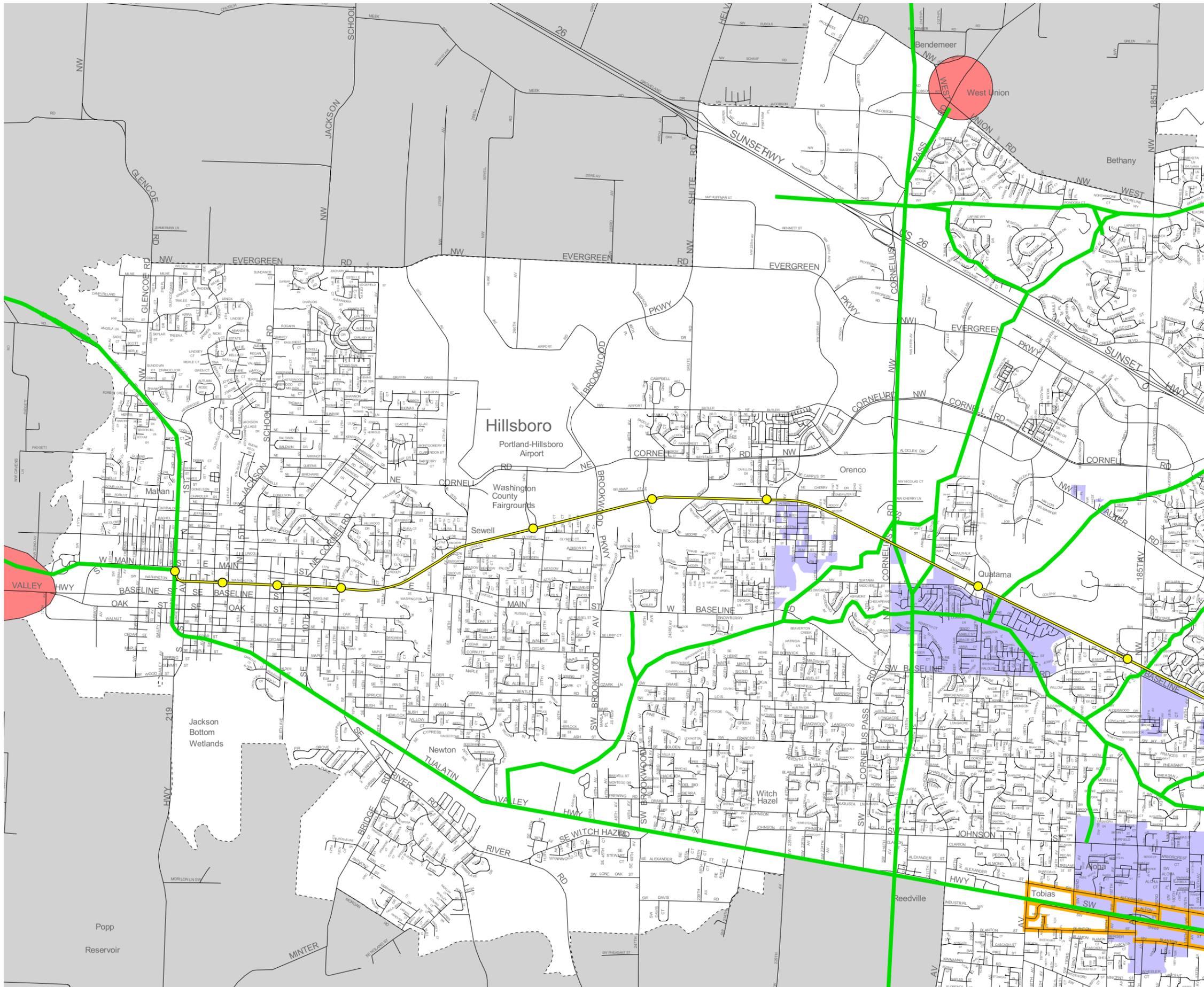
NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12B



Trails and Pedestrian System

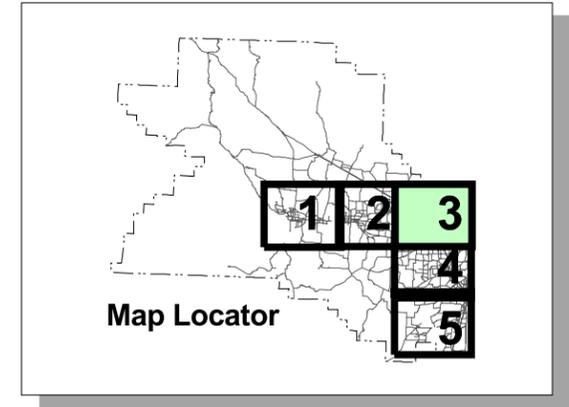


-  MAX Line
-  MAX Station
-  Proposed Commuter Rail Line
-  Proposed Commuter Rail Station
-  Off Street Trails (existing and planned)
-  Streetscape Improvement Areas
-  Pedestrian District
-  Rural Pedestrian Activity Areas
-  Street System
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

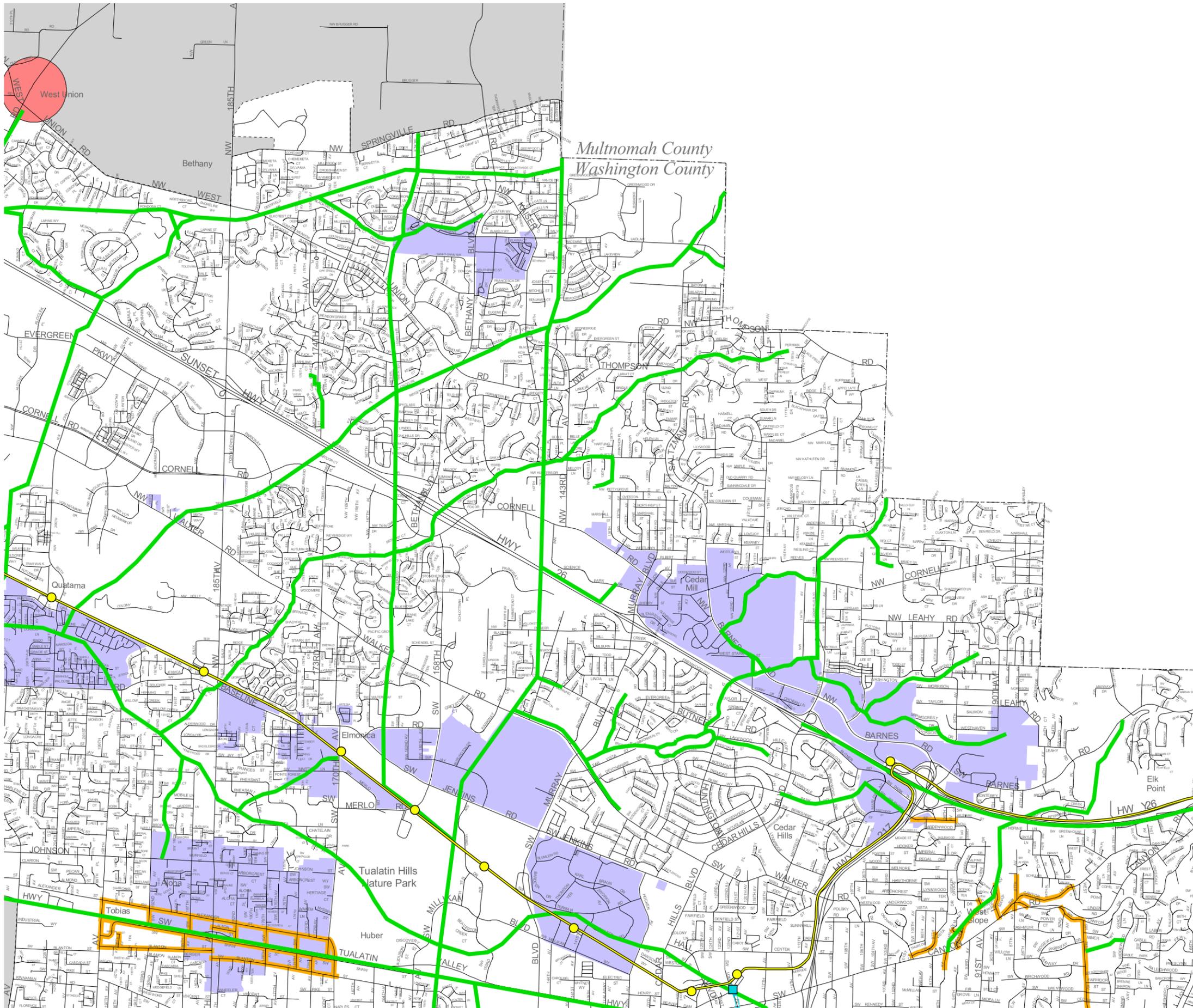
NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12C



Trails and Pedestrian System

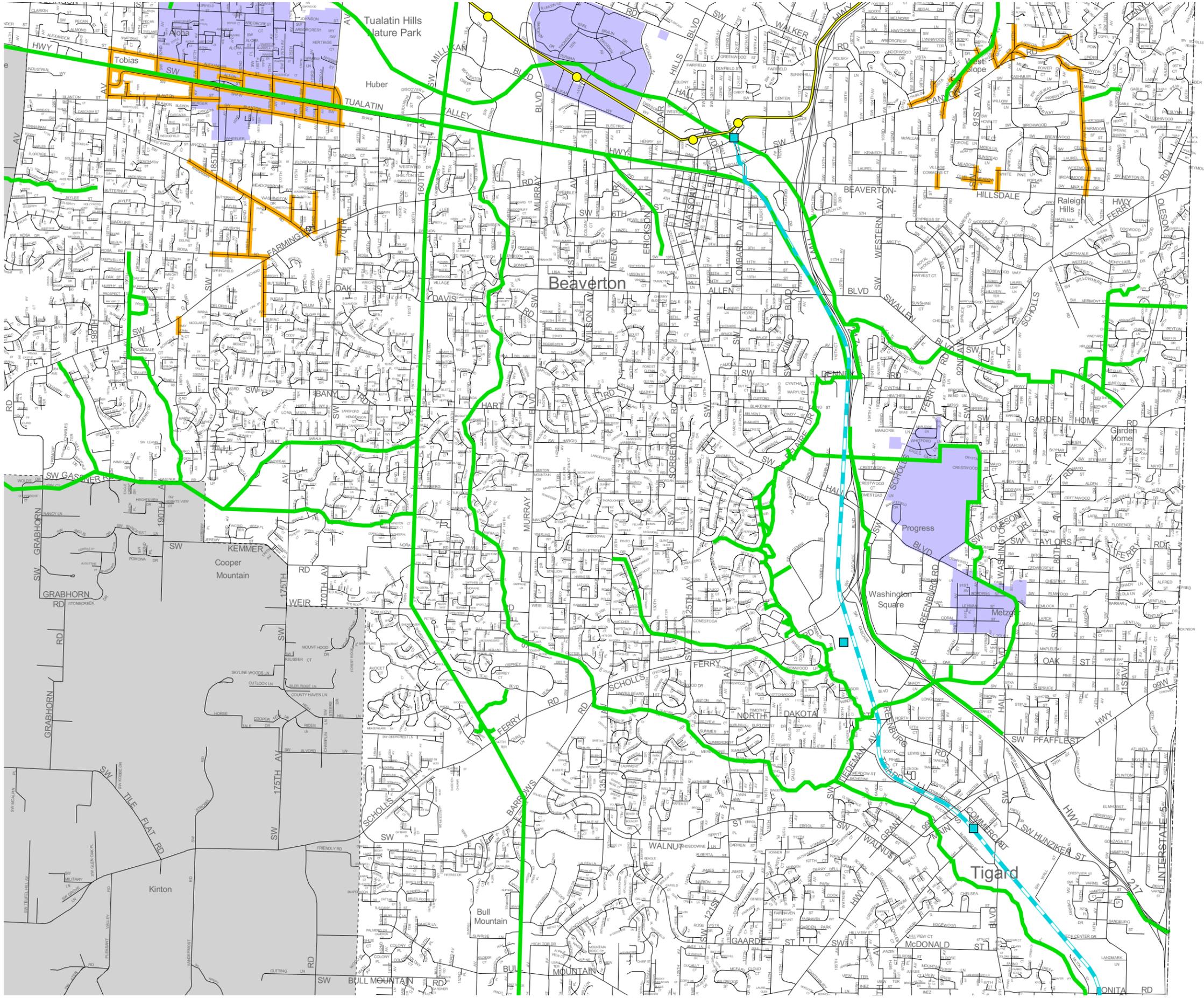
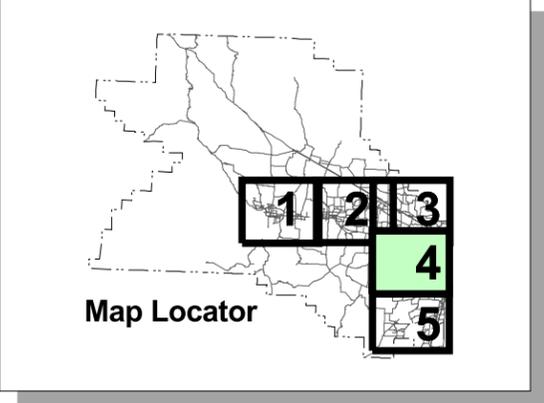


-  MAX Line
-  MAX Station
-  Proposed Commuter Rail Line
-  Proposed Commuter Rail Station
-  Off Street Trails (existing and planned)
-  Streetscape Improvement Areas
-  Pedestrian District
-  Rural Pedestrian Activity Areas
-  Street System
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12D



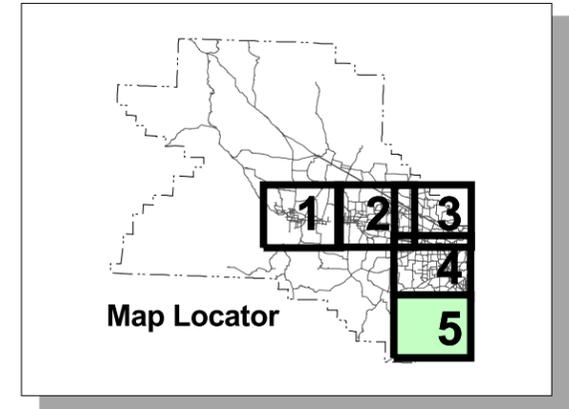
Trails and Pedestrian System

-  MAX Line
-  MAX Station
-  Proposed Commuter Rail Line
-  Proposed Commuter Rail Station
-  Off Street Trails (existing and planned)
-  Streetscape Improvement Areas
-  Pedestrian District
-  Rural Pedestrian Activity Areas
-  Street System
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

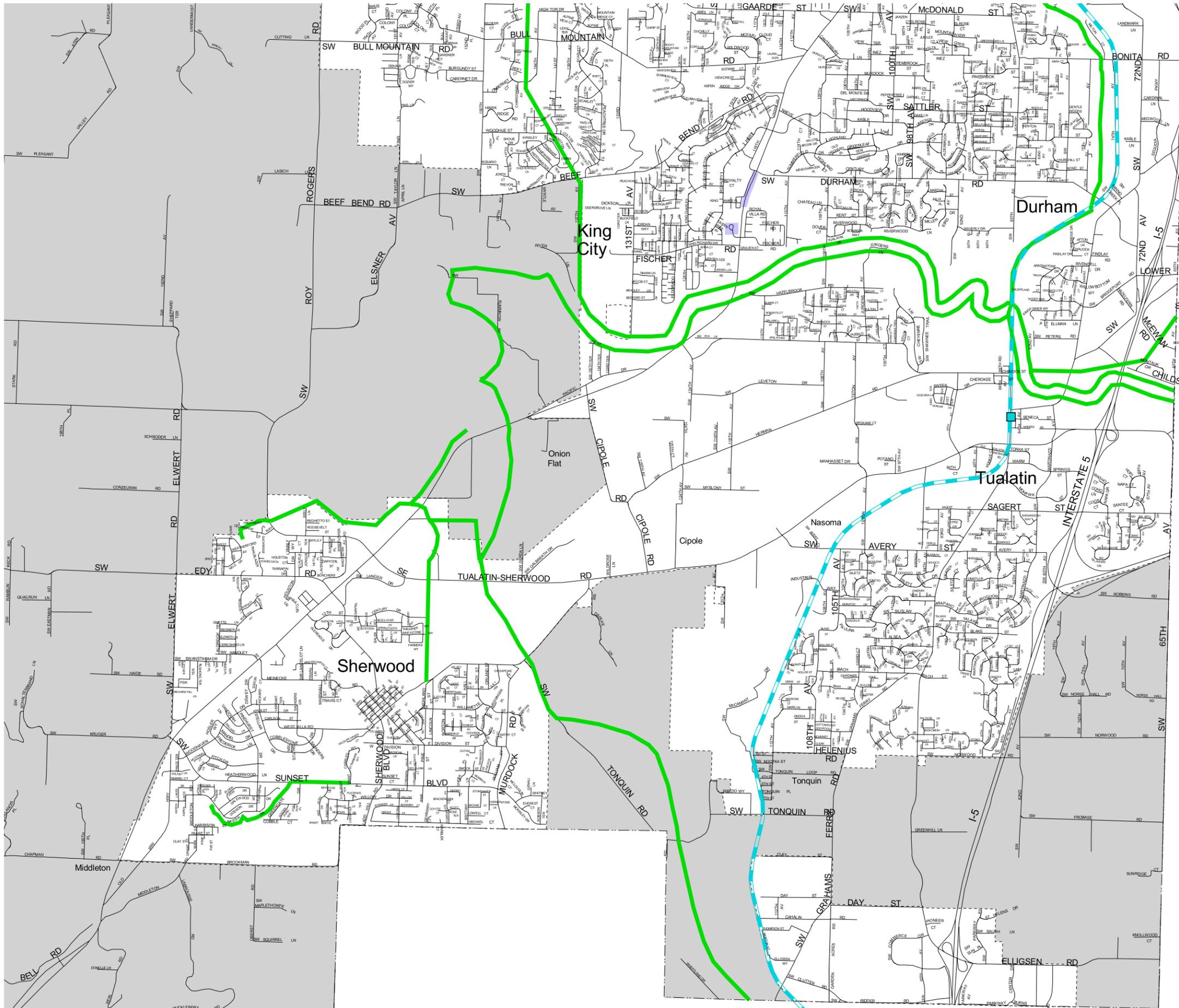
NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12E



Trails and Pedestrian System



-  MAX Line
-  MAX Station
-  Proposed Commuter Rail Line
-  Proposed Commuter Rail Station
-  Off Street Trails (existing and planned)
-  Streetscape Improvement Areas
-  Pedestrian District
-  Rural Pedestrian Activity Areas
-  Street System
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

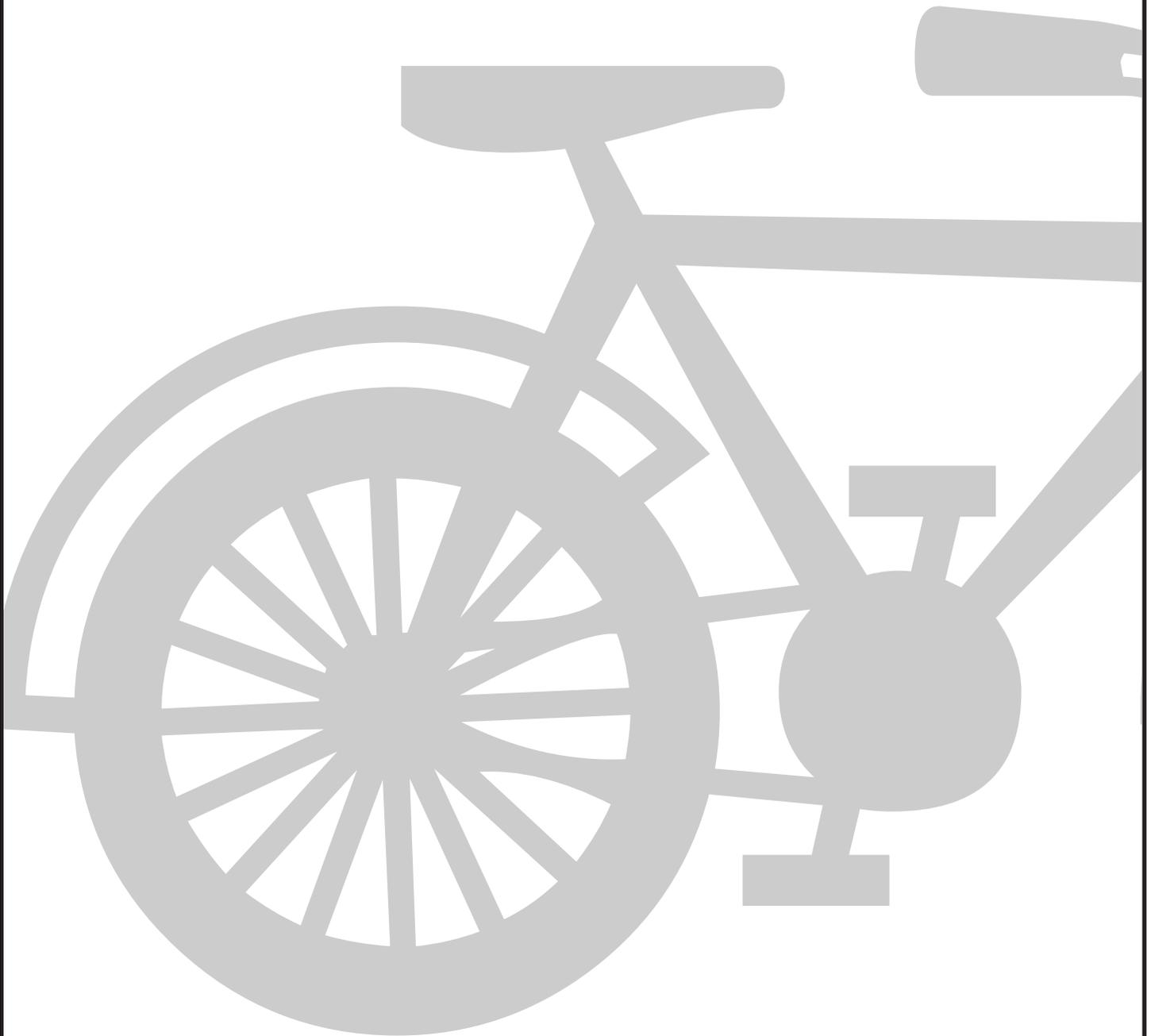
NOTE:
Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



FIGURE 12F

Washington County 2020 *Transportation Plan*

Bicycle Element



Bicycle Element

Introduction

The Bicycle Element of Washington County's Transportation Plan consists of a policy, strategies and a system map that define and support the development of the Planned Bikeway System. The Bicycle Element is intended to guide continued development of the bikeway system through the year 2020. The Bicycle Policy and strategies in this section must be considered in conjunction with the Bicycle System Map.

Bicycle Background

Planning for bicycles as part of Washington County's transportation system began in the early 1970's and continues to play a significant role in the county's Transportation Plan.

The Bicycle Element is intended to guide continued development of a system of bikeways, consisting of bike lanes and paved shoulders, through the year 2020. The Bicycle System Map (Figure 13) identifies on-street bikeways within the Urban Growth Boundaries that are proposed to be constructed as part of the countywide bicycle system network. It also shows those rural roadways that are proposed to include paved shoulders of at least five feet in width. The planned off-street trail network is shown on the Off-Street Trails Map.

Oregon State statutes, administrative rules and the Oregon Transportation Plan establish that bicycle facilities are required on all Collector or higher classification roadways when those roads are constructed or reconstructed. Exceptions are provided where a bikeway is not safe, where cost is excessively disproportionate to need or where there is an absence of need due to sparsity of population or other factors. The Plan has been developed to ensure its consistency with state and regional (as provided in the Regional Transportation Plan) guidelines and requirements.

The Regional Transportation Plan (RTP) identifies a Regional Bicycle System, which includes a classification hierarchy for those roads and off-street paths that are part of this system. The RTP's four bikeway classifications are 'regional access bikeway', 'regional corridor bikeway', 'community connector bikeway' and 'multi-use paths with bicycle transportation function'. The Regional Bicycle System classifications are based on a route's connectivity, access, and use characteristics. The design guidelines for each type of bikeway are included in Metro's publication *Creating Livable Streets: Street Design Guidelines for 2040*.

The streets and off-street pathways that are part of the RTP's Regional Bicycle System are also part of the County's planned bicycle system. Off-street pathways are shown on the Off-Street Trails Map. Although this Plan does not include a classification hierarchy for the bicycle system, as discussed below, system design is consistent with Metro's guidelines.

As of the date of this Plan, the Washington County Arterial and Collector street system has 64 miles of completed bikeways; in addition, there are 62 bikeway miles on state roadways within the County. The following table describes existing road miles with bicycle lanes and paved shoulders as well as additional miles to complete the system.

**Table 7: Bicycle Lanes/Paved Shoulder Inventory Summary
by Functional Classification (January 2002)**

| Roadway Functional Classification* | Total Road Mileage | Road Miles With Bicycle Lanes/Paved Shoulders | Percentage of Road Miles with Completed Bicycle Lanes or Paved Shoulders | Gap: Road Miles Without Bicycle Lanes or Shoulders & Percentage |
|------------------------------------|--------------------|---|--|---|
| State Principal Routes (ODOT) | 30.4 Miles | 22.6 Miles | 74% | 7.8 Miles or 26% |
| State Arterials | 31.4 Miles | 16.5 Miles | 53% | 14.9 Miles or 47% |
| County Arterials | 107 Miles | 60.7 Miles | 57% | 46.4 Miles or 43% |
| County Collectors | 75.9 Miles | 2.9 Miles | 4% | 73 Miles or 96% |

Note: Although portions of Sunset Highway (US 26) are considered to include paved shoulders on which bicycles are allowed, high traffic volumes and speeds as well as conflicting traffic movements make riding dangerous on this facility. Freeways were therefore not included in this inventory summary.

In urban areas, bicycle facilities exist or are planned on both state and county roadways with functional classifications of Collector or higher. The county’s on-street bicycle system consists of paved shoulders, 4 to 5 feet in width, as well as striped and stenciled dedicated bicycle lanes, 5 to 6 feet in width. In some instances, where constraints limit roadway width for bike lanes or paved shoulders, wide outside travel lanes of 14 feet may be used as bikeway for limited distances. These wide lanes will transition to either paved shoulders or bicycle lanes when roadway width is no longer constrained.

In rural areas, because of low population density and the lack of specific bicycling destinations, the planned rural bicycle network provides for facilities on a more strategic basis, generally limiting their designation to most Arterials and some Collectors.

Other agencies, primarily the Tualatin Hills Parks and Recreation District, have developed and planned an extensive network of paved, off-street pathways intended to be shared by bicycles and pedestrians. While the primary purpose of these facilities is for recreation, they serve a transportation function as well, providing an alternative means of accessing a variety of destinations. Some, but not all of these facilities are shown as part of the Regional Bicycle System in Metro’s Regional Transportation Plan. The alignments shown on the Off-Street Trails Map have been taken from the Tualatin Hills Park and Recreation District’s *Trails Master Plan* (revised May 2000) and are conceptual; actual alignments and crossing locations at street intersections will be determined via the development review process. For the current official planning status of these trails, consult the most recent version of the Tualatin Hills Parks and Recreation District’s *Trails Master Plan*.

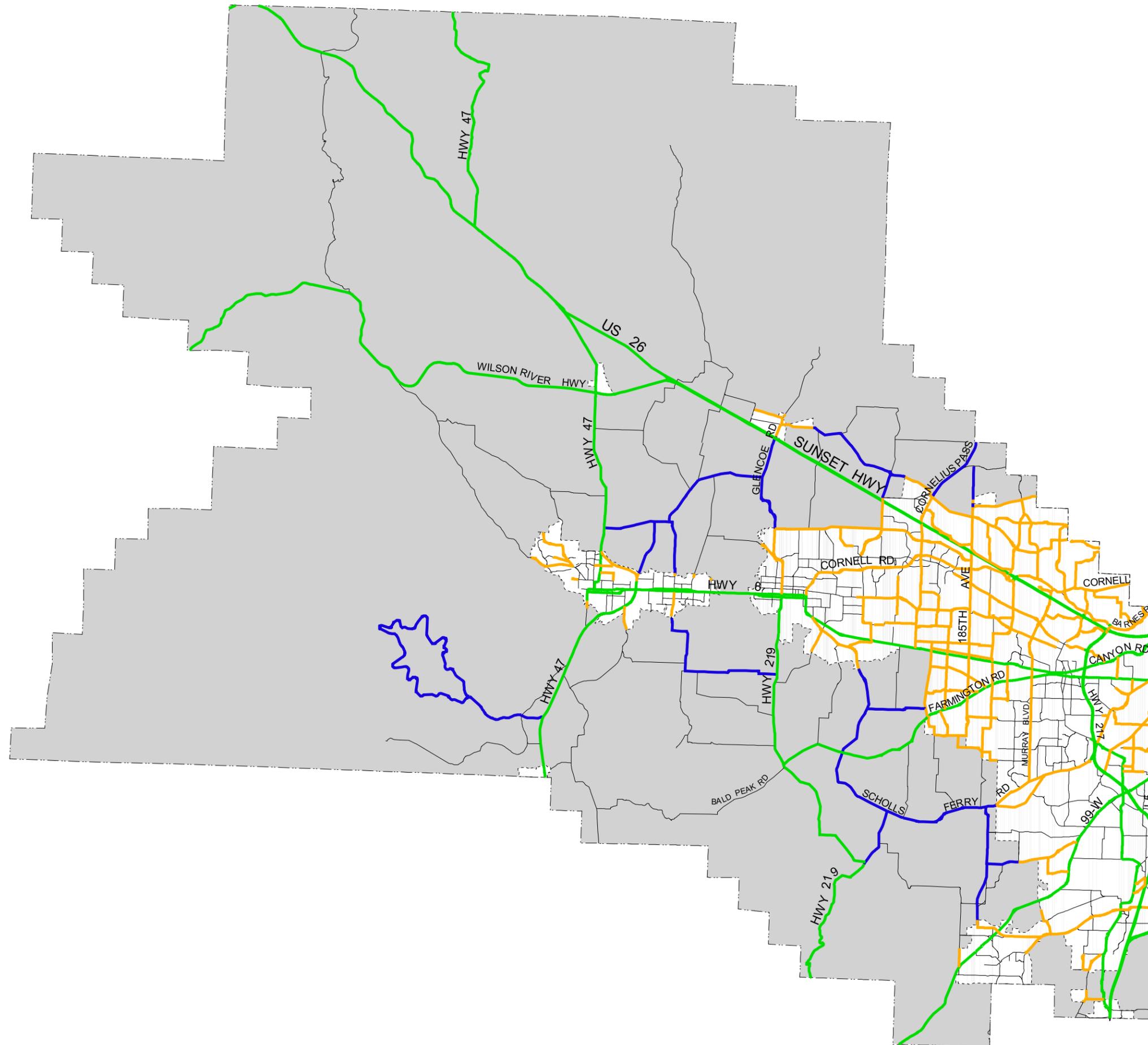
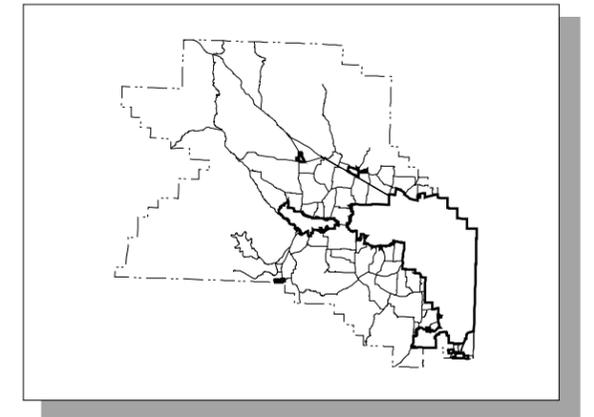
15.0 BICYCLE POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ENCOURAGE AND SUPPORT GREATER BICYCLING ACTIVITY IN WASHINGTON COUNTY BY PROVIDING AN ENVIRONMENT IN WHICH BICYCLING IS A SAFE AND CONVENIENT MODE OF TRAVEL.

Strategies:

- 15.1 Focus bicycle improvements on connecting cities, neighborhoods, commercial areas, schools, recreational facilities, employment centers, other major destinations, regional and city bikeways and other transportation modes.
- 15.2 Coordinate the development of the bikeway system with other local and regional agencies and integrate it with the delivery of other transportation services.
- 15.3 Construct all bikeways according to applicable and accepted local, regional, state and federal guidelines and standards.
- 15.4 Provide for safe and convenient bicycle travel through an interconnected street network. When such a street network is impracticable or inappropriate to construct, shared accessways for pedestrians and bicycles shall provide the necessary connections.
- 15.5 Support local, regional and state agencies in their efforts to plan an off-street system of multi-use paths.
- 15.6 Coordinate with cities to identify wide streets with low traffic volume that are appropriate for signing as bicycle routes to enhance safety and connectivity and to supplement the system of bicycle lanes and paved shoulders found on the major street system.
- 15.7 Consider improvements to enhance bicycle safety on a case by case basis on minor roads (Neighborhood Routes and lower classifications) where factors such as traffic volume, terrain, road conditions and/or intensity/frequency of use warrant such improvements. In such instances, the design and type of improvements shall be determined through the project development process.
- 15.8 Construct interim bicycle facilities, as appropriate, on existing streets that are not built to ultimate standards where the construction of full street improvements is not practicable or imminent.
- 15.9 Prioritize and program the construction of bikeway improvements in the Washington County Transportation Capital Improvement Program.
- 15.10 Construct non-capital bikeway improvements through the annual Washington County Road Maintenance Program.
- 15.11 Require design features for bicycle facilities to be incorporated in new urban developments, including bicycle access and parking facilities in accordance with the Community Development Code.

- 15.12 Develop standards for and construct paved shoulders on rural roadways identified on the Bicycle System Map, considering the following:
- A. Locations of existing and committed bicycle facilities (i.e., paved shoulders and bicycle lanes)
 - B. Locations of rural cities and communities
 - C. Locations of existing or planned recreational facilities (State, Regional or County parks)
 - D. Existing and anticipated (year 2020) roadway traffic volumes
 - E. Presence/absence of parallel routes consisting of other bicycle facilities or low traffic volume roadways
 - F. Designated RTP bicycle facilities and RTP Rural Roadways (which include paved shoulders)
 - G. Known traffic and/or terrain characteristics such as the presence of significant hills and/or grades) or large numbers of trucks, high traffic speeds and/or volumes
 - H. Potential connectivity between existing bicycle facilities and between regional destinations (recreation facilities, population centers and connections to bicycle facilities within the UGB).
- 15.13 Encourage cities and agencies within the county to develop regularly scheduled inspection and maintenance programs to ensure that debris is regularly removed from bikeways.
- 15.14 Consider developing and updating an appropriate County-wide bicycle route suitability map, such as the *Getting There by Bike* map, previously published by the County.



Bicycle System

-  Urban Bikeway
-  State Facility
-  Rural Bikeway
-  Urban Growth Boundary
-  Area outside the Urban Growth Boundary

NOTE:
 This map shows existing and planned bicycle facilities on County and State roads only. Consult city plans for planned bicycle facilities on city roads. Construction of bicycle facilities and other improvements on State roads are the responsibility of ODOT.

Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

Off-street trails are shown on the Trails and Pedestrian System Map.

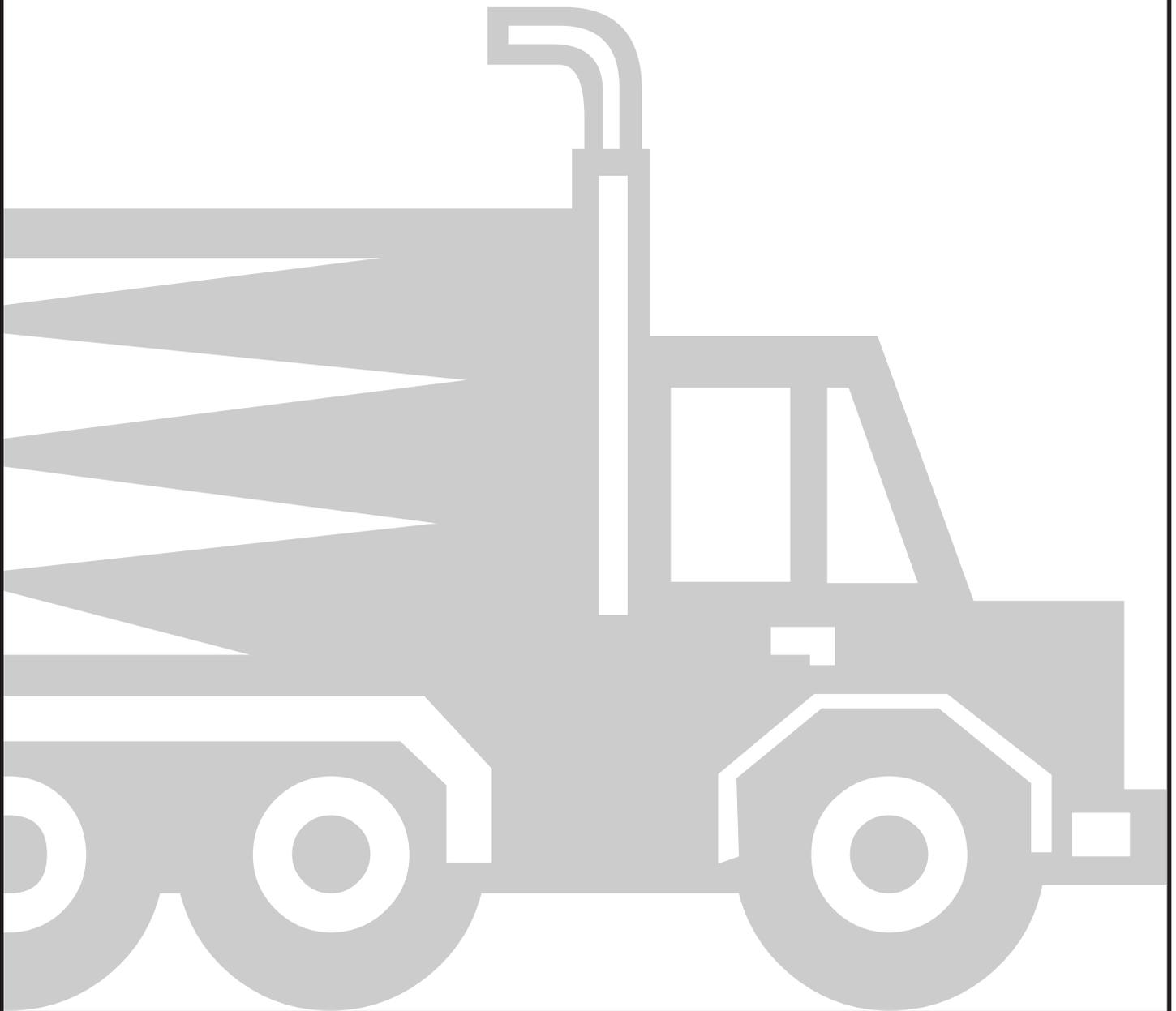


10000 0 10000 20000 Feet

FIGURE 13

Washington County 2020 *Transportation Plan*

Roadway Freight Element



Roadway Freight Element

Introduction

The movement of freight is important to the economy of the Portland region and Washington County. Although detailed freight data is not available at the county level, more freight data is available at the aggregate regional (i.e., Washington, Multnomah, Clackamas and Clark counties) level. On the regional level more than 60 percent of all jobs are associated with transportation-dependent businesses such as manufacturing, warehousing, and distribution. Moreover, the volume of freight tonnage in the region is projected to double between 1996 and 2030, with nearly 60 percent of the tonnage expected to be moved by truck.

This section deals primarily with the transport of freight on roadways because it is the only mode of freight travel over which Washington County has control. Although it is recognized that significant amounts of freight are also transported by rail and pipeline, and to a much lesser extent air, the planning for these modes is done by private companies or other government agencies. Rail, pipeline, air and water modes are more specifically discussed as a separate element in the next section.

Freight Background

Because the safe and efficient movement of freight is important to the economy and most freight is expected to be transported by truck in the future, the Through-truck route system (Figure 14) is an important element of the plan. To provide for the most efficient transport of freight and to minimize impacts on residential neighborhoods, through-truck routes are designated primarily on Arterial and Collector roads. However through-truck route designations in this Plan encourage the use of these routes for through-truck travel, but do not restrict through-truck travel or local pickup and delivery by truck to these routes. The primary purpose of designating through-truck routes in this plan is to ensure that any future improvements on these roads provide for the safe and efficient movement of trucks. Through-truck route designations include Existing and Proposed and Interim Through-truck routes. Proposed through-truck routes are intended to serve through-traffic after a new road has been constructed or after improvements have been made to an existing road to make it a safe and efficient route for truck travel. Examples of this are Tongue Lane or Jackson School Road north of Evergreen Road.

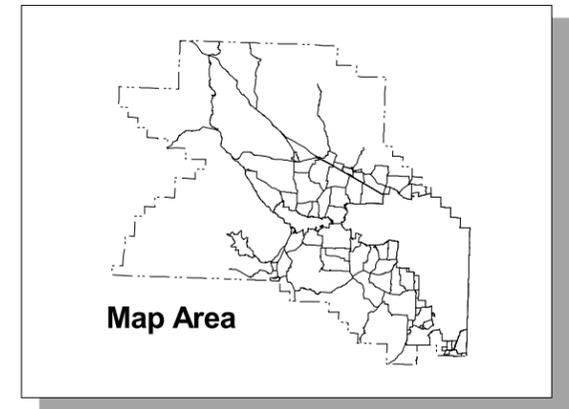
The transport of hazardous materials is regulated by the Federal Motor Carrier Safety Administration under Title 49 Code of Federal Regulations, Parts 390-397, and is not governed by local jurisdictions. Hazardous materials include a variety of substances, ranging from radioactive and medical wastes to gasoline. The transport of non-radioactive hazardous materials requires that vehicles transporting these materials comply with any routing designations of a state, be placarded or marked and not go through or near heavily populated areas, places where crowds are assembled, tunnels, narrow streets or alleys, except where there is no practicable alternative. The transport of radioactive materials is generally restricted to designated preferred routes on interstate highways, beltways or bypasses, where alternative routes have not been designated by a state.

16.0 FREIGHT POLICY

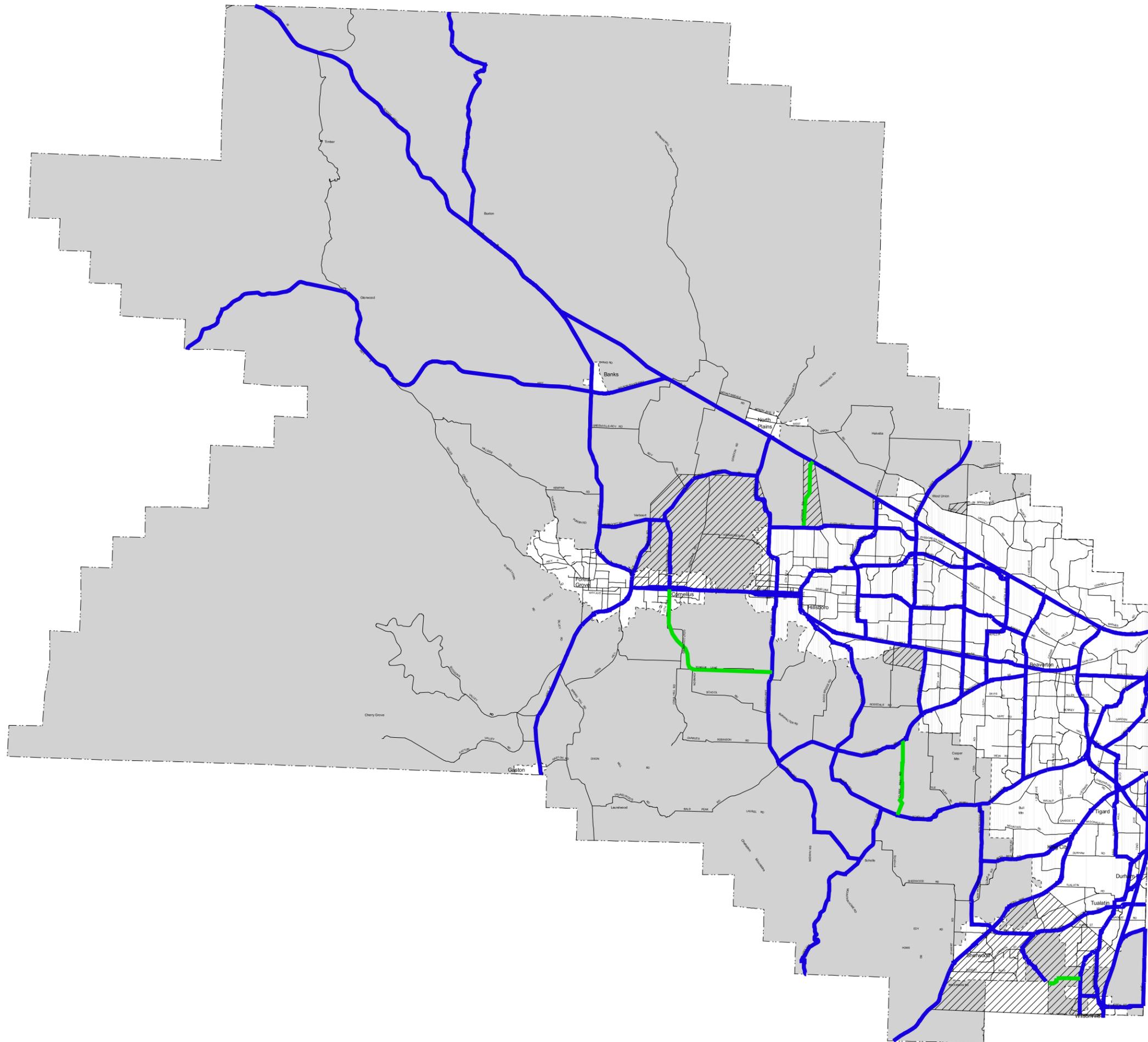
IT IS THE POLICY OF WASHINGTON COUNTY TO DEVELOP AND MANAGE TRANSPORTATION SYSTEM ELEMENTS TO ENSURE THE SAFE AND COST-EFFECTIVE MOVEMENT OF FREIGHT IN THE COUNTY.

Strategies:

- 16.1 Coordinate planning, development, maintenance and operation of an efficient and safe freight system with the private sector, ODOT, TriMet, Metro, the Port of Portland and the cities of Washington County.
- 16.2 Define a Through-truck Route system consisting of Arterials and Collectors that support the efficient movement of goods throughout the county, while not prohibiting the use of other roads for local pick up and delivery of goods and services.
- 16.3 Identify and correct roadway design and operational deficiencies that affect the safe and efficient movement of freight on the Through-truck Route system.
- 16.4 Coordinate with federal and state agencies as necessary to ensure compliance with federal and state regulations pertaining to the safe transport of hazardous materials within and through Washington County.
- 16.5 Support the efficient operation and development of intermodal freight facilities.
- 16.6 Correct safety deficiencies related to freight transport.
- 16.7 Establish truck counts as a standard element of system monitoring, and maintain a database of those counts that will make improved analysis and management of freight needs possible.
- 16.8 Develop criteria for evaluating freight impacts as part of the Transportation Capital Improvement Program project prioritization process.
- 16.9 Support the provision of adequate freight loading and unloading facilities, and ensure adequate access to intermodal freight facilities.



Countywide Through-Truck Routes



- Existing Through-Truck Route
- Proposed Through-Truck Route*
- Through-Truck Route Study Area**
- Area outside the Urban Growth Boundary
- Urban Growth Boundary
- County Line

NOTE:

* Designation to be changed to Existing Through-Truck route when needed improvements completed.

** Additional through-truck route designations to be determined by further study.

Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.



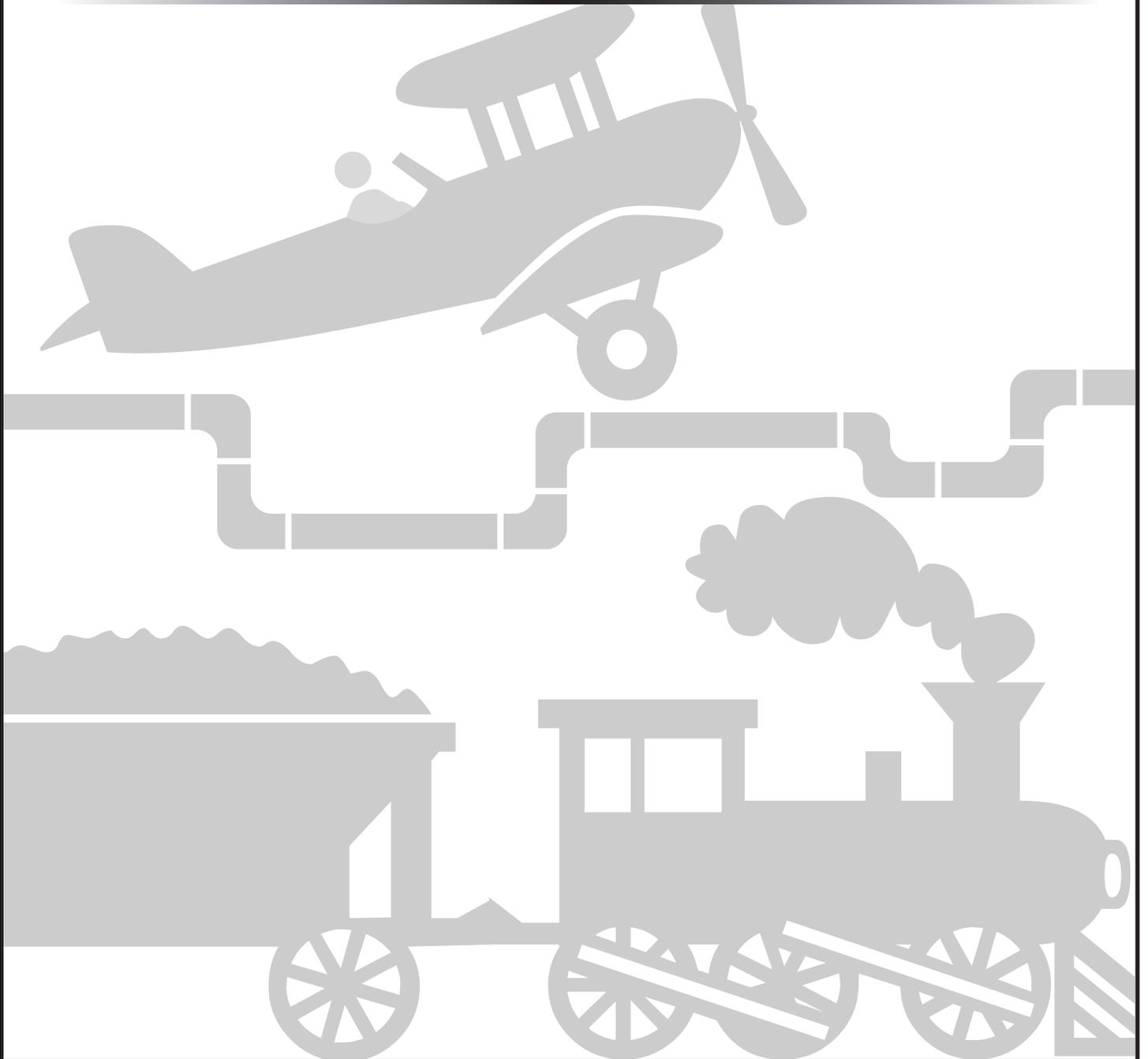
10000 0 10000 20000 Feet



FIGURE 14

Washington County 2020 *Transportation Plan*

*Air, Rail, Pipeline &
Water Element*



Air, Rail, Pipeline and Water Element

Introduction

The Air, Rail, Pipeline and Water Element deals with the movement of people, goods, or services by these modes (see Figure 15). Transportation related policies and strategies regarding these modes are described in Policy 17 of this Transportation Plan. With regard to the Air element, the scope of this Policy is limited to public use airports. [Note: Private use airports are not a required element of a transportation system plan, as stipulated in OAR 660-012-0020(2)(e).]

In addition to public use airports, there are several private use aviation facilities in Washington County. Private use facilities fall under two general categories: private use airports identified by the Oregon Department of Aviation/DOA (pursuant to ORS 836.608(2)) that are subject to LCDC's Airport Planning Rule (OAR 660-013), and personal use facilities that are subject to local regulation.

The County's Comprehensive Plan identifies Public Use Airports and state recognized Private Use Airports with land use overlay designations in the map elements of the Rural Natural Resource Plan and of the Cedar Hills-Cedar Mill Community Plan entitled Airport Overlay Districts. Land use related policies and strategies regarding the overlay-designated airport facilities are addressed in the Rural/Natural Resource Plan and in the Comprehensive Framework Plan for the Urban Area. Personal use airport and heliport facilities not identified by the Oregon Department of Aviation/DOA are not recognized on Comprehensive Plan maps. Development standards for all airport and heliport related uses, including personal use airports and heliports, are outlined in the Community Development Code

As previously discussed in the Roadway Freight Element, rail and pipeline modes have freight implications, so policies and strategies described in this section should be considered together with those in the Roadway Freight element.

Air, Rail, Pipeline and Water Background

Air transport in Washington County consists of three public use airports. The larger of these airports, the Hillsboro Airport, operated by the Port of Portland, is a general aviation airport acting as a reliever airport for Portland International. Annual flight take-off and landing operations at this facility were over 236,000 in 2001. Aircraft at the Hillsboro Airport are limited to small engine and business class aircraft providing passenger shuttle rather than air cargo service for some of the major industries in the area. Plans to expand Hillsboro Airport in the future include the purchase of additional land for expansion and the addition of a third runway to accommodate increasing demand.

Stark's Twin Oaks Airpark is the largest privately owned public use airport in the region, with annual operations estimated at over 13,000 for the year 2001. It is located approximately six miles south of Hillsboro, between the Tualatin River and River Road, and is privately owned and operated. Aircraft at this general aviation facility are limited to helicopters and small engine airplanes. Physical constraints on runway length preclude potential expansion that would be necessary to accommodate larger class aircraft. However, operations could expand via the construction of additional hangers available for lease on site.

Skyport is the smallest public use airport in Washington County. This privately owned and operated facility is located approximately three miles north of Cornelius. Annual flight take-off and landing operations at the Skyport Airport for the year 2001 were estimated at just over 700. There are no current plans for expansion of this facility.

Rail service in Washington County is operated by the Burlington-Northern, Portland & Western, and Port of Tillamook Bay railroads. These railroads currently provide freight service only, although there are plans to also operate peak-hour commuter rail service in the I-5/Hwy. 217 corridor between Wilsonville and Beaverton on tracks owned by the Union Pacific Railroad and ODOT. The proposed Wilsonville-Beaverton commuter rail project is projected to carry approximately 4,700 weekday passengers and reduce congestion by 17,400 vehicle miles per day by the year 2020.

Pipelines transmit natural and liquid gas in Washington County. Major high-pressure gas pipelines (60 pounds per square inch or greater) are shown in this plan to highlight possible conflicts with future roadway extensions or widenings. The Kinder-Morgan pipeline, connecting the Columbia River port area to Eugene and running through Beaverton and Tigard, is an important high transmission rate pipeline that transmits refined gas products at an average of 75,000 gallons per hour.

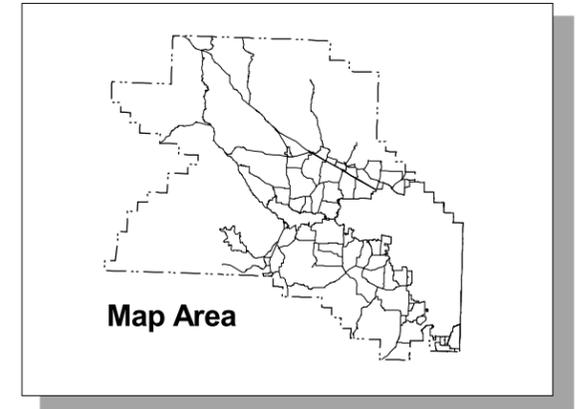
There are currently no waterways supporting freight or ferry passenger transport in Washington County.

17.0 AIR, RAIL, PIPELINE AND WATER POLICY

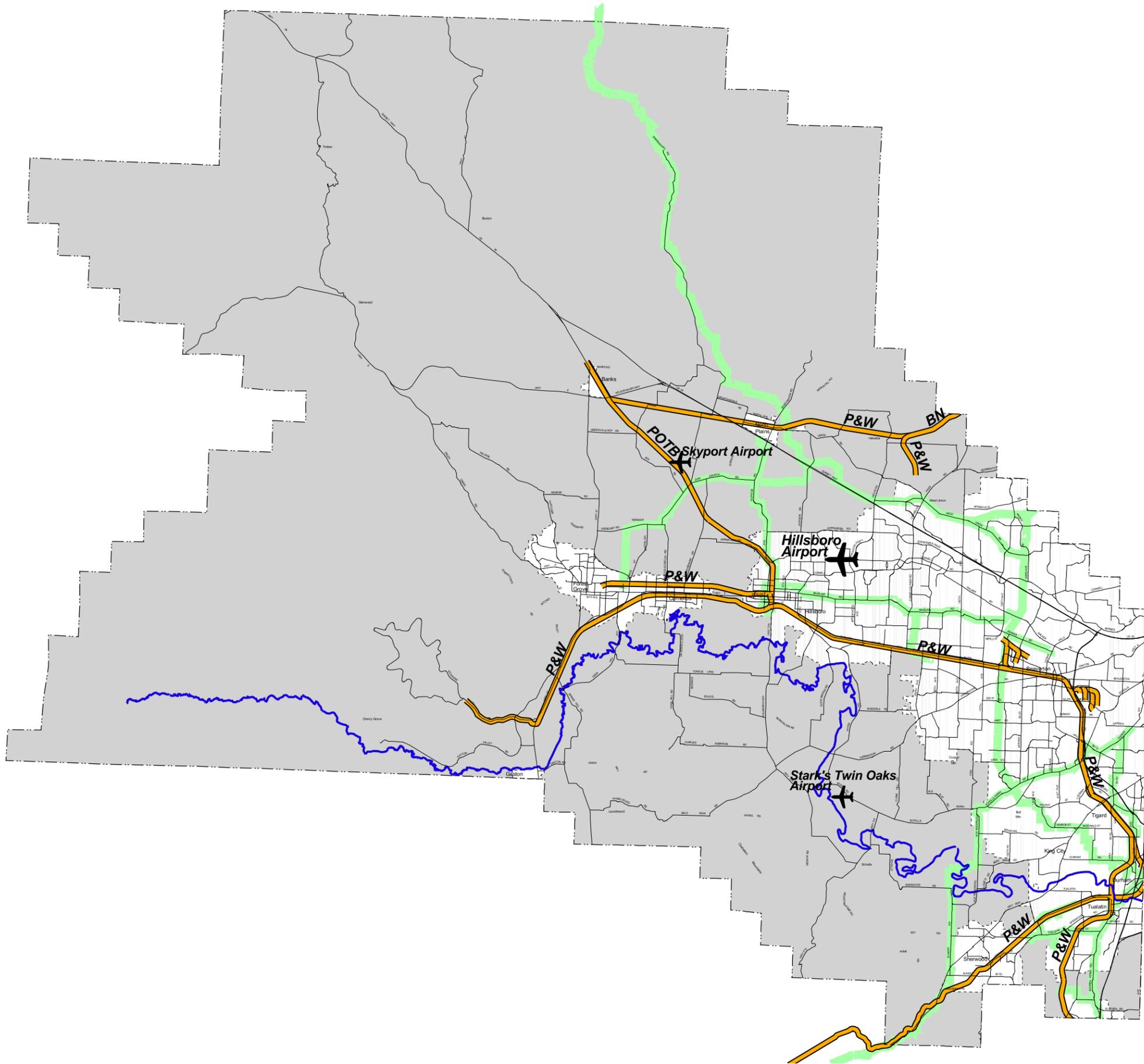
IT IS THE POLICY OF WASHINGTON COUNTY TO ENCOURAGE CONTINUED USE AND DEVELOPMENT OF AIR, RAIL, PIPELINE AND WATER TRANSPORTATION FACILITIES IN THE COUNTY.

Strategies:

- 17.1 Coordinate planning and development of air, rail, pipeline and water transportation service with federal, state and regional regulators and transportation service providers to ensure the safety of operations as well as environmental and noise compatibility with surrounding land uses.
- 17.2 Coordinate with service providers to ensure that existing facilities are protected from encroachment by incompatible land uses and to minimize land use conflicts where future expansion is needed.
- 17.3 Work with other agencies and private parties and develop public/private partnerships as appropriate to use and further develop air, water and rail transportation resources. Avoid abandoning existing resources of these types.
- 17.4 For state identified airport facilities subject to the LCD Airport Planning Rule, address specific policies and strategies in the Rural/Natural Resource Plan and the Comprehensive Framework Plan for the Urban Area, and provide regulatory standards for airport related uses and safety concerns in the Community.
- 17.5 Investigate using existing rail lines for commuter rail or for other transportation purposes.
- 17.6 Consider using waterways in Washington County for passenger and freight transportation purposes.
- 17.7 Coordinate with appropriate parties the development and maintenance of pipeline facilities that are consistent with federal, state and local plans and regulations.



Air, Rail, Pipeline & Water Elements



Public Use Airports*

- Hillsboro Airport
- Stark's Twin Oaks
- Skyport

- Rail Lines
- Natural Gas Pipeline Corridor
- Tualatin River
- Urban Growth Boundary
- Area outside the Urban Growth Boundary
- County Line

**NOTE:
The State Transportation Planning Rule (OAR 660-12-020(2)(e)) requires the identification of existing and planned public use airports only in local transportation system plans.*

Designations applied to roads or other facilities not under County jurisdiction should be considered recommendations to the state, city or other jurisdiction with primary responsibility for the facility.

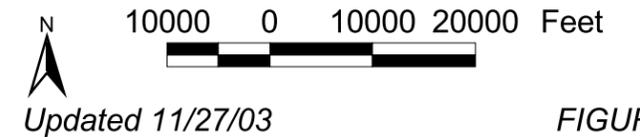


FIGURE 15

Washington County 2020 *Transportation Plan*

*System Funding &
Financing Element*



System Funding and Financing Element

Introduction

The Plan reflects the common finding in transportation matters – that needs appear likely to outstrip resources. The challenge, then, is first to take a hard look at what funding levels can reasonably be achieved; second, to ensure that responsible priorities for the expenditure of resources are in place; and third, to generate the interest and support to provide the system and services Washington County residents and businesses want. To ensure that available funds are expended in a responsible manner, this Plan has been developed with the recognition that urban and rural economies are linked together and served by a single transportation system.

Financial Background

The cost and revenue estimates in this Plan are planning-level projections intended to provide an “order of magnitude” comparison of existing and projected costs and revenues. These estimates and projections are based upon a preliminary assessment of project costs as well as assumptions concerning the future rate of inflation and the proportion of various countywide funding programs allocated to needs on the county system identified in this plan. These project costs and assumptions can change quickly based upon more detailed engineering work, changes in the economy and political decisions.

Funding Needs

As shown in Table 8 below, this Plan identifies a need for \$2.9 billion of roadway system improvements over the next 20 years on County, ODOT and City facilities in Washington County. Approximately 39 percent of this need, costing \$1.1 billion is identified as currently being on County facilities. On County facilities, almost \$849 million in roadway capacity projects are identified, with another \$66 million estimated to address other capacity needs in Study Areas for which specific project solutions have not been yet identified. Although all roadway capacity needs include bicycle and pedestrian facilities as needed, the Plan also identifies \$176 million in stand-alone (i.e., not constructed as part of a roadway capacity project) bicycle and pedestrian needs required to complete these systems. Historically, Washington County has not funded improvements to state facilities out of local revenue sources. However, approximately \$1.1 billion in roadway capacity needs alone are projected on the state system. Given the recent lack of available funding for capacity improvements on the state system and the importance of properly functioning state facilities to the County’s system, ODOT costs are identified here as part of the funding needed to ensure the efficient operation of roadways in Washington County. Another approximately \$92 million in capital improvements are identified as needed specifically in Washington County to support planned transit services, along with an undetermined share of the \$384 million in capital costs for transit vehicles – buses and light rail cars – identified as needed throughout the Region by the year 2020.

In addition, the Plan identifies a need for approximately \$595 million for system operations and maintenance and bridge repair through the year 2020. That’s almost \$ 29 million annually to patch hazardous potholes, provide pavement overlays to prevent roadway deterioration, grade gravel roads or overlay them when grading is no longer appropriate, and to replace culverts and make other environmental, signal and safety improvements.

Table 8: Roadway Funding Needs in Washington County (2000-2019)

| Type of Need | Jurisdiction (Costs in 2002 Million \$) | | | |
|--|---|------------------|-----------------|------------------|
| | Wash. Co. | ODOT | City | Total |
| Capital | | | | |
| Roadway Capacity (Identified projects only) ¹ | \$848.8 | \$94.6 | \$383.2 | \$1,326.6 |
| Study Areas ¹ | \$66.1 | \$1052.2 | NA ⁷ | \$1,118.3 |
| Other ² | \$50.0 | NA | NA | \$50.0 |
| Stand-Alone Bicycle ³ | \$106.3 | NA | NA | \$106.3 |
| Stand-Alone Pedestrian ⁴ | \$70.1 | NA | NA | \$ 70.1 |
| Transit ⁵ | NA | NA | NA | \$92.0 |
| Total | \$1,141.3 | \$1,146.8 | \$383.2 | \$2,763.3 |
| Maintenance ⁶ | \$595.0 | NA | NA | \$595.0 |

Notes:

¹ See Technical Appendix.

² Includes TDM, town center improvements, etc. See Technical Appendix.

³ See Technical Appendix.

⁴ See Technical Appendix.

⁵ Excludes transit vehicle costs.

⁶ See Technical Appendix.

⁷ Data not available.

Altogether, the identified needs are substantial, but as noted in the introduction, not necessarily insurmountable as past local initiatives that have contributed significantly indicate. Described below are three current funding mechanisms that go varying distances toward addressing identified needs.

- With voter support, 64 heavily used transportation system improvement projects costing a total of more than \$350 million will have been built by 2006 through the Major Streets Transportation Improvement Program -- a property tax-supported program.
- Traffic Impact Fees, another voter-approved program charged against new development to help address growth impacts, have contributed more than \$50 million toward 74 road and transit projects, including our Westside Light Rail local match, Forest Grove's Highway 47 Bypass and the Cedar Hills Boulevard Extension.
- The condition of Washington County's urban-area local neighborhood roads have been dramatically improved during the past decade with funding raised through another voter approved initiative – the Urban Road Maintenance District.
- Through the development process, improvements have been made to existing streets and new facilities have been constructed in order to address impacts to the transportation system.

The following discussion of transportation system financing strategies will assist in continuing that record and achieving the transportation system Washington County residents want.

The transportation financing analysis consists of a section that compares the capital costs shown in Table 8 to projected revenues and a separate section that compares maintenance costs and revenues. Because this is the County transportation plan, and various city and state system plans already deal with their systems, the capital cost/revenue analysis primarily focuses on improvements to County roads. However, due to the lack of adequate state

revenue to make needed capital improvements on the state system and the growing recognition that the County may need to help pay for improvements to this system in the future, the cost of capital improvements to the state system in Washington County has also been included in this analysis. Maintenance costs and revenues are only for roads under County jurisdiction. For purposes of comparison all costs and revenues are expressed in constant 2002 dollars.

Capital Revenues

To address the \$2.9 billion in capital costs for needed motor vehicle, bike and pedestrian projects in Washington County through the year 2020, three illustrative capital revenue scenarios have been developed for financial analysis only and are shown in Table 9 below. These scenarios are illustrative only and intended to demonstrate the feasibility of funding needed improvements. Policy choices and decisions about financial strategies to be pursued would be made by the Board after considering these and possibly other alternatives.

These scenarios are referred to as the MSTIP Low, Medium and High scenarios. The scenarios differ only in the amount of MSTIP revenues that are assumed to be generated, but projected Traffic Impact Fee (TIF) and regional revenues are the same for all scenarios. The Medium MSTIP Scenario assumes a continuation of MSTIP at the current program levels. The Low MSTIP Scenario assumes a 50 percent reduction in MSTIP revenues from current funding levels, and the High MSTIP Scenario assumes an 50 percent increase in funding over current MSTIP levels through 2019. More generally it is assumed that annexation will reduce County revenues and costs equally and no major changes will occur in the TIF ordinance. More specific assumptions used in the analysis are described in the notes to Table 9.

Table 9: Projected Capital Roadway Revenue Scenarios for County Projects (2000-2019)

| Funding Source | Total Revenues 2000-2019 (millions of 2002\$) ⁷ | Average Annual Revenues (millions of 2002\$) ⁷ |
|--|--|---|
| Low MSTIP Scenario ¹ | \$291.3 | \$14.6 |
| Medium MSTIP Scenario ² | \$445.5 | \$22.3 |
| High MSTIP Scenario ³ | \$599.7 | \$30.0 |
| County Roadway TIF ⁴ | \$98.1 | \$4.9 |
| City TIF to County Roadways ⁵ | \$79.4 | \$4.0 |
| Regional Funds ⁶ | \$55.9 | \$2.8 |
| Total (including Low MSTIP Scenario) | \$524.6 | \$26.2 |
| Total (including Medium MSTIP Scenario) | \$678.8 | \$33.9 |
| Total (including High MSTIP Scenario) | \$833.0 | \$41.7 |

Notes:

¹Reflects 50 percent reduction from current MSTIP funding levels, 6 percent annual increase to account for property value inflation and growth, estimated 85 percent allocated to County facilities through 2006 and assumed 60 percent thereafter.

²Reflects current MSTIP funding levels, 6 percent annual increase to account for property value inflation and growth, estimated 85 percent allocated to County facilities through 2006 and assumed 60 percent thereafter.

³Reflects 50 percent increase over current MSTIP funding levels, the maximum 6 percent annual increase to account for property value inflation and growth permitted by Measure 50, estimated 85 percent allocated to County facilities through 2006 and assumed 60 percent thereafter.

⁴Based upon average annual 2.35 percent growth in households/employment from Region 2040 forecasts.

⁵Reflects assumed 25 percent share of City TIF for use on County roads.

⁶Based upon share of project allocations lead by Washington County in 2000-2003 MTIP.

⁷All revenues discounted to 2002\$ based upon assumed 4 percent annual rate of inflation.

Capital Cost/Revenue Comparison

Comparing costs of meeting County needs in Table 8 with projected revenues in Table 9 indicates that even under the High MSTIP Scenario generating a projected \$833 million, there is a \$267 million shortfall in meeting the \$1.1 billion in County roadway needs. The High MSTIP Scenario of \$833 million almost accommodates the projected \$849 million need for Identified Capacity projects only, but this doesn't include Study Area, stand-alone bicycle and pedestrian, or needs on the state system. Maintaining MSTIP at current levels (i.e., the Medium MSTIP Scenario) results in a projected funding shortfall of \$462 million. Even if needs are narrowly identified as the \$849 million in Identified roadway capacity needs only on County facilities, MSTIP funding close to the High MSTIP Scenario is needed to address these needs.

Maintenance Cost/Revenue Comparison

Table 10 shows projected maintenance revenues of \$353 million, assuming the continuation of existing revenue trends and no new revenue sources. The primary revenue source for maintenance is the State Highway Trust Fund, which is projected to provide \$287 million over the 20-year period. Based upon a continuation of existing trends, this figure reflects that the County's share of the Highway Trust Fund will increase 2 percent annually. However, this is expected to result in an annual 2 percent decrease in revenues, given a projected 4 percent annual inflation rate over the 20 year time period. Other current sources of maintenance revenue include the \$0.01/gallon County gas tax, the \$0.25/\$1000 assessed valuation for the Urban Road Maintenance District and the continuation of Timber Revenues at current levels.

**Table 10: Projected Maintenance Revenues for County Facilities
(2000-2019)**

| Funding Source | Total Revenues 2000-2019 (millions of 2002\$) ⁵ | Average Annual Revenues (millions of 2002\$) ⁵ |
|--|---|--|
| State Highway Trust Fund ¹ | \$287.8 | \$14.4 |
| County Gas Tax ² | \$12.3 | \$0.6 |
| Urban Road Maintenance District ³ | \$48.0 | \$2.4 |
| Timber Revenues ⁴ | \$4.7 | \$0.2 |
| Total | \$ 352.8 | \$ 17.6 |

Notes:

¹Based upon extrapolation of ODOT 2000-2005 projections reflecting an annual growth rate of 2 percent.

²Based upon extrapolation of historical receipts rounded from 0.75 percent to 1- percent annual growth.

³Reflects annual growth of 3 percent in property values. New growth assumed to be offset by decreasing revenues from annexation.

⁴Projected to remain at current levels.

⁵Assumes 4 percent annual rate of inflation and annexations by cities offsetting increased maintenance costs resulting from construction of new County roads.

Projected maintenance costs for County roads, as shown in Table 8, are approximately \$595 million for the 2000-2019 time period. A comparison of costs and revenues shown in Table 10 indicates a projected maintenance shortfall of approximately \$242 million. Given this situation, maintenance revenues would need to increase 69 percent to fully address future needs.

Attacking Funding Shortfalls

Given the projected capital and maintenance revenue shortfalls, one possible strategy for dealing with this focuses on the following set of funding principles:

- Use federal and state funds first.
- Where possible and appropriate, try to identify projects that benefit specific users, and charge them directly.
- Choose funding sources with sufficient magnitude, stability, and predictability.
- Choose sources that allow flexibility to meet changing needs.
- Pay for projects out of existing revenue sources rather than developing new sources.
- Consider new funding sources, evaluating all the criteria above.

Potential Expanded or New Funding Sources for Capital Needs

Consistent with these principles, potential expanded or new capital funding sources for consideration should include, but not be limited to the following:

- Federal and State Funding – Pursue additional funds through federal, state and regional sources.
- MSTIP – Increase MSTIP funding at higher than the current Medium Scenario level shown in Table 9.
- TIF – Increase TIF rates and update existing trip generation rates to reflect newer rates and recently available land use categories. A 10 percent increase in TIF would generate approximately \$18 million in revenue over the next 20 years.

- Congestion Pricing – Work with Metro and local jurisdictions to investigate the potential for a congestion pricing program that properly assigns costs to peak-hour system users, thereby more efficiently rationing facilities that are prone to congestion.

Potential Expanded or New Funding Sources for Maintenance Needs

A range of expanded and potential new maintenance revenue sources should be considered to address the maintenance-funding shortfall. These are described as follows:

- County Gas Tax – Increase the gas tax as a means of equitably assigning costs to users of the system.
- Urban Road Maintenance District (URMD) or Rural Road Maintenance District (RRMD) – Increase the current URMD rate. Also, consider expanding the URMD to rural areas because rural roads often provide economic and recreational benefits for all county residents. Or, consider creating a separate RRMD that would tax rural residents at a different rate than urban residents.
- Local Vehicle Registration Fee – Institute a local vehicle registration fee.
- Street Utility Fee – Charge a fee through the current utility billing system for residential and non-residential uses.

As shown in Table 11 approximately \$157 million in added revenues could be raised using the rates reflected in this table. These additional revenues would result in almost \$510 million available for maintenance over the next 20 years. Although these expanded and new revenue sources do not eliminate the projected maintenance shortfall, they represent a potentially feasible set of new or expanded funding sources that would reduce it to a more manageable \$97 million over the next 20 years. Increases higher than those shown here or revenues from new special assessments or taxes shown at the bottom of the table would reduce the shortfall even more.

Table 11: Potential New and Expanded Maintenance Funding Sources, 2000-2019
(millions of constant, Year 2002 dollars)

| SOURCE | TOTAL | ANNUAL AVG. |
|---|----------------|------------------------|
| Vehicle Registration Fees (\$10) | \$71.8 | \$3.6 |
| Increase gas tax to 2c | \$12.3 | \$0.6 |
| Street Utility Fee (\$2/mo./hh) | \$26.2 | \$1.3 |
| Street Utility Fee for Non-Residential | \$26.2 | \$1.3 |
| URMD 20% increase | \$9.6 | \$0.5 |
| RRMD at 25c/\$1000 assessed value | \$10.6 | \$0.5 |
| LIDs or other special assessments other than URMD or RRMD | varies | varies |
| Other taxes (excise, sales, payroll, construction) | not estimated | not estimated |
| Congestion pricing (tolls) | not estimated | not estimated |
| Total potential new OMP revenue | \$156.8 | \$7.8 |

Source: ECONorthwest

18.0 FINANCIAL POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO SEEK FUNDING SUFFICIENT TO IMPLEMENT THIS PLAN.

Strategies:

- 18.1 Partner with other government agencies, tribal agencies, community residents, businesses, non-profit organizations and interest groups to develop and implement a financial plan that identifies, prioritizes, adequately funds, and equitably allocates the responsibility for funding long-term transportation system improvement, operation and maintenance needs identified in this Plan.
- 18.2 As part of the Washington County transportation system financing strategies:
 - A. Define and update the role of current public funding programs, including the Traffic Impact Fee program, the Major Streets Transportation Improvement Program, and the Urban Road Maintenance District.

- B. Recognizing that many funding sources have limitations on their uses, by policy or by law, identify new or expanded funding mechanisms as necessary to pay for improvements, operations and maintenance not otherwise addressed.
 - C. Encourage public/private partnerships and procure appropriate levels of right of way and system improvements through the land development review process, recognizing these during system monitoring as contributions by the development community to system implementation.
 - D. Identify necessary and appropriate funding for capital improvements, including multi-modal projects, single-mode projects directed at auto, transit, bicycle or pedestrian needs, and interim projects.
 - E. Identify necessary and appropriate funding for projects supporting and mitigating the impacts of development of 2040 centers, corridors, and in other transit-oriented districts, such as implementation of special area street designs, traffic-calming strategies; new or reconstructed Local Street and Neighborhood Route connections; construction of special area off-street pathways; and other on- and off-site transportation improvements.
 - F. Identify appropriate funding for transit related capital improvements within the public right of way.
 - G. Seek long-term funding for countywide as well as local system maintenance and operations needs. Funding for local system needs shall address roadway maintenance, neighborhood traffic control, support of active rural commercial enterprises consistent with land use designations, and the upgrading of gravel roads to paved roads as appropriate.
 - H. Identify necessary and appropriate funding for transportation demand management, system management and traffic management programs and strategies designed to reduce demands on the system, improve system operating efficiency and mitigate traffic impacts of growth.
 - I. Partner with other agencies and organizations to investigate the use of market-based strategies, such as peak period pricing, that both encourage efficient use of resources and offer potential to raise revenues to help fund transportation system improvements.
- 18.3 Work with the Oregon Congressional Delegation and ODOT to encourage the provision of adequate federal and state transportation funding and to assure that the County competes well for these funds.
- 18.4 Work with Metro and ODOT in the development of the Metro Transportation Improvement Program (MTIP) and ODOT's Statewide Transportation Improvement Program (STIP) to ensure that Washington County's transportation improvement needs are considered.
- 18.5 Develop a strategic financing plan that establishes an approach or approaches to funding capital and maintenance needs identified in this Plan.

Plan Implementation and Monitoring Element

Introduction

The Transportation Plan is not a static document. This section describes how Plan provisions are put in place or carried out, how conditions in our communities should be monitored, and when and how changes to the Plan may be made.

The Transportation Plan implementation element consists of a number of interrelated activities and processes that should be carried out on a regular basis. The two primary tools for Plan implementation are the Transportation Capital Improvement Program and the annual Road Maintenance Program. These two programs provide the blueprint for improvements to and maintenance of the transportation system.

Development of capital improvements and maintenance/reconstruction programs rely heavily on the Transportation Plan monitoring activities. Information provided by regular monitoring is needed in order to make informed decisions regarding selection of construction projects and financial strategies. In turn, coordination with state, regional and local jurisdictions and their planning processes is imperative in order to develop unified requests for funds and to secure optimum benefits for the transportation system in Washington County.

Ultimately, the value of the Transportation Plan will be determined by the success of its implementation. In order to assure that the transportation system effectively meets the needs of the county residents and businesses it serves, Washington County must make the commitments necessary to aggressively pursue Plan implementation.

Plan implementation and monitoring policies and strategies are addressed in five sections: Planning Coordination and Public Involvement; Capital Improvement Program and Prioritization; Road Maintenance and Operations; Plan Monitoring; and the Development Review Policy.

Transportation Planning Coordination and Public Involvement Background

Coordination of any plan implementation with affected parties is important. In Washington County, where the State of Oregon, Metro, TriMet, 14 local governments, several special service districts and a number of private enterprises either provide or rely on the transportation system, coordination is essential.

Local governments in Washington County - the fourteen cities and the County - have been very successful in coordinating and integrating their transportation activities, programs and policies in the past. Regular discussion at monthly meetings of local government leaders has strengthened consensus on issues and how to address them. The unity accompanying this stronger local consensus has translated to greater influence in regional, state and federal discussions, to the benefit of all county residents.

A coordinated approach to improving the transportation system resulted in the Major Streets Transportation Improvement Program (MSTIP). Three times since 1986, leaders of the fifteen local governments in the County have been able to assemble a package of projects that they all - and ultimately the voters - supported.

Likewise, public involvement in plan development and in defining how the Plan should be implemented is critical to ensuring needs are appropriately defined and met. Ensuring the use of mechanisms for involving interested groups and members of the public in transportation planning, programming and project development activities ensures that system implementation is reasonably and fairly carried out.

19.0 TRANSPORTATION PLANNING COORDINATION AND PUBLIC INVOLVEMENT POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO COORDINATE ITS TRANSPORTATION PLANNING WITH LOCAL, REGIONAL, STATE AND FEDERAL AGENCIES AND TO PROVIDE OPPORTUNITIES FOR CITIZENS TO PARTICIPATE IN PLANNING PROCESSES.

Strategies:

- 19.1 Participate in the regional and state technical and policy decision-making processes.
- 19.2 Work with the Washington County Coordinating Committee (WCCC) and the WCCC Transportation Advisory Committee (WCCC TAC) as the primary advisory bodies for countywide transportation coordination with cities in Washington County.
- 19.3 Involve the public in updating and implementing the Plan by keeping business groups, area employers, citizen participation organizations, neighborhood associations and citizens at large informed, and by providing opportunities for citizens to participate in Plan review and implementation processes.
- 19.4 Make specific efforts to involve populations that are traditionally underserved by the existing transportation system or underrepresented in transportation planning and plan implementation processes.
- 19.5 Work to integrate the findings and recommendations of this Plan with the Regional Transportation Plan where feasible. In locations with persistent problems, work with regional and state agencies and local jurisdictions to develop effective means of alleviating these problems.
- 19.6 Coordinate with other agencies and organizations to establish adequate, uniform and equitable methods for funding local transportation system needs.
- 19.7 Coordinate with other jurisdictions in Washington County to achieve consistency of roadway design standards.
- 19.8 Bring those deficiencies that have an adverse impact on Washington County facilities to the attention of other jurisdictions.
- 19.9 Review and consider the transportation system impacts of planning work and, on a case by case basis, land development actions taken by other local jurisdictions and transportation agencies after the Transportation Plan is adopted.
- 19.10 Periodically review the Transportation Plan to consider incorporating the work of local jurisdictions and transportation agencies.

- 19.11 Integrate the applicable provisions of the Oregon Transportation Planning Rule, Metro's Regional Transportation Plan and 2040 Growth Concept and the applicable provisions of Metro's Urban Growth Management Functional Plan into the Transportation Plan, Community Plans and Community Development Code.
- 19.12 Work with other jurisdictions to define a decision-making process through which transportation project development issues associated with conflicting, competing or confusing interjurisdictional interests and responsibilities can be identified and addressed.
- 19.13 Review all plan amendment requests for consistency with the applicable provisions of the Transportation Planning Rule as set forth in OAR 660-12-060.

Capital Improvement Program and Prioritization Background

The Transportation Capital Improvement Program (CIP) is a document that identifies and prioritizes projects to be undertaken in the next five to ten year timeframe, the estimated costs and funding sources for those projects, and if funding has been committed to a project, a schedule for the funded work, which may be design, right of way acquisition, construction or all three.

A primary purpose of capital improvement programming is to efficiently allocate funds to address near-term transportation needs. A secondary objective is to provide a forum for public input and to create a greater public awareness of the priority and timing of specific improvements.

Capital improvement projects are funded from a variety of federal, state, and local public funding sources, as well as private sector funding sources. Some funding is discretionary (may be spent for any project), while other funding is non-discretionary (limited to a specific type of program or project). Funding sources are unpredictable from year to year.

Programming involves identifying potential transportation projects, prioritizing projects, and authorizing funded projects to proceed. Projects are identified and prioritized based upon criteria set forth in the Transportation Plan and the County Transportation Capital Improvement Program (CIP).

The CIP process provides the opportunity to identify and prioritize transportation projects in a systematic manner, and set forth a specific schedule of projects that have been funded and authorized. Some projects are funded and authorized on an individual basis due to the unpredictability of funding, funding source constraints, variations in project readiness to proceed, and other variables in the transportation environment. The Board of County Commissioners makes the final decision to proceed with a project, either through adoption of the CIP or other programming action (e.g., approval of MSTIP), or on an individual basis.

Review and revision of the Transportation Capital Improvement Program on a periodic basis is intended to enable County officials, their service provider partners, county residents, businesses and other transportation system users to discuss and evaluate the status of transportation system implementation and to revisit plan priorities for capital improvements.

Specific project priorities are established through the CIP development process, but the general structure and criteria that will frame and guide those decisions are delineated in the Plan. Beyond general criteria of timing and functional classification, the Plan calls for further categorizing projects according to characteristics such as whether they benefit multiple or a single mode of travel and the nature of project benefits (e.g., safety, congestion, land use support or system connectivity, etc.) Within these categories, projects are ranked based upon how well they achieve objectives identified in the Plan.

It is important to understand that the ranking of projects in the CIP often does not reflect the order in which they will be built. Choices regarding which projects to fund are often influenced by the nature of available funding and other priorities that are not necessarily reflected in the CIP. Some funding can only be used on certain types of roads or road improvements, for instance. If local jurisdictions want to propose a package of projects that geographically balances benefits across the County, it is unlikely that this set of projects will also be the highest priority projects in the CIP, which are based upon CIP criteria. The project categories and rankings that emerge from the CIP process provide a broadly considered and endorsed hierarchy of potential investments in system improvements.

20.0 CAPITAL IMPROVEMENT PROGRAM AND PRIORITIZATION POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO PERIODICALLY PREPARE AND ADOPT A TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM THAT ESTABLISHES PRIORITIES FOR TRANSPORTATION CAPITAL IMPROVEMENTS FINANCED WITH PUBLIC FUNDS.

Strategies:

20.1 Establish a transportation capital improvement program with the following elements:

- A. Administrative procedures and public review for the periodic update and adoption of the Transportation Capital Improvement Program by resolution and order;
- B. A process for monitoring the performance and technical aspects of the transportation system;
- C. A process for monitoring the availability of financial resources; and
- D. A process for identifying and prioritizing capital improvements.
- E. A process for involving citizens in the development of the CIP.

20.2 Utilize the following guidelines for establishing capital improvement priorities within the Transportation Capital Improvement Program:

- A. General roadway system improvement priorities shall be based upon 1) functional classification, with Arterials being highest priority and Local roads the lowest priority, and 2) timing of need.
- B. Multi-modal projects shall be categorized together and prioritized based upon the following criteria:

- 1. Correct safety and capacity deficiencies;
- 2. Correct only safety problems;
- 3. Correct only capacity deficiencies; and
- 4. Correct system connectivity shortcomings.

Projects may address these objectives indirectly, as in the case when a new system connection reduces traffic on other facilities, thereby eliminating or reducing a safety or capacity problem.

- C. Single-mode or multi-modal non-auto projects shall be categorized for ranking by mode type and prioritized based upon the following criteria:

1. Improvements that address safety problems;
 2. Improvements that address congestion problems;
 3. Improvements that improve system connectivity by filling gaps in the system;
 4. Improvements that enhance neighborhood access to community activity centers or transit;
 5. Improvements that enhance the non-auto travel environment in 2040 centers and corridors and other transit oriented development areas, including providing support for meeting adopted mode share targets; and
 6. Improvements required to maintain a rural land base and economy consistent with rural land use designations.
- D. The following criteria shall also be considered in prioritizing projects:
1. Maintain acceptable performance levels on the Regional Street System, other Arterials and Collectors, and at critically deficient intersections.
 2. Provide transportation system improvements that support existing and planned land uses, particularly in designated Regional Centers, Town Centers, Main Streets, Light Rail Station Areas and Corridors, including facilitating progress toward meeting adopted mode share targets in these areas.
 3. Maximize the use of federal, state and other non-county funds that are available for transportation improvements, including bridge replacements.
 4. Preserve the County's economic vitality by maintaining the access and mobility characteristics necessary to support commercial activities and the safe and cost-effective movement of freight, including provisions for the safe shipment of hazardous materials.
 5. Maximize the cost efficiency of improvements by exploring potential low-cost and low-impact alternatives and coordinating with other local service providers before undertaking major capital improvement projects.
 6. Ensure improvement projects are built to full design standards wherever feasible in order to reduce future engineering, project management and construction costs.
 7. Provide interim improvements that do not exceed the maximum paved width specified on the functional classification maps, and do not impede planned future improvements.
 8. Maximize public/private partnerships, and provide improvements that complement portions of the transportation network built or anticipated to be built by the private sector.

9. Pursue projects that provide relatively good returns, based upon consideration of the costs and benefits.

10. Provide projects that maintain or improve neighborhood livability.

Road Maintenance/Reconstruction Prioritization Background

The policy and strategies in this portion of the Plan call for maintaining roadway pavement condition at certain base-level standards, and establishing priorities for determining how available resources should be allocated to first achieve, then maintain these condition levels. Adequate roadway maintenance is critical: it is much less expensive in the long run to maintain the surface and integrity of a roadway than to let it go and have to completely replace it prematurely.

Maintaining the roadway system, including bike and pedestrian facilities, as well as unimproved portions of the right of way, includes a wide range of activities, from relatively minor activities, such as replacing signs to major and more costly activities, such as replacing a deteriorating roadway surface. Maintenance activities are defined below and prioritized in Table 12:

- “Mandated Services” are activities that are required by Federal, State or local laws. Specific authorization varies for each type of activity. Examples of such activities include but are not limited to installation and maintenance of traffic control devices, signs, road striping and stenciling, and traffic analysis related specifically to road safety problems.
- “Emergencies” are occurrences that cause a road to become impassable, or which require prompt action in order to protect human life. Examples of activities that may be required in response to emergency situations include but are not limited to sanding, snow removal, flooding, slides and washouts.
- “Hazards” are defined as existing or pending conditions which may cause the operator of a vehicle to lose control, enter another travel lane, or which otherwise could lead to an emergency situation in which a person or property is at risk of injury or damage. Examples of maintenance to eliminate hazards include but are not limited to pot-hole patching on high speed roads, gravel road reshaping, eliminating sight obstructions, cleaning up chemical spills, and replacing damaged or missing safety equipment, such as guardrails.
- “General Maintenance” includes preventative activities required to keep a road in good condition. Typical maintenance activities include pothole patching, grading graveled roads, cleaning drainage facilities (pipes and ditches), street cleaning and flushing, mowing roadside grass and clearing brush, maintaining traffic signals and replacing damaged signs. Examples of more intensive forms include heavy patching and sealing, asphalt overlays, and repair of damage caused by ice, snow, flooding and landslides.
- “Minor Improvements” include what might be considered limited and relatively low-cost projects that go beyond general maintenance, but which are often done in conjunction with general maintenance, to address a specific problem that would not be addressed by general maintenance activities.
- “Reconstruction” projects rebuild substandard or deteriorated roads to County design standards. These projects are sometimes considered a comprehensive form of maintenance. Their essential purpose is to improve the roadway base rather than to address a safety or capacity problem, though building to County design standards generally has beneficial effects on safety and capacity.

Historically, funding for maintenance of the system has fallen short of the need, although the 1988 Plan's policy to focus non-local maintenance funds on the major roadway system has kept the Arterial and Collector roadways in good condition. The lack of funding for local rural roadway maintenance has caused some problems in that regard, however.

The majority of funding for maintenance of County roads comes from the county's share of state motor vehicle funds - a combination of fuel taxes and registration fees; these funds are supplemented by a one-cent per gallon County fuel tax. Revenues from these sources have been directed toward maintaining the major roadway system. An urban road maintenance district was established and funded by voters in 1994 to pay for maintenance of urban local roads - typically the roads that take you from the major system to your house.

The Plan calls for continuing the practice of developing an annual Road Maintenance Program that specifically identifies maintenance projects and activities for the year and how anticipated resources will be allocated.

21.0 ROAD MAINTENANCE/RECONSTRUCTION PRIORITIZATION POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO ESTABLISH ANNUAL ROAD MAINTENANCE AND RECONSTRUCTION PROGRAMS THAT PROTECT PUBLIC SAFETY AND PROPERTY, MAKE EFFECTIVE USE OF AVAILABLE FUNDS AND PRESERVE THE COUNTY'S INVESTMENT IN ITS TRANSPORTATION SYSTEM.

Strategies:

- 21.1 Confine countywide road maintenance and reconstruction program activities to roads that have been formally accepted as "County Roads". Roads not under County jurisdiction, including local access or "Public Roads," will only be eligible for expenditure of county funds as prescribed and limited by the Oregon Revised Statutes and policies of the Board of County Commissioners. County funds will not be expended for the maintenance or improvement of private roads. Emphasis will be placed upon maintaining those County roads that were constructed to County structural standards.

21.2 Prioritize road maintenance and reconstruction expenditures annually in a resolution and order adopted by the Board of County Commissioners, using Table 12 as a guide:

Table 12: Road Maintenance Priority Matrix
Road Classification/Priority*

| Activity | Arterial | Collector | Rural Resource Route** | Neighborhood Route | Local Road |
|-------------------------|----------|-----------|------------------------|--------------------|------------|
| Mandated | 1 | 1 | 1 | 1 | 1 |
| Emergencies | 1 | 1 | 1 | 1 | 1 |
| Hazards | 1 | 1 | 1 | 1 | 1 |
| General Maintenance *** | 2 | 3 | 4 | 5 | 8 |
| Minor Improvements | 6 | 7 | 11 | 13 | 14 |
| Reconstruction | 9 | 10 | 12 | 15 | 16 |

* "1" is the highest priority; "16" is the lowest.
 ** Resource Routes are an identified network of rural local roads important to the County's economy and connectivity. Their designation will be adjusted periodically as needed as part of the Board-adopted annual maintenance program.
 *** Surface maintenance of paved roads shall be in conformance with the Base Condition concept described in Strategy 21.4.

21.3 Review procedures and response times for dealing with emergency and non-emergency requests for road maintenance service periodically by the Board of County Commissioners and revise as needed to ensure most effective use of available maintenance funds.

21.4 Implement a "Base Condition" concept for the maintenance of paved roads under which the average Pavement Condition Index (PCI) of all paved roads within a functional class are at or above the levels shown below:

| Functional Class | Average Pavement Condition Index |
|---------------------|---|
| Local Roads | 65 (with 90% of road miles greater than or equal to 50) |
| Neighborhood Routes | 70 (with 90% of road miles greater than or equal to 55) |
| Collectors | 75 (with 90% of road miles greater than or equal to 65) |
| Arterials | 80 (with 90% of road miles greater than or equal to 70) |

21.5 Develop a "Base Condition" concept for gravel roads that would provide a systematic measurement and reporting of their condition.

21.6 Annually adopt by resolution and order a Rural Resource Route work program supporting Local roads that serve active commercial resource activity.

21.7 Limit expenditures for major reconstruction projects to those County roads that are not identified as needing capacity improvements prior to 2010, identifying and prioritizing these projects in the Transportation Capital Improvement Program.

21.8 Except as noted in 21.4, finance reconstruction and minor improvement activities for Neighborhood Routes and Local Streets through localized funding mechanisms, such as the creation of service districts or Local Improvement Districts (LIDs) established exclusively for maintenance of these roads. For Neighborhood Routes and Local roads within the urban areas, encourage annexation to a city.

- 21.9 Maintain bikeways in good condition and coordinate with the responsible agencies for the periodic cleaning of bikeways. Establish a bicycle lane inspection and maintenance program for facilities not adequately maintained through the general road maintenance program.
- 21.10 Integrate and fund, as appropriate, pedestrian and bicycle improvements with road maintenance projects, such as resurfacing or shoulder widening, to take advantage of cost-sharing opportunities.
- 21.11 Establish and fund a maintenance program to keep pedestrian facilities along County streets in good condition. Asphalt pathways shall be maintained by the County and sidewalks shall be maintained by adjacent property owners.
- 21.12 Prioritize and fund appropriate bicycle and pedestrian expenditures, particularly those reducing barriers or hazards to children walking and bicycling to and from school, in the annual Washington County Operations and Maintenance Work Program.
- 21.13 Establish and fund a program to maintain landscaping and pedestrian amenities within the road right-of-way by the County or adjacent property owners, or a combination of both.

Plan Monitoring Background

Transportation system operating characteristics are influenced by a number of different factors, which should be reviewed regularly to determine whether changes in project lists, prioritization or general plan policies are warranted. Characteristics that warrant monitoring include population and employment growth, development activity, traffic volumes and accident analysis, transportation facility construction and condition, and plan amendments that occur over time.

Implementation of the Transportation Plan is almost entirely dependent upon the availability of funds. A periodic review of funding should include items such as an inventory of capital and maintenance expenditures, updates of planning-level project costs; estimates of anticipated revenues and an update of the long-term revenue forecast.

22.0 PLAN MONITORING POLICY

IT IS THE POLICY OF WASHINGTON COUNTY TO PERIODICALLY REVIEW THE TRANSPORTATION PLAN TO ENSURE THAT, CONSIDERING AVAILABLE RESOURCES, IMPLEMENTATION ACTIONS ARE CONSISTENT WITH AND ADVANCING PLAN POLICIES, ACHIEVING SATISFACTORY TRANSPORTATION AND LAND USE BENEFITS, AND ARE RESULTING IN ADEQUATE PROGRESS TOWARD ACHIEVING MODE SHARE TARGETS.

Strategies:

- 22.1 Periodically develop a “Status of the Plan” report that describes progress toward implementation of the Plan.
- 22.2 Establish a team to refine and coordinate the technical and financial monitoring process and to address outstanding issues, including addressing the need to close the gap between available funding and system needs, after the Plan is adopted.
- 22.3 Provide for amendments and administrative adjustments to the Transportation Plan that include the following:
 - A. Legislative Amendments:
Those changes which involve the creation, broad scale implementation or revision of public policy, including large scale map changes where a significant number of property owners are directly affected, may be processed as legislative plan amendments, including public hearings, as provided for in the Community Development Code. These include but are not limited to the Functional Classification Map and descriptions, Bicycle System Map (excluding alignment modifications to off-street pathways), Plan policies, modifications to the general location of facilities identified in the plan, and selection of the general location of a facility in a Corridor Study Area.
 - B. Quasi-Judicial Amendments:
When property is proposed for development and is affected by (i.e., contiguous to or traversed by) a proposed road alignment as shown on the functional classification map, a modification to the proposed road alignment may be processed as a quasi-judicial plan amendment as provided for in the Community

Development Code, including a public hearing, when the road alignment affects only the subject property or other properties in the immediate vicinity. Applications for quasi-judicial plan amendments may be initiated by the Board of County Commissioners, the Director or the owners of all property affected by the proposed alignment. A quasi-judicial plan amendment may be approved only if all the following criteria are satisfied:

1. The new alignment maintains the intent and purpose of the proposed alignment as originally shown on the Plan maps;
 2. The new alignment will not adversely affect the carrying capacity, safety, or integrity of the transportation system;
 3. The new alignment is necessary to preserve a significant natural feature, minimize engineering or construction constraints or would result in a significant enhancement of the development potential of the affected properties;
 4. The new alignment will not significantly increase the cost or complexity of any off-site improvements; and
 5. The new alignment does not have significant adverse affects on nearby property.
- C. Minor Adjustments include:
1. Adjustments to reflect minor modifications of existing roads outside an Urban Growth Boundary that are determined to comply with the provisions of OAR 660-12-065.
 2. Adjustments to reflect minor modification of a proposed road alignment that is part of a proposed development action within the Urban Growth Boundary when the proposed change is contained within the subject site and does not adversely affect an adjacent property.

When these criteria are met, the change in alignment may be processed as part of a development application without separate notice or hearing. The Minor Adjustment criteria does not apply to adjustments of Special Area Streets.

- D. For Special Area Streets, adopt road alignment corridors maps in Community Plans which allow limited movement of road centerlines through a Type II process. Modifications to streets to a greater extent than is allowed through a Type II process may be allowed through a Type III process subject to the criteria in the Community Development Code. Modifications that do not meet the Type III criteria shall be subject to a quasi-judicial or legislative plan amendment process.
- E. The Director shall determine if a proposed road alignment modification is legislative, quasi-judicial or a minor adjustment.

- 22.4 Provide for changes to the Transit System Map by coordinating any proposed modifications with TriMet and Metro.

Development Review Background

In 1992, Washington County adopted by resolution and order a citizen involvement program to be used during the transportation project development process for County projects. The adopted resolution and order described how the public would be involved in the development of the design of various types of transportation improvements. Requirements for appropriate notice to the public and service providers to be used during project development were included in the resolution and order.

Recognizing that many types of transportation improvements are defined by law as land use decisions or limited land use decisions, the County also adopted in 1992 a specific development review process and standards for the land use review of appropriate transportation facility improvements in unincorporated Washington County. The review procedures and standards are included in the Community Development Code. Transportation development application notice requirements to the public and service providers are listed in the Community Development Code.

23.0 DEVELOPMENT REVIEW PROCESS

IT IS THE POLICY OF WASHINGTON COUNTY TO PROVIDE A DEVELOPMENT REVIEW PROCESS THAT IDENTIFIES, ADDRESSES AND COORDINATES REVIEW OF ROADWAY, TRANSIT, BICYCLE AND PEDESTRIAN FACILITY IMPROVEMENTS THAT MAY HAVE A SIGNIFICANT IMPACT ON THE TRANSPORTATION SYSTEM OR THE COMMUNITY.

Strategies:

- 23.1 Utilize the development review process and standards contained in the Community Development Code (CDC) to review transportation development applications. Identify as subject to development review those types of roadway, transit, bicycle and pedestrian facility improvements most likely to have significant transportation system or community impacts. Exempt from review those types of improvements which generally do not have significant impacts or which involve final engineering, design, construction, operation, maintenance, repair or preservation decisions.
- 23.2 Recognize that proposed and existing alignments shown on the Functional Classification System Map and Community Plans are generalized. The Community Development Code shall provide a process and standards for reviewing the significant impacts of alignment and right-of-way modification decisions. All alignments must be consistent with the Functional Classification System Map.
- 23.3 Review the design of improvements subject to development review to consider ways to mitigate significant impacts on the community or neighborhoods.
- 23.4 Utilize Washington County's Citizen Involvement Program during the project development process for County transportation projects.
- 23.5 Provide for appropriate public notice and review, including notice to affected transportation service and facilities providers, during the development review process.

Glossary

Functional Classification

Pedestrian Facility *Arterial*

Roadway Segment

Deficiency Area *Principal Arterial*
Collector

Boulevard Intersections

Traffic Calming

Major Transit Stop

Access Management

Neighborhood Route *Right-of-way*

Intermodal Facility

Glossary

2040 Growth Concept - A concept for the long-term growth management of our region, stating the preferred form of the regional growth and development, including if, where, and how much the urban growth boundary should be expanded, what densities should characterize different areas, and which areas should be protected as open space.

Access - The ability to gain direct ingress or egress to or from a specific location along a roadway. Local roads providing direct access to individual properties generally have better access than Arterial roads or freeways, whose primary purpose is to serve through travel.

Accessibility - The relative ease with which a given destination or type of land use can be reached by one or more modes of travel. Locations that can be accessed by many people using a variety of modes of transportation generally have high accessibility.

Access Management - 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 siting of interchanges, 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 - A paved transportation facility that is not part of a roadway and is built to provide a direct access for pedestrians and bicyclists when a direct street connection is not practicable.

Advanced Traffic Management System (ATMS) - This term refers to traffic management techniques that use computer processing and communications technologies to optimize performance of motor vehicle, freight and public transportation systems. ATMS is a subset of intelligent transportation system (ITS) technologies and must be addressed as one of the 16 ISTEA planning factors.

Americans With Disabilities Act (ADA) of 1990 - Civil rights legislation enacted by Congress that mandates the development of a plan to address discrimination and equal opportunity for disabled persons in employment, transportation, public accommodation, public services and telecommunications. TriMet's ADA transportation plan outlined the requirements of the ADA as applied to TriMet services, the deficiencies of the existing services when compared to the requirements of the new act and the remedial measures necessary to bring TriMet and the region into compliance with the act. Metro, as the region's metropolitan planning organization (MPO) is required to review TriMet's ADA Paratransit Plan annually and certify that the plan conforms to the Regional Transportation Plan. Without this certification, TriMet cannot be found to be in compliance with the ADA. ADA also affects the design of pedestrian facilities being constructed by local governments.

Arterial - Arterial streets interconnect and support the Principal Arterial highway system. Arterials intended to provide general mobility for travel within the region. Correctly sized Arterials at appropriate intervals allow through trips to remain on the Arterial system thereby discouraging use of Local streets for cut-through traffic. Arterial streets link major commercial, residential, industrial and institutional areas.

Bicycle - A vehicle having two tandem wheels, a minimum of 14 inches in diameter, propelled solely by human power, upon which a person or persons may ride. A three-wheeled adult tricycle is considered a bicycle. In Oregon, a bicycle is legally defined as a vehicle. Bicyclists have the same right to the roadways and must obey the same traffic laws as the operators of other vehicles.

Bicycle facilities - A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities, all bikeways and shared roadways not specifically designated for bicycle use.

Bike lane - A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists

Bikeway - A bikeway is created when a road has the appropriate design treatment for bicyclists, based on motor vehicle traffic volumes and speeds. Bikeways include striped and stenciled bike lanes of 5 to 6 feet in width, paved shoulders of at least 4 feet in width and off-street, paved, multi-use paths at least 10 feet in width. In areas where constraints limit roadway width, 14 foot wide outside travel lanes that transition to either paved shoulders or bike lanes when the constraint ends are also considered bikeways.

Boulevard – A “Boulevard” is a design overlay intended to improve the pedestrian environment in specified locations throughout the metropolitan area. Boulevard locations within Washington County are specifically identified in the Regional Street Design Overlay Map (Figure 3) in the Plan. A “Boulevard Study Area” is an area where a Boulevard is planned but its location has not yet been determined. Boulevard design features will be considered for facilities identified for “Boulevard Design Consideration” on the map, and may be incorporated into these projects. A Boulevard may have three or more lanes and may include landscaped medians, on-street parking, landscape buffered sidewalks and enhanced pedestrian crossings. These roadways also include bicycle lanes and wide sidewalks that can accommodate transit enhancements such as benches or bus shelters.

Boulevard intersections - Boulevard design classifications are usually focused on centers and some main streets where a pedestrian and transit-oriented street design can best complement dense development patterns. However, there are many locations where corridors and some main streets intersect along major streets. At these intersections, the confluence of motor vehicle traffic must be managed to limit negative impacts on multi-modal travel and the development of planned land-uses. While boulevard intersections accommodate a significant amount of motor vehicle travel, they are designed with special amenities that promote pedestrian, bicycle and public transportation travel. Pedestrian improvements are substantial, including wide sidewalks, special lighting, crossings on all streets and special crossing features where unusually heavy motor vehicle traffic is present.

Capacity - The maximum number of vehicles (vehicle capacity) or passengers (person capacity) that can pass over a given section of roadway or transit line in one or both directions during a given period of time under prevailing roadway and traffic conditions.

Capital Improvements Program (CIP) – a document that lists projects to be undertaken in the next five- to ten-year timeframe, the estimated costs and funding sources for those projects, and if funding has been committed to a project, a schedule for the funded work, which may be design, right of way acquisition, construction or all three.

Citizen Advisory Committee (CAC) - Selected for a specific issue, project or process, a group of citizens volunteer and are appointed by the Washington County Board of Commissioners to represent citizen interests.

Collector - Collector streets provide both access and circulation between residential, commercial, industrial and agricultural community areas and the Arterial system. As such, Collectors tend to carry fewer motor vehicles than Arterials, with reduced travel speeds. Collectors may serve as freight access routes, providing local connections to the Arterial network.

Corridor study – A study that is directed toward specifically defining projects and strategies for meeting an identified need in a transportation corridor.

Deficiency area - Deficiency areas result from an evaluation of 2020 conditions based upon the projects identified in this Plan being in place. Even with the planned projects certain facilities, system elements and sub-areas are expected to exceed the acceptable performance measures defined and no appropriate feasible solution has been identified. Additional strategies to raise the motor vehicle performance in these areas, if any, will be approached on a case by case basis.

Development review - The process of reviewing a proposed development action for conformance with the County’s Community Development Code (“Code”) and the applicable standards and requirements of the Comprehensive Plan as specified by the Code.

Director - The Director of Washington County’s Department of Land Use and Transportation.

Functional classification – A mechanism for classifying roadways according to the function they perform in the transportation system. Classifications typically range from Arterials, which are intended to facilitate relatively high speed traffic over long distances, to Local Roads, which facilitate access to properties. When properly combined, roadways with different functional classifications provide a system that meets both the access and mobility needs of the communities it serves.

High-occupancy vehicle (HOV) - This term refers to vehicles that are carrying two or more persons, including the driver. An HOV could be a transit bus, vanpool, carpool or any other vehicle that meets the minimum occupancy requirements of the specific facility. In practice, only vehicles with two or three or more persons would be able to use a designated “HOV” travel lane.

Intermodal facility - A transportation element that accommodates and interconnects different modes of transportation and serves the statewide, interstate and international movement of people and goods. For example, an intermodal yard is a railyard that facilitates the transfer of containers or trailers. See also passenger intermodal facility and freight intermodal facility definitions.

Local Street - Local Streets primarily provide direct access to adjacent land. While Local streets are not intended to serve through traffic, the aggregate effect of local street design impacts the effectiveness of the Arterial and Collector system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the Arterial street network. In the urban area, local roadway system designs often discourage “through traffic movement”, however, in the rural area local roads are sometimes the only facilities available for access to dispersed rural land uses.

Major transit stop - Major bus stops, transit centers and light-rail stations on the regional transit network.

Metro - The regional government and designated metropolitan planning organization (MPO - see below) of the Portland metropolitan area. It is governed by a 7-member Metro Council elected by and representing districts within Metro's jurisdictional boundaries: Multnomah County and generally the urban portions of Clackamas and Washington counties. Metro is responsible for the Oregon Zoo, solid waste landfills, the Oregon Convention Center, the Portland Center for the Performing Arts, establishing and maintaining the urban growth boundary, and for regional transportation planning activities such as the preparation of the RTP, and the planning of regional transportation projects including light-rail.

Minor modification - Minor modification to a roadway including channelization or realignment that does not have significant land use or traffic impacts beyond the immediate neighborhood.

Mobility - The ability of people and goods to move quickly, easily and cheaply to where they are destined at a speed that represents free flow or comparably high-quality conditions.

Motor vehicle - This includes automobiles, motorcycles, recreational vehicles and all types of trucks, including those used for freight. It does not include buses as those are considered an element of another mode (transit).

Motor Vehicle Level of Service – A qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety. A LOS rating of “A” through “F” describes the traffic flow on streets and highways and at intersections. The following information describes general traffic flow characteristics for each level of service on a street or highway.

- A. Virtually free flow; completely unimpeded
- B. Stable flow with slight delays; reasonably unimpeded
- C. Stable flow with delays; less freedom to maneuver
- D. High Density but stable flow
- E. Operating conditions at or near capacity; unstable flow
- F. Forced flow, breakdown conditions

Neighborhood Route - Neighborhood Routes (generally former Minor Collectors) are in residential neighborhoods and provide connectivity to the Collector and Arterial system. They do not serve citywide or community circulation. 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 allowed (including devices such as speed humps, traffic circles and other devices). New neighborhood routes may be established via the land development process.

Off-Street Trails - A transportation facility that is physically separated from motor vehicle traffic by an open space or barrier for use by bicyclists; pedestrians, including persons using a wheelchair; skaters; and other non-motorized travel. Off-street trails may be located in a road right of way or within an independent right of way.

Peak two-hour period - The highest hour of motor vehicle demand on a given facility or segment and the hour immediately following the highest hour of demand.

Pedestrian - A person on foot, in a wheelchair or walking a bicycle.

Pedestrian facility - An improvement provided for the benefit of pedestrian travel, including sidewalks, crosswalks, illumination, signals and benches.

Planning period - The twenty-year period to which the Plan applies.

Placeholder projects – A “placeholder” project is used as a surrogate for a project that has not yet been defined. Placeholder projects are generally used in study areas, and serve primarily as mechanisms for estimating the impacts on the rest of the transportation system of a project that will be identified later as part of study area analysis.

Principal Arterial - Principal Arterials (Freeways and Highways) form the backbone of the motor vehicle network. These routes connect over the longest distance (sometimes miles long) and are spaced less frequently than other Arterials or Collectors. These highways generally span several jurisdictions and often have statewide importance. At a minimum, highways that are classified by ODOT as Interstate or Statewide Highways are considered Principal Arterials.

Regional Transportation Plan (RTP) - The official intermodal transportation plan that is developed through a regional transportation planning process and adopted by Metro.

Right-of-way (ROW) - This term refers to publicly-owned land, property or interest therein, usually in a strip, within which the entire road facility (including travel lanes, medians, sidewalks, shoulders, planting areas, bikeways and utility easements) must reside. The right-of-way is usually defined in feet and is acquired for or devoted to multi-modal transportation purposes including bicycle, pedestrian, public transportation and vehicular travel.

Roadway segment - A portion of a street right-of-way developed for vehicular traffic.

Sidewalk - A concrete walkway that is separated from the roadway by a curb, planter area or roadside ditch that is built to adopted standards.

Single-occupancy vehicle - This term refers to vehicles that are carrying one person.

Study area – In general, study areas relate to facilities or areas for which further study is required to determine specifically how an identified need should be met. In these cases the function, proposed alignment, or other specific solution has yet to be identified. Additional analysis will need to occur before solutions to the identified traffic problems can be addressed. The purpose of each study area is defined in the study area descriptions in Plan strategy 10.10.

Telecommute - This term refers to a transportation demand management strategy whereby an individual substitutes working at home for commuting to a work site on either a part-time or full-time basis.

Traffic calming - A transportation system management technique that aims to prevent inappropriate through-traffic and/or reduce motor vehicle speeds on a particular roadway. Traditionally, this technique may include speed humps/tables, curb extensions, planted median strips or rounds and narrowed travel lanes.

Transit - This term refers to publicly funded and managed transportation services and programs within the urban area, including light-rail, regional rapid bus, frequent bus, primary bus, secondary bus, minibus, paratransit and park-and-ride.

Transportation Demand Management (TDM) - 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 but are not limited to the use of alternative modes, ride-sharing and vanpool programs, and trip-reduction ordinances.

Transportation disadvantaged - Individuals who have difficulty in obtaining transportation because of their age, income, physical or mental disability.

Transportation Management Association (TMA) - This term refers to non-profit coalitions of local businesses and/or public agencies dedicated to reducing traffic congestion and pollution and improving commuting options for employees.

Transportation Plan (“the Plan”) - The Washington County 2020 Transportation Plan.

Transportation Planning Rule (TPR) - The implementing rule of statewide planning goal (#12) dealing with transportation, as adopted by the state Land Conservation and Development Commission (LCDC). Among its many provisions, the rule includes requirements to preserve rural lands, reduce vehicle miles traveled (VMT) per capita by 20 percent in the next 30 years, reduce parking spaces and to improve alternative transportation systems.

Transportation System Management (TSM) - Strategies and techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without major new capital improvements. This may include signal improvements, intersection channelization, access management, HOV lanes, ramp metering, incident response, targeted traffic enforcement and programs that smooth transit operations.

TriMet - Tri-County Metropolitan Transportation District, which is the transit agency for most of Clackamas, Multnomah and Washington counties.

Urban Growth Boundary (UGB) - The legally defined boundaries adopted by Washington County, Metro or appropriate incorporated cities, and acknowledged by LCDC, which identify and separate urbanized land from rural and natural resource land.

Vanpool/Carpool – A group of two or more people who share the use and/or cost of a van or car for transportation to and from a destination.

Vehicle miles traveled (VMT) - Automobile vehicle miles of travel. Automobiles, for purposes of this definition, include automobiles, light trucks, and other similar vehicles used for movement of people. The definition does not include buses, heavy trucks and trips that involve commercial movement of goods. VMT includes trips with an origin and a destination within the MPO boundary and excludes pass through trips (i.e., trips with a beginning and end point outside of the MPO) and external trips (i.e., trips with a beginning or end point outside of the MPO boundary). VMT is estimated prospectively through the use of metropolitan area transportation models.

Walkway - A hard-surfaced transportation facility built for use by pedestrians, including persons using wheelchairs, such as a sidewalk, off-street trail, accessway or path.

Washington County **2020** Transportation Plan

A special thanks to Washington County Transportation Plan committee members:

TRANSPORTATION PLAN CITIZEN ADVISORY COMMITTEE

| | |
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| Irma Trommlitz, CPO 1 | Wayne Atteberry, Westside Economic Alliance |
| Melanie Schmick, CPO 3 | Hal Ballard, Bicycle Transportation Alliance |
| Bob Bothman, CPO 3 | Meeky Blizzard, Citizens for Sensible Transportation |
| Judith Anderson, CPO 4K | Lois Ditmars, Westside Economic Alliance |
| Marten King, CPO 4M | Judy Edwards, Westside Transportation Alliance |
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| Wendy Mortensen, CPO 8 and RROMAC | |
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TRANSPORTATION PLAN INTERAGENCY COORDINATING COMMITTEE

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| Lidwien Rahman, ODOT/TGM | Robin Biden, Hillsboro Schools |
| Roel Lundquist, Durham | Susie Lahsene, Port of Portland |
| Dale Merrell, Banks | Carolyn Sharp, Tualatin Hills Parks & Recreation |
| Richard Meyer, Cornelius | Lynn Peterson, Tri-Met |
| Jon Holan, Forest Grove | Jeff Grunewald, Tualatin Valley Fire & Rescue |
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| Don Otterman, North Plains | |
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