Chapter 2:  
Current & Future 
Transportation Conditions

2.1 INTRODUCTION

The purpose of this chapter is to provide an overview of the current and future transportation system conditions in Washington County and develop an inventory of the physical, operational, traffic safety, and travel characteristics of the transportation corridors in the study area. This inventory includes a summary of the following:

- Study area corridors
- Recurrent congestion locations
- High crash locations
- Transit operations
- Traffic signal control
- Intelligent transportation system (ITS) elements
- Communications network
- Emergency management
- Incident management
- Special events
- Freight movement
- Traveller information
- Relevant adopted documents

The main goal of the inventory is to establish the baseline conditions in the study area that will be used for building an intelligent transportation system based on regional transportation user needs.

2.2 STUDY AREA

Figure 2-1 illustrates the 25 study corridors in the study area, which encompasses the current boundaries of Washington County. The key study area corridors include:

- Barnes Road
- Baseline Road
- Baseline Street/Pacific Avenue (ORE 8)
- Beaverton-Hillsdale Highway (ORE 10)
- Canyon Road (ORE 8)
- Cedar Hills Boulevard
- Cornelius Pass Road
- Cornell Road
- Durham Road
- Evergreen Road
- Farmington Road (ORE 10)
- Gaarde Street
- Hall Boulevard
- Main Street
- Murray Boulevard
- Oleson Road
- Pacific Highway (ORE 99W)
- Roy Rogers Road
- Scholls Ferry Road (ORE 210)
- Shute Road
- SW 158th Avenue
- SW 185th Avenue
- Tualatin-Sherwood Road
- Tualatin Valley Highway (ORE 8)
- Walker Road
- Walnut Street
A detailed list of planned projects on each of the study corridors can be found in Section 2.13.3. The transportation operating conditions of the key study corridors are summarized in Figure 2-1. Key regional facilities located within the study area are depicted in Figure 2-2 and Appendix A includes addresses for these facilities. These facilities include City halls, public works departments (engineering offices and maintenance facilities), schools, and emergency management facilities (fire stations, police stations, 911 centers, ambulance locations, hospitals, and emergency operations centers).

### 2.3 TRAFFIC CONDITIONS SUMMARY

Congested corridor sections/bottlenecks and high collision locations provide the greatest opportunities to implement ITS field elements that will produce a noticeable benefit. This section provides a summary of existing and future recurrent congestion locations and high collision locations.

#### 2.3.1 Characteristics of Congestion

Congestion is typically categorized as either non-recurrent or recurrent. Non-recurrent congestion results from unexpected random events such as collisions or road debris in travel lanes. Recurrent congestion happens repeatedly at the same location, such as at key bottlenecks, merge points, or weaving sections, during peak periods. Volume-to-capacity (v/c) ratios help determine locations where traffic flows are near or at capacity on a consistent basis, indicating recurrent congestion. For this study, the congestion level has been designated by volume-to-capacity ratios as listed in Table 2-1.

<table>
<thead>
<tr>
<th>Congestion Level</th>
<th>Volume-to-Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>0.90 – 0.99</td>
</tr>
<tr>
<td>Severe</td>
<td>≥ 1.00</td>
</tr>
</tbody>
</table>

#### 2.3.2 Existing Congestion

There are numerous congested locations that would fall into the levels as identified above during the evening peak 2-hour period today. The major corridors that are designated in the severe level include Farmington Road, TV Highway, Murray Boulevard, Highway 99W, Tualatin-Sherwood Road, Durham Road, Barnes Road, Cornell Road, Walker Road, Hall Boulevard, Highway 217, and US 26. Figure 2-3 highlights the existing peak period high and severe congestion locations.

#### 2.3.3 Future Congestion

Figure 2-4 illustrates potential recurrent congestion locations for the year 2020 based on travel forecasts for peak hour travel demand. The Washington County travel demand model for 2020 includes the recommended projects as outlined in the Washington County Transportation System Plan. The forecasts indicate increased congestion by 2020, particularly on Highway 99W, Tualatin-Valley Highway, Farmington Road, Murray Boulevard, Highway 217, 185th Avenue, Cornell Road and Cornelius Pass Road.
Washington County ITS Plan
SEPTEMBER 2, 2004

LEGEND
- SCHOOL
- HOSPITAL
- CITY HALL
- FIRE STATION
- POLICE STATION
- MAINTENANCE FACILITIES
- TRANS. MANAGEMENT OFFICE
- URBAN GROWTH BOUND.
- COUNTY LINE

Figure 2 - 2
REGIONAL FACILITIES
Washington County ITS Plan

SEPTEMBER 2, 2004

LEGEND

- **HIGH CONGESTION** (V/C 0.9 - 0.99)
- **SEVERE CONGESTION** (V/C > 1.0)
- **URBAN GROWTH BOUND.**
- **COUNTY LINE**

Figure 2 - 4
Future Problem Areas
2.3.4 Crash Summary

To identify locations with high collision rates, Washington County and ODOT use a Safety Priority Index System (SPIS). Both the Washington County and ODOT SPIS rank every intersection or roadway segment that has had three or more accidents or one or more fatalities over a three-year period. For the ODOT SPIS, a score is given every 0.10-mile section of roadway based on three years of collision data with weighting for crash frequency, rate, and severity. Washington County’s is similar but is calculated only for intersections and not roadway segments. ODOT identifies the top 10 percent SPIS sites every year and evaluates these locations for safety problems.

Additional problem locations are identified through an assessment of collision reports. ODOT identifies safety corridors with high collision rates and also uses a ranking methodology to analyze specific locations based on a three-year crash history.

ODOT designates a “Safety Corridor” or a “Truck Safety Corridor” for any state or local highways that have a higher frequency of traffic collisions than the statewide average for a similar roadway type. There are no safety corridors in Washington County at this time.

The City of Hillsboro tracks high accident locations based solely on the number of recorded accidents. This accident data was compiled to determine the top ten accident locations.

Figure 2-5 highlights the SPIS locations throughout Washington County as identified by both Washington County (1999-2001) and ODOT (2000-2002) and the top ten high accident locations in the City of Hillsboro. SPIS data is attached in Appendix B.

2.4 TRANSIT

The Tri-County Metropolitan Transportation District of Oregon (TriMet) provides numerous bus routes throughout Washington County including Routes 12, 20, 36, 37, 38, 43, 45, 46, 47, 48, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 67, 76, 78, 88, 89, 92, 94, 95, and 96. These routes operate on nearly every major arterial in the urban area.

TriMet has two light rail lines that provide service to Washington County. The blue MAX line travels from downtown Portland to the Beaverton and Hillsboro Transit Centers (TC). The red MAX line travels from the Portland Airport and terminates at the Beaverton TC.

A future rail project is planned for Washington County. In the next couple years, Washington County plans to build a 15-mile commuter rail line between Beaverton and
Figure 2-5
High Collision Locations
Wilsonville\textsuperscript{1}. The plan includes a rail station and Park and Ride in Wilsonville on Boberg Road that would likely be a transit center with connections for TriMet and SMART\textsuperscript{2} bus routes. In Beaverton, the Commuter Rail would link to TriMet’s light rail line at the Beaverton Transit Center.

Transit centers within the county include the Beaverton TC, Hillsboro TC (SE 3rd Avenue), Sunset TC (Barnes Road), Tigard TC, Willow Creek TC (SE 185th Avenue) and Washington Square TC. Approximately 23 Park and Ride lots are located within the study area. Figure 2-6 shows existing and planned transit infrastructure as identified by TriMet within the study area.

### 2.5 TRAFFIC SIGNALS

This section describes the traffic signal equipment used at signalized intersections in Washington County. Tables are provided in Appendix C, as provided by each agency, that describes the signal controller type and the agency that owns, maintains and operates each signal. Figure 2-7 depicts the existing and planned traffic signals in the study area. The signals are color-coded by the jurisdiction of operation. Existing signal interconnect locations are depicted on Figure 2-9.

Traffic signals in Washington County are currently operated by the following five agencies: Washington County, City of Beaverton, City of Hillsboro, City of Tigard and ODOT. Washington County is responsible for maintenance of traffic signals owned by the Cities of Sherwood, Forest Grove, Tigard, and Tualatin. Table 2-2 lists the appropriate traffic signal operations contact person at each agency.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
<th>Phone</th>
<th>Number of Signals in the Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington County</td>
<td>Vaughn Lewis</td>
<td>(503) 846-7959</td>
<td>201</td>
</tr>
<tr>
<td>City of Hillsboro</td>
<td>Brad Eckland</td>
<td>(503) 615-6562</td>
<td>24</td>
</tr>
<tr>
<td>City of Beaverton</td>
<td>Pamela Maki</td>
<td>(503) 526-2426</td>
<td>51</td>
</tr>
<tr>
<td>City of Tigard</td>
<td>Mike Mills</td>
<td>(503) 639-4171</td>
<td>23</td>
</tr>
<tr>
<td>ODOT</td>
<td>Doug Anderson</td>
<td>(503) 731-8123</td>
<td>136</td>
</tr>
<tr>
<td><strong>TOTAL NUMBER OF SIGNALS ON STUDY AREA ROUTES</strong></td>
<td></td>
<td></td>
<td><strong>435</strong></td>
</tr>
</tbody>
</table>

This section includes details pertaining to controller and controller cabinet type, video detection, existing signal systems, and emergency vehicle preemption capabilities.

#### 2.5.1 Traffic Signal Operations

Approximately 524 traffic signals are operational today in Washington County. Appendix C describes the existing and planned traffic signal equipment (location, controller type, ownership, operation and maintenance responsibilities) for each of the five local agencies.

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\textsuperscript{1} Wilsonville to Beaverton Commuter Rail, Washington County, April 26, 2002. 

\textsuperscript{2} SMART (South Metro Area Rapid Transit) provides bus service for the City of Wilsonville.
Washington County ITS Plan
SEPTEMBER 2, 2004

LEGEND

Existing Traffic Signal Ownership
- Washington Co.
- Tualatin
- Beaverton
- Sherwood
- Hillsboro
- Forest Grove
- ODOT
- Tigard

Planned Traffic Signals

URBAN GROWTH BOUND.

COUNTY LINE

Sources:
- Metro RLS Data
- Washington County GIS Department

Figure 2-7
EXISTING AND PLANNED TRAFFIC SIGNALS
transportation agencies. A description of the operating procedures and equipment used by each agency is provided herein.

The majority of traffic signals within Washington County use Type 170 controllers with Wapiti software and TransLink closed loop traffic signal system software. A few remaining intersections (mostly signalized pedestrian crossings) use electromechanical controllers.

The City of Beaverton, ODOT, City of Hillsboro, and Washington County operate time-based coordination at many of the intersections during the weekday and weekend peak periods. These agencies use a combination of AM, Midday, PM, and weekend peak coordinated timing plans while many others operate in the free mode. No traffic signals are physically connected via communication cable to an engineering or maintenance building today. To access the signal timing data remotely, the agencies use dial-up phone lines, on-street masters and the TransLink closed loop traffic signal system software.

2.5.1.1 Oregon Department of Transportation
ODOT operates 136 traffic signals in Washington County, and is responsible for maintenance for the majority of those signals. The City of Beaverton and Washington County currently maintain a portion of the state-owned traffic signals within their jurisdiction.

2.5.1.2 City of Beaverton
The City of Beaverton operates and maintains 51 traffic signals within the City limits and a portion of these outside the City limits for Washington County and ODOT. The City of Beaverton maintains 31 ODOT-owned traffic signals and 32 County-owned traffic signals.

2.5.1.3 City of Hillsboro
The City of Hillsboro owns, operates and maintains 24 traffic signals within the City limits including eight signals along the TriMet light rail line on Washington Street.

2.5.2 Video Detection
The majority of traffic signals in Washington County use inductive loops for vehicle detection. The City of Beaverton currently has 13 intersections and Washington County has 2 intersections with video detection. Traficon manufactures the video detection system used by both the City and County. The video used for vehicle detection is not transmitted to a central location for monitoring. However, the City of Beaverton has the capability via dial-up phone lines to access the video remotely. Both the City of Beaverton and Washington County have standardized on video detection for all new traffic signals and existing traffic signal retrofits.
2.5.3 Red Light Camera Enforcement

Based on a request from the public in regards to traffic safety concerns, the City of Beaverton has red light camera enforcement at four intersections in 2001. The City along with the Beaverton Police Department selected four intersections based on accident history, severity of accidents, history of red light running, and cost feasibility. The red light camera enforcement intersections include Allen Boulevard/Lombard Avenue, Beaverton-Hillsdale Highway/Griffith Drive, Scholls Ferry Road/Hall Boulevard, Cedar Hills Boulevard/Walker Road. Red Light Enforcement cameras are owned, operated and maintained by a private provider.

2.5.4 Emergency Vehicle Preemption

The majority of the traffic signals in Washington County have full fire district vehicle preemption using Opticom™ on all intersection approaches. Police vehicles and ambulances do not have capability to preempt traffic signals. The majority of Washington County currently has model 500 to 700 series optical detectors and discriminators at all traffic signals within the county limits. These detectors provide the capability to provide preemption based on vehicle identification numbers and provides capability to provide lower priority preemption for transit vehicles.

2.6 ITS EQUIPMENT

Some of the agencies within Washington County have already made a significant investment in intelligent transportation system infrastructure or they are currently deploying some significant communications infrastructure. The following sections describe existing and planned ITS equipment by agency including existing software systems, closed-circuit television (CCTV) cameras, dynamic message signs (DMS), traffic count stations, and weather stations. Figure 2-8 shows the locations of the existing and programmed ITS devices.

Many of the ITS devices in Washington County have been deployed to address incidents on Highway 217 and US 26.

2.6.1 Traffic Management Operations Center

ODOT currently operates a Traffic Management Operations Center (TMOC) for Region 1 (which includes Washington County) on the 1st floor of their Region 1 office in Portland. The facility is utilized to manage and coordinate response to incidents and to dispatch ODOT personnel throughout the Region. Dispatchers in the center are responsible for posting messages on the dynamic message signs. The center has access to video images from cameras within the Metro area including Washington County.
2.6.2 Closed-Circuit Television (CCTV) Cameras
Today, ODOT uses 25 closed-circuit television (CCTV) cameras to monitor traffic on US 26, I-5, and Highway 217 in Washington County. CCTV cameras are located at critical locations along these highways to verify road conditions and incidents. ODOT posts images from some of the existing cameras on Highway 217 and US 26 on the TripCheck website, which is described in Section 2.12. ODOT has plans to install additional CCTV cameras at US 26 interchanges at 185th Avenue, Cornelius Pass Road, and Shute Road.

2.6.3 Ramp Meters
ODOT currently operates 110 ramp meters in the Portland metropolitan region. Numerous ramp meters have been installed on Highway 217 and US 26 ramps within Washington County. ODOT currently has plans to implement System Wide Adaptive Ramp Meter (SWARM) control within the next year. SWARM will provide the ramp meters with the capability to adapt to local conditions, predict the onset of recurring congestion and respond system wide by automatically adjusting the metering rate.

2.6.4 Dynamic Message Signs (DMS)
Currently ODOT operates and maintains two dynamic message signs in Washington County that provide information to motorists about potential delays ahead. Both existing DMS are on US 26 east and west of Highway 217. ODOT plans to install another dynamic message sign on Oregon 99W at 69th Avenue as part of a future project. The two existing dynamic message signs are accessed remotely via a radio transmission link.

2.6.5 Automatic Traffic Recorders
The City of Beaverton currently has two automatic traffic recorders (ATR) on Beaverton-Hillsdale Highway but they are not operational at this time. ODOT has several ATR’s in rural Washington County. ATR’s collect volume, speed and occupancy data.

2.6.6 Road Weather Information Systems (RWIS)
RWIS is used to identify potential weather hazards on roadways such as icy or windy conditions. Weather and road condition information collected from weather stations can include temperature, wind speed, wind direction, humidity, and road surface temperature. ODOT owns and operates a weather station at Timber Junction on Highway 26 and the City of Beaverton water department owns and operates two weather stations that are located at the City of Beaverton Library and the water facility at Sexton Mountain. The City of Tualatin owns and operates a weather station at their Operations Center.
2.7 COMMUNICATIONS EQUIPMENT

The communications system is one of the most critical components in the deployment of ITS infrastructure since local agencies must be able to monitor, control, and operate traffic management devices from remote locations to effectively manage the movement of passengers and goods. The existing transportation related communications network in Washington County consists of a variety of media such as fiber optic cable, twisted-pair copper, radio, and cellular telephone. The existing communications infrastructure is illustrated in Figure 2-9.

Nearly all of the agencies in Washington County participate in the Broadband User’s Group (BUG). This group provides communications network infrastructure between the jurisdictions and is used today for a County wide area network. The communications infrastructure owned and operated by the BUG is not currently used for any communications to field devices such as traffic signals, cameras, and so forth.

Agencies in the Portland metropolitan area and including the Washington State Department of Transportation (WSDOT) are currently planning to build a physical communication ring between agencies as part of a regional transportation communication network. As part of the current plans ODOT, City of Portland, TriMet, WSDOT and the Port of Portland will be part of the primary ring with Gigabit (1000 megabytes per second) communications between the agencies. Washington County and the City of Beaverton have plans to connect to the ring as tributaries\(^3\) with a bandwidth of 100 megabytes per second (Mbps) in the near future. The City of Beaverton is planning to construct a conduit and fiber optic cable path between Beaverton City Hall and the TriMet fiber on the light rail line as part of the Commuter rail project currently under design.

2.7.1 Fiber Optic Infrastructure

Washington County, the City of Beaverton and TriMet have an agreement to share two of the existing TriMet fibers. These fibers can be used for interagency communications.

ODOT currently has an extensive fiber optic cable network along Highway 217 from I-5 to US 26. ODOT has plans to install fiber optic cable along US 26 from the Zoo to NW Helvetia Road/Shute Road including a cable spur along Highway 217 to the Walker Road interchange.

2.7.2 Twisted-Pair Infrastructure

Washington County has copper twisted-pair infrastructure to existing traffic signals on ten existing arterials. These arterials include Murray Boulevard, Barnes Road, Farmington Road, Cornelius Pass Road, Pacific Avenue, 19\(^{th}\) Avenue, 185\(^{th}\) Avenue, Cornell Road, Scholls Ferry Road, and Tualatin-Sherwood Road.

\(^3\) A tributary on this network simply means the agency will only have one physical communication path connecting them to the network. This does not preclude the tributary agency from becoming a member of the ring in the future, but an alternate communication path would need to be constructed. In addition, each member agency may select to purchase equipment to support a bandwidth of 100Mbps or 1000Mbps.
The City of Beaverton currently has copper twisted-pair infrastructure between 95 of their 116 traffic signals.

The City of Hillsboro has copper twisted-pair infrastructure on Main Street, Washington Street, 6th Avenue, 8th Avenue, 25th Avenue, 229th Avenue, Amberglen Parkway, Imbrie Drive, and 206th Avenue.

Both the County and Cities use the copper cable for communication between traffic signals at this time. The existing copper cable includes a minimum of 6 pairs of conductors.

2.8 EMERGENCY MANAGEMENT

This section describes the emergency management agencies in Washington County as well as the strategies used for routine services typically handled by 911, police, fire, and medical agencies and strategies for major emergencies and disasters.

2.8.1 911 Centers

The Washington County Consolidated Communication Agency (WCCCA) is the 911 dispatch agency for all public safety agencies in Washington County (with the exception of the Forest Grove Police Department). WCCCA acts as the central answering point for all of the public safety agencies. WCCCA has 51 full-time dispatchers for the 400,000+ Washington County residents. WCCCA operates 24 hours a day, 365 days a year. They dispatch calls to 12 police agencies and 7 fire/EMS agencies. The consolidated agency houses a computer aided dispatch system that maps addresses and provides other information that enhances 911 services. Table 2-3 lists the local emergency management agencies that use the 911 center for call-taking and dispatching services.

2.8.2 Police, Fire, and Medical Agencies

Table 2-3 lists all of the police, fire, and medical agencies that serve Washington County, and emergency management facilities and hospitals are illustrated in Figure 2-2. (Appendix A contains addresses of these facilities.) Most of the emergency management agencies listed in Table 2-3 primarily serve the jurisdiction for which they are named with a few exceptions. Tualatin Valley Fire & Rescue serves the cities of Beaverton, Tigard, Tualatin, Durham, King City, Sherwood, and a portion of Washington County. The fire and medical response agencies meet on a monthly basis to coordinate regional efforts.
Table 2-3. Washington County Emergency Management Agencies

<table>
<thead>
<tr>
<th>Emergency Management Agency</th>
<th>WCCCA</th>
<th>Own Agency Dispatch</th>
<th>Mobile Data Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call-Taking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dispatch</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Police

- Beaverton Police Department: x x x
- Banks Police Department: x x x
- Cornelius Police Department: x x x
- Forest Grove Police Department: x x x
- Gaston Police Department: x x x
- Hillsboro Police Department: x x x
- King City Police Department: x x x
- North Plains Police Department: x x x
- Sherwood Police Department: x x x
- Tigard Police Department: x x x
- Tualatin Police Department: x x x
- Washington County Sheriff: x x x

Fire & Rescue

- Cornelius Fire Department: x x x
- Forest Grove Fire Department: x x x
- Gaston Fire Department: x x x
- Hillsboro Fire Department: x x x
- Banks Fire Department: x x x
- Tualatin Valley Fire & Rescue: x x x
- Washington County District 2: x x x

2.8.3 Emergency Management Agency Communications

WCCCA has four radio towers that serve Washington County and is looking to install several more radio towers to provide adequate radio coverage. WCCCA uses an 800 MHz trunked radio system with 10 channels. They have plans to expand to a 16-channel system.
Tualatin Valley Fire and Rescue is currently installing a direct fiber optic cable to the ODOT Traffic Management Operations Center (TMOC) for dispatch purposes. This fiber should be constructed in the next few months.

2.9 INCIDENT MANAGEMENT

ODOT currently operates an incident response program to address traffic congestion and delays caused by incidents on highways within the Portland metropolitan region. The Corridor Management Teams (COMET) consist of ten full time employees who staff several incident response vehicles, which are equipped with flat tire repair gear, gasoline, jumper cables, water, and other essentials for rescuing disabled vehicles and getting them on the move again. Incident response vehicles are on the road 24 hours per day on weekdays and most of Saturdays and Sundays, but are available for service 24 hours per day, seven days a week.

The main priority for responders is to keep travel lanes clear by helping a vehicle off the road and assisting the motorist if possible. The responders assist motorists with flat tire repairs, extra gasoline, battery jumps, and so forth. If the responder's equipment cannot help move the disabled vehicle off the travel lanes, then the responder will call a tow truck at the motorist's expense.

COMET trucks currently patrol I-5, I-84, I-205 and I-405 freeways as well as ORE 217 and US 26 (Sunset Highway) daily. COMET vehicles do not currently patrol State arterials such as Tualatin-Valley Highway, but COMET is in constant communication with the ODOT Traffic Management Operations Center (TMOC). If an incident occurs on a State arterial roadway, COMET vehicles are available to respond if they are free.

2.10 SPECIAL EVENTS

There are numerous special events, some of which are summarized in Figure 2-4, that take place throughout the year that impact transportation system operations in Washington County. Each special event creates different impacts to study area corridors, major interchanges, and the transit system.
Table 2-4. Washington County Special Events

<table>
<thead>
<tr>
<th>Special Event/Event Center</th>
<th>Details</th>
</tr>
</thead>
</table>
| Summerfest                 | **Location**: Beaverton Griffith Park and surrounding areas  
|                            | **Time Frame**: Mid-July  
|                            | **Major Events**: Numerous activities, food, and events at varying times  
|                            | **Traffic Impacts**: Portions of Farmington Road and Allen Boulevard closed for parade. |
| Hillsboro Air Show         | **Location**: Hillsboro Airport  
|                            | **Time Frame**: Mid-August  
|                            | **Major Events**: Blue Angels, air stunts, fireworks, etc.  
|                            | **Traffic Impacts**: Parking and circulation getting to the airshow sometimes cause traffic to back up on surrounding arterials. Hillsboro Police close parts of Cornell Road, 25th Avenue and Evergreen Road as necessary to facilitate activities within a clear zone. |
| Tigard Festival of Balloons | **Location**: Cook Park in Tigard  
|                            | **Time Frame**: Mid-June  
|                            | **Major Events**: Various concerts and activities held in Cook Park  
|                            | **Traffic Impacts**: Congestion on collectors and arterials surrounding Cook Park. |

2.11 FREIGHT

Most commercial vehicle traffic in Washington County utilize the State Highway Freight System, Washington County freight routes classified by the Metro Regional Transportation Plan4 and the railroad tracks through the county. Railroads in Washington County include Portland & Western Railroad and Willamette and Pacific. Their tracks currently run through Tualatin, Tigard, Beaverton, Hillsboro, Cornelius, and Hillsboro. Most of the roadway-rail intersections are at-grade but there are also a limited number of grade-separated crossings.

2.12 TRAVELER INFORMATION

The Oregon Department of Transportation (ODOT) provides most of the traveler information for Washington County. ODOT provides real-time traveler information through the TripCheck website, and 511. ODOT’s TripCheck website (www.tripcheck.com) includes camera images, road conditions, weather information, incident maps, and construction activity for Washington County.

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4 Regional Transportation Plan, Metro, 2000, Figure 1.17.
County. ODOT continues to add information to TripCheck as new equipment is deployed.

In late 2003, ODOT implemented 511, the new national traveler information number, throughout the state to provide various types of real-time traveler information. The 511 system is accessible to travelers over the phone through touch-tone dialing or voice activation.

### 2.13 SUMMARY OF RELEVANT DOCUMENTS

A number of regional studies and plans have been compiled in Washington County that relate to ITS applications. A review of these documents was conducted to identify potential connections to other agencies and/or planned projects in the Washington County metropolitan area. This section provides a summary of the key points from the documents reviewed.

#### 2.13.1 ODOT ITS Strategic Plan: 1997 - 2017

To capitalize on the cost effective benefits of ITS projects, ODOT developed the *ODOT ITS Strategic Plan: 1997 – 2017* to set forth a vision and goals for ITS in Oregon. The plan includes a summary of existing ITS infrastructure, high priority user services, an ITS implementation strategy and timeframe, and associated costs (capital, operations, maintenance, staffing). Both regional and statewide projects are included for implementation in the short, mid, and long term. The following list includes projects identified for the Portland Region:

**Short Term Projects (most of which have already been implemented):**
- Install CCTV Surveillance Cameras & Integrate Weather Data.
- Install System Detectors
- Ramp Metering System
- Local Traveler Information Database
- Regional Traffic Management Center (TMC)
- Automatic Incident Detection System
- Incident Dispatch & Response
- Preplanned Detour Routes
- Highway Advisory Radio (HAR)
- Internet Traveler Information Website
- Variable Message Signs

**Mid and Long Term Projects:**
- Install CCTV Surveillance Cameras & Integrate Weather Data.
- Ramp Metering System
- Transit Priority System
- Variable Message Signs
The lengthy statewide project list encompasses many aspects of ITS such as transportation operations, traffic and incident management, traveler information, emergency response, and traveler safety.

### 2.13.2 Oregon Department of Transportation Economic and Bridge Options Report

Hundreds of bridges on the interstates and other routes are nearing or past the end of their useful life. With cracks weakening the aging structures, ODOT has been forced to limit the weights allowed across many bridges. As a result, ODOT has prepared a plan for how and when to invest in the replacement of these bridges over the next 10 years. There are no bridges within the study area identified in this report.

### 2.13.3 Planned Projects in Washington County

Table 2-5 summarizes planned projects (funded and unfunded) for the study area corridors and for transit in Washington County. These projects come from the following plans or reports:

- **Statewide Transportation Improvement Program (STIP) 2004 – 2007:** ODOT's four-year program with over $1.3 billion in funding that comes from federal highway funds, federal transit funds, and state highway programs.
- **Oregon Transportation Investment Act (OTIA), 2001:** The Oregon Legislative Assembly approved this ODOT eight-year program to improve pavement conditions, capacity, and bridges throughout Oregon. The Washington County OTIA projects on study area corridors have also been incorporated into the STIP.
- **TriMet Capital Improvement Program (CIP), Five Year Plan 2005-2009.**
- **Washington County Major Streets Transportation Improvement Program (MSTIP3 and 3B), 2006-2009.**
- **City of Beaverton Capital Improvement Plan (CIP), Adopted by City of Beaverton Council For Fiscal Years 2004/05 through 2007/08.**
- **City of Tigard Capital Improvement Plan (CIP), For Fiscal Years 2003/04 through 2007/08.**
- **City of Tualatin Capital Improvement Plan (CIP), For Fiscal Years 2003/04.**
- **City of Hillsboro Transportation System Plan, Highest Priority Motor Vehicle Project List, Adopted January 2004.**
- **Metropolitan Transportation Improvement Program (MTIP), for Fiscal Years 2004-2007.**
### Table 2-5. Planned Projects on Study Area Corridors

<table>
<thead>
<tr>
<th>Study Corridor</th>
<th>Project</th>
<th>Report/Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murray Boulevard</td>
<td>† Key 13505: Extend Murray Boulevard from Scholls Ferry Road to Barrows Road. † Murray Boulevard Extension: Construct an extension of Murray Boulevard from Scholls Ferry Road to Barrows Road including travel lanes, turn lanes, sidewalks, a bridge, and landscaping.</td>
<td>2004 – 2007 STIP</td>
</tr>
<tr>
<td></td>
<td>† NW Murray Boulevard Improvements (US 26 to Cornell Road): Widen to five lanes including bike lanes and sidewalks.</td>
<td>City of Beaverton CIP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2004/05 through 2007/08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmington Road (ORE-10)</td>
<td>† Key 08850: Pave and Signalize Intersections from SW 209th Avenue to SW 198th Avenue (OTIA). † Reconstruct Farmington Road from 209th Avenue to Highway 219. This project would include shoulder enhancements for bicycles and pedestrians and intersection improvements (including a traffic signal at 209th Avenue/Grabhorn Road).</td>
<td>2004 – 2007 STIP</td>
</tr>
<tr>
<td></td>
<td>† Key 10746: Replace existing structure over the Tualatin River.</td>
<td>MSTIP 3 2004-2007</td>
</tr>
<tr>
<td></td>
<td>† Install a traffic signal at Farmington Road/Erickson Avenue. Modify the existing traffic signals at Cedar Hills Boulevard/Farmington Road and Beaverton-Hillsdale Highway/Griffith Drive.</td>
<td>City of Beaverton CIP</td>
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<td>2004/05 through 2007/08</td>
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<tr>
<td>Tualatin Valley Highway (ORE-8)</td>
<td>† Key 12923: Pavement Rehabilitation Project from Highway 43 to B Street (OTIA). † Key 11444: Reconstruct Main Street Couplet from SW 10th Avenue to SW 20th Avenue. † Key 10679: Overlay and Safety Improvements at Quince Street/Highway 47.</td>
<td>2004-2007 STIP</td>
</tr>
<tr>
<td></td>
<td>† 19th/20th Realignment: Realign and signalize existing intersection.</td>
<td>MSTIP 3b 2004-2007</td>
</tr>
<tr>
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<td>† Brookwood/Witch Hazel Intersection: Extend Brookwood Avenue across TV Highway to align with 247th Avenue. Witch Hazel would cul-de-sac at TV Highway. Install new railroad crossing and traffic signal.</td>
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<td></td>
<td>† TV Highway: Install interconnect from 209th Avenue to 10th Avenue.</td>
<td>City of Hillsboro TSP</td>
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<tr>
<td>Hall Boulevard</td>
<td>† Key 11460: Widen Hall Boulevard to include center turn lanes and bike lanes from SW 12th to SW Allen Boulevard.</td>
<td>2004-2007 STIP</td>
</tr>
<tr>
<td></td>
<td>† Hall Boulevard Bike Lanes: Install bike lanes from 12th Street to 500’ south of Allen Boulevard including intersection improvements at Hall Boulevard and Allen Boulevard.</td>
<td>City of Beaverton CIP</td>
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<td></td>
<td></td>
<td>2004/05 through 2007/08</td>
</tr>
<tr>
<td></td>
<td>† Hall Boulevard/Wall Street Intersection: This project would construct a new intersection at Hall Blvd. and Wall Street. This project would widen Hall Blvd. at the intersection to 3 lanes.</td>
<td>City of Tigard CIP</td>
</tr>
<tr>
<td></td>
<td>† Hall Boulevard Sidewalks @ 217: This project would construct sidewalks in three locations at Hall Boulevard and Highway 217 to fill gaps in the existing pedestrian system.</td>
<td>2003/04 through 2007/08</td>
</tr>
<tr>
<td></td>
<td>† Hall Boulevard Sidewalks: Construct sidewalks on Hall Boulevard from Highway 99 to Pfaffle Street.</td>
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<td></td>
<td>† Hall Boulevard Half Street: Construct half street improvements from Bridge North to City Hall Entrance.</td>
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<tr>
<td>Study Corridor</td>
<td>Project</td>
<td>Report/Plan</td>
</tr>
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<tr>
<td>185th Avenue</td>
<td>185th Avenue: Widen to 5-lanes from TV Highway to Bany Road</td>
<td>City of Hillsboro TSP</td>
</tr>
<tr>
<td>Highway 99W</td>
<td>Key 10679: Reconstruct pavement and build drainage system and sidewalk over one-mile section Key 12858: Repave and restrip existing I-5 structure including striping.</td>
<td>2004-2007 STIP</td>
</tr>
<tr>
<td>Roy Rogers Road</td>
<td>Realign 175th Avenue to intersection with Roy Rogers Road at Scholls Ferry Road.</td>
<td>MSTIP 3b 2004-2007</td>
</tr>
<tr>
<td>Cornell Road</td>
<td>Widen Cornell Road to 5-lanes from NW 179th Avenue to Bethany Boulevard.</td>
<td>MSTIP 3b 2004-2007</td>
</tr>
<tr>
<td></td>
<td>Widen Cornell Road from Murray Boulevard to Saltzman Road to include travel lanes, bike lanes, street lighting, sidewalks and intersection improvements.</td>
<td>MSTIP 3 2004-2007</td>
</tr>
<tr>
<td></td>
<td>Widen Cornell Road from Murray Boulevard to Saltzman Road. This project would include travel lanes, sidewalks, bike lanes, streetlights, and intersection improvements.</td>
<td>City of Beaverton CIP 2004/05 through 2007/08</td>
</tr>
<tr>
<td></td>
<td>Cornell Road System Management: 10th Avenue to Washington County line. Upgrade existing traffic signal controllers and install CCTV cameras and monitoring stations.</td>
<td>MTIP 2004-2007</td>
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<td></td>
<td>Cornell Road: Install interconnect from 185th Avenue to 25th Avenue.</td>
<td>City of Hillsboro TSP</td>
</tr>
<tr>
<td>Cornelius Pass Road</td>
<td>Reconstruct Cornelius Pass Road from Tualatin Valley Highway to Lois Street. This project would include travel lanes, bike lanes, sidewalks, street lighting and intersection improvements.</td>
<td>MSTIP 3 2004-2007</td>
</tr>
<tr>
<td></td>
<td>Cornelius Pass Road: Widen to 5-lanes from Amberwood Drive to TV Highway</td>
<td>City of Hillsboro TSP</td>
</tr>
<tr>
<td>Barnes Road</td>
<td>Reconstruct Barnes Road from Cornell Road to 119th Avenue. This project would include a 5-lane section with bike lanes, sidewalks, illumination, and landscaping.</td>
<td>MSTIP 3 2004-2007</td>
</tr>
<tr>
<td></td>
<td>Reconstruct Barnes Road from Cornell Road to 119th Avenue. This project would include new travel lanes, sidewalks, bike lanes, street lights, and some intersection improvements.</td>
<td>City of Beaverton CIP 2004/05 through 2007/08</td>
</tr>
<tr>
<td>Gaarde Road</td>
<td>Gaarde Road Phase 2 Improvements: This phase would include widening Gaarde Road from 121st Avenue to Highway 99.</td>
<td>City of Tigard CIP 2003/04 through 2007/08</td>
</tr>
<tr>
<td>Tualatin-Sherwood Road</td>
<td>Tualatin-Sherwood/Boones Ferry Road Intersection: Construct additional turn lanes, sidewalks, pedestrian amenities, and traffic signal modification.</td>
<td>City of Tualatin CIP 2005/06</td>
</tr>
<tr>
<td>Study Corridor</td>
<td>Project</td>
<td>Report/Plan</td>
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<tr>
<td>Evergreen Road</td>
<td>✷ Evergreen Road: Widen to 5 lanes from 25th Avenue to 231st Avenue.</td>
<td>City of Hillsboro TSP</td>
</tr>
<tr>
<td>Baseline Road</td>
<td>✷ Baseline Road: Widen to 5 lanes from Lisa Avenue to 231st Avenue.</td>
<td>City of Hillsboro TSP</td>
</tr>
<tr>
<td></td>
<td>✷ Baseline Road: Widen to 3 lanes from Brookwood Avenue to 231st Avenue.</td>
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</tr>
<tr>
<td>Oleson Road</td>
<td>✷ Reconstruct Oleson Road from Fanno Creek to Hall Boulevard. This project would include improving travel lanes, bike lanes, and pedestrian facilities.</td>
<td>MSTIP 3 2004-2007</td>
</tr>
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<td></td>
<td>✷ Oleson Road Improvements: Improvements to travel lanes, intersections, bike and sidewalk facilities from Hall Boulevard to Fanno Creek.</td>
<td>City of Beaverton CIP 2004/05 through 2007/08</td>
</tr>
<tr>
<td>Transit</td>
<td>✷ Key 12515: Install commuter rail line from Wilsonville to Beaverton.</td>
<td>2004-2007 STIP</td>
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<td></td>
<td>✷ Install commuter rail line between Wilsonville and Beaverton with five stations.</td>
<td>MSTIP 3b 2004-2007</td>
</tr>
<tr>
<td></td>
<td>✷ TriMet Corporate Telecommunications Network: Strengthen the existing communications network with a structured network foundation, reliability, and cost-effectiveness. This project would provide existing function to TriMet’s fiber optic communication infrastructure.</td>
<td>TriMet CIP 2005-2009</td>
</tr>
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<td></td>
<td>✷ IT Security Enhancement: Upgrade existing IT security systems including computers, communications networks, and information assets to assure TriMet does not fall victim to potential attacks. This project would include CCTV cameras, radio system communications, mobile command center and facility improvements.</td>
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</tbody>
</table>