

DRAFT Memorandum

TO: Forest Grove TSP Update Project Advisory Committee Members
FROM: Reah Flisakowski, P.E.
DATE: October 26, 2007
SUBJECT: Technical Memorandum #1 – Plan Review P/A No. 07136-000

This is the first in a series of memorandums that presents technical findings and recommendations for the Forest Grove Transportation System Plan (TSP) update project. This memorandum summarizes prior studies and plans that have findings or guidelines relevant to the Forest Grove transportation system. This background review is useful throughout the TSP update project, but initially it identifies conflicts and discrepancies between previous planning documents and identifies how local plans fit into the larger regional context.

Background Plan and Document Review

The documents reviewed are listed below, along with their page number within this document.

Washington County 2020 Transportation Plan _____	2
Major Streets Transportation Improvement Program _____	2
Forest Grove Zoning Ordinance _____	2
Forest Grove Proposed Development Code _____	3
Forest Grove Proposed Design Guidelines _____	4
Pacific University Master Plan _____	4
Transit Investment Plan Annual Update _____	2
Transportation Planning Rule (OAR 660-012) _____	5
Access Management Rules (OAR 734-051) _____	6
Oregon Highway Plan _____	6
Oregon Public Transportation Plan _____	7
Oregon Bicycle and Pedestrian Plan _____	8
Freight Moves the Oregon Economy _____	8
Final Statewide Transportation Improvement Program 2006-2009 _____	8
DEQ Hazardous Material Databases _____	9
State Historic Preservation Office Cultural Resource Inventory _____	9
Rail Concept Study _____	10
National Wetlands Inventory Maps _____	10
Metro's Goal 5 Inventory Map _____	10

Other reports addressing specific area master plans or feasibility studies will be considered through the process, as appropriate, but the land development and travel forecasts done in conjunction with the TSP will generally supersede these studies.

Washington County 2020 Transportation Plan

Washington County

Adopted October 29, 2002

The Washington County 2020 Transportation Plan provides policies and strategies for planning and developing an efficient, multi-modal transportation system. The plan addresses the need for improved vehicle, pedestrian, bicycle and transit facilities and urban commuting issues resulting from significant population and employment growth within the County.

The Forest Grove TSP update will work to remain consistent with transportation system designations and improvements recommended in the Washington County Plan. The County projects identified that most affect the Forest Grove transportation system include:

- Hornecker/Evergreen – Glencoe to Cornelius-Schefflin was identified as a study area. Alternative routes and/or improvements will require additional analysis and will consider the need to accommodate traffic between Hillsboro, Cornelius and Forest Grove and the future expansion of commuter rail to the 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 Highway 47 has been identified. The nature and location of these improvement will require further study.

Major Streets Transportation Improvement Program

Washington County

Updated November 26, 2003

The Major Streets Transportation Improvement Program (MSTIP) is a joint effort of Washington County and thirteen cities (including Forest) to recommend fair distribution of federal, state and local transportation funding. The MSTIP makes an effort to dedicate a healthy portion of funds to small cities, bridge projects and pedestrian/bicycle facilities. The current MSTIP list recommends transportation projects to be construction between 2006 and 2009.

The following project would likely have an impact on the Forest Grove transportation system.

- Extend David Hill Road from Thatcher Road to Highway. The estimated completion date of the engineering and design phase is December 2007.
- Relocate the intersection of David Hill Road and Gales Creek Road 650 feet north of its current location. The relocation will improve the sight distance and safety at this intersection. This project is currently being constructed and is expected to be completed in October 2007.

Forest Grove Zoning Ordinance

Revised, July 2000

The zoning ordinance has been designed in accordance with adopted goals and policies of the Forest Grove Comprehensive Plan. The general purpose of the city's zoning ordinance is to provide one of the principal means for implementation of the City's Comprehensive Plan, and therefore, encourage the most appropriate use of land, conserve and stabilize the value of property, promote a variety of housing opportunities, aid in the rendering of fire and police protection, provide adequate open space for light and air, lessen the congestion on streets, promote orderly growth in the city, prevent undue concentrations of population, facilitate adequate provisions for community utilities

and facilities such as water, sewerage, electrical distribution systems, transportation, schools, parks and other public facilities, and in general promote public health, safety, convenience and general welfare. These objectives are pursued through provisions, regulations and standards which apply to the different zoning types throughout the city. The city has a number of different designations for zoning and land use which include:

- Single-family Residential R-5
- Single-family Residential R-7
- Single-family Residential R-10
- Single-family Residential SR
- Two-family Residential A-1
- Multi-family Residential A-2
- Planned Residential Development PRD
- Central Business District CBD
- Community Commercial CC
- Commercial – Heavy CH
- Commercial – Neighborhood CN
- Commercial Planned Development CPD
- Light Industrial LI
- General Industrial GI
- Planned Industrial Development PID
- Historic Landmark HL
- Environmental Review ER
- Environmental Review—ERWC
- Wildlife Conservation Area

Additionally, the zoning ordinance:

- Provides access spacing and width standards for driveways
- States that the City Engineer may require a traffic impact analysis for developments larger than 5 acres. The traffic impact analysis must demonstrate whether the new development will impact the level-of-service and/or exceed standards specified in the cities TSP

Forest Grove Proposed Development Code

The City has recently completed a Proposed Development Code, which will replace the current Land Division Ordinance and Zoning Ordinance. All new developments will refer to this document as well as the City's Proposed Design Guidelines. The Code is divided into nine articles and include the following (numbers 9 through 11 are reserved for future articles):

- Article 1 - Introduction & Procedures
- Article 2 - Land Use Reviews
- Article 3 - Zoning Districts
- Article 4 - Overlay Districts
- Article 5 - Special Provisions
- Article 6 - Land Divisions
- Article 7 - Miscellaneous Provisions
- Article 8 - General Development Standards
- Article 12 - Use Categories & Definitions

The purpose of the Development Code is to provide standards, guidelines and approval criteria for future development. The Code provides standards and guidelines for five zoning districts: Residential, Institutional, Commercial, Town Center and Industrial, and two overlay districts: Master Plan and Planned Developments. The Official Zoning Map identifies the location of these districts. The Code also outlines submittal requirements and review processes, such as the Environmental Review, land division requirements, regulations for specific uses in zoning districts, general development standards and standards for public improvements. All relevant elements of the City's Proposed Development Code will be incorporated in the Forest Grove TSP.

Forest Grove Proposed Design Guidelines

The City has developed a Design Guideline Handbook, which is currently a draft document and will serve as a supplement to the City's Development Code. The document outlines the City's design review process for new development, provides design guidelines for three specific focus areas and outlines specific approval criteria. The three focus areas identified in this document include Town Center, Commercial Corridor and Multi-unit Residential. The handbook also incorporates several element of the City's vision statement that apply to new development. The Forest Grove TSP will incorporate all relevant elements of the City's design guidelines as they apply to specific focus areas.

Pacific University Master Plan

Pacific University
January 2007

Pacific University identifies access and circulation concepts for its campus in central Forest Grove. The Master Plan proposes several streetscape and pedestrian "gateway" treatments that could improve the walking and bicycling environment where the University campus meets surrounding city streets. The Plan recommends streetscape improvements along the segments of University Avenue and College Way bordering the campus, and along 21st Avenue between Main Street and College Way. The Master Plan also recommends "gateway" treatments for the intersections of University Avenue at Sunset Drive, Main Street at 21st Avenue, and College Street at 21st Avenue.

Transit Investment Plan Annual Update

Tri-County Metropolitan Transportation District of Oregon
August 2007

The Transit Investment Plan (TIP) describes TriMet's strategies to meet regional transportation and livability goals through annual investments in service improvements, capital projects and customer information. The TIP is a rolling five-year plan that is updated annually and was first adopted in June 2002. The TIP implements the transit portion of the regional long term goals and strategies outlined in the 2040 Functional Plan and the most recent Regional Transportation Plan (RTP) for the Portland metro region and serves as a guide to focus TriMet, local, regional, state and federal money into specific needs identified in the regional plans.

One of the main concepts in TriMet's TIP is the emphasis on focused investments and improving the total transit system, such as improvements on existing lines. Therefore the TIP focuses targeted, strategic improvements to the system. The priorities are set forth in the TIP in the following order:

- Build the Total Transit System
- Expand the high capacity transit system (MAX Light Rail, Commuter Rail and Streetcar)

- Expand the Frequent Service system
- Improve local service

Frequent bus service on TV Highway (Bus Line 57) between Forest Grove and Beaverton Town Center started in September 2004. Weekly bus service increased by 18 percent, and service on Sundays more than doubled. Overall ridership has increased considerable since the frequent service was implemented.

In completion of the TSP, discussion will take place with TriMet regarding additional possible service enhancements in the area, as well as ways the City of Forest Grove can leverage transportation funds for transit improvements that might encourage TriMet to make investments in Forest Grove.

Transportation Planning Rule (OAR 660-012)

Oregon Department of Land Conservation and Development

The State of Oregon adopted 19 statewide planning goals that must be implemented in a comprehensive plan for each city (with a population over 2,500 individuals) and county in the state. In addition to identifying how land, air and water resources of each specific jurisdiction will be utilized, a review and needs analysis must be completed for improving public facilities.

One of the 19 goals is the Transportation Planning Rule (Goal 12). To comply with this rule, Forest Grove must adopt a Transportation System Plan (TSP) that complies with the State TSP and Metro's regional transportation plan (RTP). The overarching goals to be accomplished by the TPR are to:

- Reduce dependence on the automobile and the number of people driving alone.
- Establish a stronger connection between land use and transportation planning.

Local TSP's are expected to examine possible land use solutions to transportation problems and identify multi-modal, system management and demand management strategies to address transportation needs. This entails the development of modal plans, including pedestrian, bicycle, motor vehicle and transit. These plans must strive to provide a integrated transportation network and include an inventory of current infrastructure, provide a gap analysis and identify how these gaps are going to be filled. The areas of analysis addressed in the TPR for a transportation system plan include:

- Roadway capacity and level of service
- Transit capacity and capacity utilization
- Bicycle and pedestrian system capacity
- Adjustment of turning movement volumes produced by travel demand forecasting models
- Estimation of future transportation needs (person travel), reflecting:
 - Population and employment forecasts consistent with comprehensive plans
 - Measures to reduce reliance on the automobile
 - Increased residential, commercial and retail development densities
 - Location of neighborhood shopping centers near residential areas
 - Better balance between jobs and housing
 - Maximum parking limits for office and institutional developments

- Appropriate levels of transportation facilities to serve land uses identified in transportation plans
 - Increases in average automobile occupancy
 - Increases in modal shares of non-automobile modes
 - TDM programs
 - Land use and subdivision regulations
- Estimation of future goods movement
 - Access management

Access Management Rules (OAR 734-051)

*Oregon Department of Transportation, Highway Division
Certified Effective March 1, 2004*

The purpose of Oregon's Access Management Rule is to control the issuing of permits for access to state highways, state highway rights of way and other properties under the State's jurisdiction. In addition, the ability to close existing approaches, set spacing standards and establish a formal appeals process in relation to access issues is also identified.

These rules enable the State to set policy and direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes. Regulating access can:

- Protect resource lands
- Preserve highway capacity
- Ensure safety for segments of state routes with sharp curves, steep grades or obstructed sight distance.

These standards will be used in the TSP to establish a connectivity plan, verify access spacing for any proposed highway intersections and analyze current access conditions on congested state highways. These standards will be applied to all rights of way under the States jurisdiction in the City of Forest Grove.

Oregon Highway Plan

*Oregon Department of Transportation
May 1999*

The basic framework for the Oregon Highway Plan (OHP) is a refinement and application of the goals and policies stated in the Oregon Transportation Plan applied to the state highway system. These afore mentioned goals include:

- The OHP gives Increasing safety and capacity as well as preserving capital investments previously made on the state highway system.
- Fostering cooperation with both regional and local governments.
- Increasing linkages between land use and transportation.
- Access management development and adherence.
- Providing linkages with other transportation modes.
- Creating a sustainable and environmentally friendly system.

The OHP gives policy and investment direction to large scale corridor plans and TSP's, but is not intended to direct specific projects and modal alternatives. Relevant to Forest Grove are the access spacing standards and maximum volume to capacity (v/c) benchmarks.

The OHP specifically identifies Tualatin Valley Highway (Highway 8) and Nehalem Highway (Highway 47) as highways of statewide importance. TV Highway is classified as a Statewide Highway from the eastern city limits to Highway 47. Highway 47 is also classified as a Statewide Highway within the city limits. The primary objective of a Statewide Highways is to provide connections and links to regions within the state and between small urbanized areas and larger population centers. The National Highway System (NHS), adopted by Congress in 1995, includes all interstate and statewide highways in Oregon, including TV Highway and Highway 47.

TV Highway from Highway 47 to the southern city limits is classified as a Regional Highway with the primary objective being to provide connections and links to regional centers, Statewide and Interstate Highway.

Access Management Standards

The access management standards for TV Highway (Pacific Avenue) and Highway 47 (Nehalem Highway) in Forest Grove are summarized in the Table 4. Where driveways are allowed and land use patterns permitted, the minimum spacing of driveways is 175-feet or mid-block if the city block spacing is less than 350-feet.

Table 4: ODOT Access Management Standards

Facility	Posted Speed (MPH)				
	>55	50	40/45	30/35	<20
Statewide Highway (feet)	1,320	1,100	990	770	550
Regional Highway (feet)	990	830	750	600	450

Mobility Standards

The Oregon Highway Plan sets performance standards within the Metro area based on 2040 land use categories and state roadway classifications. TV Highway and Highway 47 within Forest Grove have a maximum v/c standard of 0.99 for both the first and the second peak hour.

Oregon Public Transportation Plan

*Oregon Department of Transportation
April 1997*

The Oregon Public Transportation Plan develops transit, rideshare and transportation demand management services as well as forming the public transportation system envisioned in the Oregon Transportation Plan. The plan describes the roles and responsibilities of key players, provides a financial investment strategy and identifies both short and long term implementation steps. The Plan provides minimum levels of service standards for public transportation operations. These criteria include peak and off-peak frequencies, vehicle maintenance programs and replacement schedules, intermodal connections and ridesharing. The Forest Grove TSP will incorporate all relevant aspects of this plan.

Oregon Bicycle and Pedestrian Plan

Oregon Department of Transportation

1995

The provision of safe and accessible bicycling and walking facilities in an effort to encourage increased levels of bicycling and walking is the goal of the Oregon Bicycle and Pedestrian Plan. The Plan provides actions that will assist local jurisdictions understand the principals and policies that ODOT follows in providing bike and walkways along state highways. In order to reach the plan's objectives, the strategies for system design are outlined, including:

- Providing bikeway and walkway systems that are integrated with other transportation systems.
- Providing a safe and accessible biking and walking environment.
- Development of education programs that improve bicycle and pedestrian safety.

The document includes two sections, including the Policy & Action Plan and the Bikeway & Walkway Planning Design, Maintenance & Safety. The first section contains background information, legal mandates and current conditions, goals, actions and implementation strategies ODOT proposes to improve bicycle and pedestrian transportation. The second section assist ODOT, cities and counties in designing, constructing and maintaining pedestrian and bicycle facilities. Design standards are recommended and information on safety is provided.

The Forest Grove TSP will implement the design standards for all bicycling and pedestrian facilities located in the City of Forest Grove in accordance with the Oregon Bicycle and Pedestrian Plan. Additionally, needs assessment and possible alignment alternatives will be based on the goals espoused in the Policy and Action section of the Oregon Bicycle and Pedestrian Plan.

Freight Moves the Oregon Economy

Oregon Department of Transportation

July 1999

The movement of freight has a far reaching effect on the Oregon economy. This report attempts to identify some of the concerns and needs about maintaining and enhancing current and future freight mobility. The report simply reports information about freight from numerous federal, state, regional, local, and other sources. Therefore, it serves as an overview of these documents rather than an independent document that develops new data or ideas. It provides an overview of:

- Importance of freight to the national and Oregon economy
- Freight transportation planning and programming
- Oregon's freight transportation system
- Freight performance, concerns and needs
- Possible future directions for freight capacity

Final Statewide Transportation Improvement Program 2006-2009

Oregon Department of Transportation

October 2005

The current adopted (2006-2009) Statewide Transportation Improvement Program (STIP) serves as ODOT's short term capital improvement program and provides funding and scheduling

information for transportation projects for both ODOT and the metropolitan planning organizations in the state. Projects funded in the STIP reflect and advance the Oregon Transportation Plan for highways, public transportation, freight and passenger rail and bicycle and pedestrian facilities. Additionally, monies obtained from the sale of state bonds authorized in the 2003 Oregon Transportation Investment Act (OTIA III) and placed in the STIP have been dedicated to modernization, bridge and pavement preservation projects. Therefore, many of the projects in the 2004-2007 STIP are preservation oriented. The following project has been identified within the STIP that is within the City of Forest Grove's boundaries:

- Forest Grove Town Center Pedestrian Improvements, which will increase pedestrian and bicycle safety through improved connectivity of existing facilities. Construction of this project is scheduled to begin in 2008.

DEQ Hazardous Material Databases

DEQ maintains several inventories of hazardous material sites in Oregon.

- The Environmental Cleanup Site Information (ECSI) database tracks sites in Oregon with known or potential contamination from hazardous substances. A total of three sites within Forest Grove have been identified for site evaluation or investigation. These sites include Maslen Machine, Oregon Roses Soil Disposal Site Area 2 and Oregon Roses Soil Disposal Site Areas 3 & 4.
- There are currently two sites that are on the Environmental Cleanup Program's "Active Site List" that are located in Forest Grove. These sites include Forest Grove Cleaners and Traux-Harris Texaco Service Station.

State Historic Preservation Office Cultural Resource Inventory

Oregon's State Historic Preservation Office was established in 1967 within the Oregon Parks and Recreation Department to manage and administer programs for the protection of the state's significant historic and prehistoric resources. The National Historic Register includes the following ten sites in Forest Grove:

- Blank, Stephen & Parthena M, House
- Clark Historic District
- Cornelius, Benjamin Jr, House
- Crosley, Harry A, House
- First Church Of Christ, Scientist
- Macrum Isaac, House
- Mertz, C W, House (#2)
- Parsons, John & Elsie, House
- Robb, James D, House
- Taylor, Dr W R & Eunice, House
- Woods & Caples General Store
- Old College Hall
- Smith, Alvin T, House

Rail Concept Study*City of Forest Grove**October 2006*

The City of Forest Grove sponsored the Rail Concept Study to explore feasible options for enhancing transit service to Forest Grove from the existing light rail alignment, which terminates in Hillsboro, Oregon. The study examines several transit mode alternatives including enhanced bus service, and three different rail options: light rail, streetcar and commuter rail. Three alignment options are considered in the study, which include the existing railroad alignment north of Highway 8, Highway 8 itself and the existing railroad alignment south of Highway 8. The study makes the recommendation of extending the existing MAX light rail line from Hillsboro to downtown Forest Grove, utilizing the existing railroad right of way north of Highway 8. The Forest Grove TSP will incorporate all relevant aspects of this plan.

National Wetlands Inventory Maps

The U.S. Fish and Wildlife Service provides information on the characteristics, extent and status of the Nation's wetlands and deepwater habitats through the National Wetlands Inventory (NWI). The NWI maps the location of these wetlands and also provides information on their current status and recent trends.

These maps will be reviewed to identify wetlands within and adjacent to the City of Forest Grove and will be discussed in the TSP.

Metro's Goal 5 Inventory Map

The purpose of Title 3 is to protect water quality and floodplain areas as well as fish and wildlife habit. Cities and counties are required to amend their plans and implementing ordinances to ensure they comply with Title 3 by adopting applicable provisions of the Metro Water Quality and Flood Management Area modal ordinance and map (they can either adopt the Metro Water Quality and Flood Management Area Map, or a city or county field verified map that substantially complies with the Metro map).

The City of Forest Grove is located within the Tualatin River Basin and the jurisdiction of Cleanwater Services, the regional sanitary sewer and surface water management agency. Forest Grove has an Intergovernmental Agreement with Cleanwater Services to comply with the requirements for surface water management, including water quality and quantity issues. These requirements are in compliance with Metro Title 3. The Forest Grove TSP will incorporate the required environmental provisions to continue to meet the Metro Title 3 and Goal 5 provisions.

700 NE MULTNOMAH, SUITE 1000
PORTLAND, OR 97232-4110
T. 503.233.2400 T. 360.694.5020 F. 503.233.4825
www.parametrix.com

TECHNICAL MEMORANDUM

Date: September 7, 2012
To: Dan Riordan and Jon Holan, City of Forest Grove
From: Anne Sylvester
Subject: Draft Technical Memorandum #1: Plans and Policies Framework
cc: Periodic Review Technical Assistance Team
Project Number: 274-3452-001
Project Name: Transportation System Plan Update

This is the first in a series of technical memoranda that are being prepared for the 2012 Update to the Forest Grove Transportation System Plan (TSP). The 2012 TSP Update builds on the City's 2011 TSP Update with the specific objectives of:

- Evaluating the transportation implications of several land use alternatives currently under consideration as part of the City's land use Periodic Review process.
- Identifying any changes to the TSP needed to be responsive to the 2035 Regional Transportation Plan (RTP) and Regional Transportation Framework Plan (RTFP).

The purpose of Technical Memorandum #1 is to document review of relevant local and regional plans that will influence the evaluation of land use and transportation alternatives, and the selection of a preferred transportation plan for the city. This memo builds on a similar memo prepared for the 2011 TSP Update which documented a significant list of relevant plans and policies that were considered during preparation of that study. Additionally, the 2011 TSP included an assessment of consistency between the local TSP and Statewide Planning Goal 12 (the Transportation Planning Rule). The primary issue of concern in that assessment related to recommending that major transit stop standards be added to the City's Development Code.

The primary focus of this memo will be on identifying those elements of the RTP and RTFP that need to be considered in preparing the 2012 TSP Update. Also included is a brief discussion of the Metro 2035 Beta population and employment forecasts as they apply to Forest Grove, and the Urban Reserve Areas identified around the City's existing planning area. This information will be useful in identifying future travel demand expectations and long-term connectivity requirements.

2035 REGIONAL TRANSPORTATION PLAN (RTP)

The 2035 RTP identifies six desired outcomes for planning and decision-making related to the region's transportation system. These outcomes speak to the desire to create vibrant communities, to ensure and support economic prosperity, to provide for the safe and reliable movement of people and goods, to minimize contributions to global warming, to support the provision of clean air, water and healthy ecosystems, and to provide an equitable distribution of benefits and burdens related to regional growth and change.

The RTP includes a series of overarching policies, goals and system concepts for all modes of travel including funding and local implementation. Building on the six desired outcomes, ten specific transportation-related goals

have been identified.

- Foster Vibrant Communities and Efficient Urban Form
- Sustain Economic Competitiveness and Prosperity
- Expand Transportation Choices
- Emphasizes Effective and Efficient Management of the Transportation System
- Enhance Safety and Security
- Promote Environmental Stewardship
- Enhance Human Health
- Ensure Equity
- Ensure Fiscal Stewardship
- Deliver Accountability

Key elements of the RTP include a focus on outcomes-based planning, regional mobility corridors, defining gaps and deficiencies, system completeness (including both the presence and connectivity of all travel modes), and development of “complete streets” through a holistic approach to active transportation.

REGIONAL TRANSPORTATION FUNCTIONAL PLAN (RTFP)

The RTFP was also adopted as part of the 2035 RTP. The RTFP is intended to serve as a guide for local agencies in preparing their comprehensive plans, TSPs and other land use regulations to support implementation of the goals and recommendations of the RTP. The RTFP codifies existing and new regulations with which local plans must comply to ensure consistency with the RTP. Generally, if a local TSP complies with the RTFP, it also complies with the RTP.

The RTFP provides guidance in several areas including:

1. The design of various modal facilities (Title 1) including streets, transit, bicycle, pedestrian, freight, and traffic management facilities. Of importance to Forest Grove are the requirements for:
 - Arterial and collector **street spacing**,
 - Provision of **street plans** for large (over five acre) vacant and/or redevelopable residential or mixed use areas that illustrate how connectivity will be achieved.
 - **Access management** consistent with Oregon Highway Plan and regional street and driveway spacing standards
 - Provision of investments, policies, standards and criteria to **provide bicycle and pedestrian facilities to transit stops**, particularly locations designated as major transit stops.
 - **Transit plan** consistent with the regional transit functional classification system, and that shows local and regional transit facilities and major destinations.
 - **Pedestrian plan** identifying gaps and deficiencies and pedestrian travel needs. The plan should include a list of improvements to help achieve non-SOV modal targets in Table 3.08-1 of the RTFP, to provide for pedestrian ways along arterials, collectors and most local streets, and to facilitate pedestrian arterial crossings.
 - **Bicycle plan** identifying gaps and deficiencies and bicycle travel needs. The plan should include a list of improvements that provide for an interconnected system to achieve the non-SOV modal targets in Table 3.08-1 of the RTFP, to provide for bikeways along arterials, collectors and most local streets, and to facilitate bicycle arterial crossings.
 - An inventory of **freight** facilities and destinations along with a freight system improvement plan.
 - An inventory of **Transportation System Management and Operations (TSMO)** systems elements, an assessment of gaps and deficiencies, and an improvement plan.

2. Incorporate State and regional needs as articulated in the RTP, with an assessment of local system needs as identified under Title 1 (above), along with an assessment of the full range of potential transportation system improvements to meet performance targets (Title 2). Of particular interest to Forest Grove are requirements to consider:
- **Population and employment** forecasts that are consistent with the RTP, except where differences are coordinated with Metro to account for land use changes since adoption of the RTP.
 - **System functional classification maps** for all modes.
 - **Regional non-SOV modal targets** as identified in Table 3.08-1, and **identification of gaps and deficiencies** as defined by Table 3.08-2 or alternate thresholds (see tables below).
 - **Regional mobility corridors**, in particular, the assessment of corridors #23 and #24 as described in the RTP. Corridor #23 encompasses Highway 47 and parallel arterials between Forest Grove and North Plains to the north connecting the city to US 26. Corridor #24 includes Highway 47 and parallel arterials to the east linking the city to Cornelius, Hillsboro and Beaverton.
 - Consideration of a **wide range of strategies to meet mobility needs** with the last resort being motor vehicle capacity improvements. If such improvements are proposed for regional or state facilities, discussion needs to be held with Metro regarding incorporation of the project into the RTP.
 - Demonstrate that proposed solutions will **achieve progress towards the targets** in Tables 3.08-1 and 3.08-2. These targets or alternatives should be included in the local TSP but cannot be lower. To demonstrate progress, the city should adopt designs for street, transit, bicycle, freight and pedestrian systems consistent with Title 1, incorporate TSMO strategies, and/or address land use. Forest Grove is considering alternative land use plans as part of Periodic Review.
 - **Performance measures** for safety, vehicle miles of travel per capita, freight reliability, congestion, and walking, bicycling and transit mode shares.
 - **Define projects in the TSP** including general location and nature of the improvement.

CONSIDERATIONS FOR FOREST GROVE

Metro 2040 Land Use Designations for Forest Grove

Metro's 2040 Growth Concept is the region's long-range plan for integrating transportation and land use. It designates a variety of land uses throughout the Portland region and concentrates mixed use development in areas denoted as "Centers", "Station Communities" and "Main Streets". In Forest Grove, the primary land use designations include a "Town Center" encompassing the City's core commercial area along Pacific and 19th Avenues between approximately B and Cedar Streets and Pacific University. Designated "Main Streets" include Main Street and Pacific Avenue within the town center. The 2040 concept also identifies the mobility corridor along Pacific Avenue/Adair Street/Baseline Road running east from the town center to Cornelius. The remainder of the community is designated as Employment Land and Neighborhood. From the regional perspective, neighborhoods have the lowest priority for investments while the town center and main streets have the highest.

State Highway Access Management Requirements

Oregon Administrative Rule (OAR) 734-051 provides guidance on management access along the state highway system. Access management is important to maintain a highway's functionality, operating performance, and safety consistent with the policies of the Oregon Highway Plan (OHP). The OAR allows ODOT to set policy and to direct the location and spacing of access points and intersections on state highways relative to the highway's functional classification and speed. Access spacing standards for Highway 47 were incorporated into the City's 2011 TSP Update.

RTP Performance Targets

The 2035 RTP establishes performance targets for safety, congestion, freight reliability, climate change, active transportation, sidewalk/trail/transit infrastructure, clean air, travel, affordability and access to daily needs. These

targets provide a framework that the Forest Grove TSP and land use alternatives should work towards achieving. Performance targets affecting Forest Grove are shown in Table 1.

Table 1. 2035 RTP Performance Targets

Objective	Target by 2035
Safety	Reduce serious injuries and fatalities in all modes of travel by 50% as compared with 2005
Congestion *	Reduce vehicle hours of delay (VHD) by 10% per person as compared with 2005
Freight Reliability	Reduce VHD per truck trip by 10% as compared with 2005
Climate Change	Reduce transportation greenhouse gas emissions by 40% as compared with 1990
Active Transportation	Triple walking, biking and transit mode share as compared with 2005
Basic Infrastructure	Increase by 50% access times to sidewalks, trails, and transit as compared with 2005
Clear Air	Ensure 0% population exposure to at-risk levels of pollution
Travel	Reduce vehicle miles of travel (VMT) per person by 10% as compared with 2005
Affordability	Reduce average household combined cost of housing and transportation by 25% as compared with 2005
Access to Daily Needs	Increase by 50% the number of essential destinations within 30 minutes by bike and transit for low-income, minority and disabled population as compared with 2005

* Interim volume-to-capacity ratios still apply.

In addition to these performance targets, the RTP policies related to TSMO will also need to be reflected, as appropriate, in the Forest Grove TSP including:

- Use of advanced technologies, pricing strategies, etc. to actively manage the transportation system
- Provide comprehensive, real time traveler information
- Improve incident detection and clearance times for arterial facilities
- Implement incentives and programs to increase awareness of travel options and provide incentives for the use of non-SOV travel modes

RTP Non-Single Occupancy Vehicle (SOV) Target

The RTP established regional mode share targets for cities and counties to work towards in implementing the 2040 Growth Concept at the local level. Increases in walking, bicycling and use of transit can be used to show how each community is moving towards the per capita reduction in VMT that is identified above (in Table 1) as a regional performance measure, and as is required in the Statewide Transportation Planning Rule. The following targets apply to Forest Grove.

Table 2. Regional Non-SOV Modal Targets¹ (RTP Table 3.08-1)

2040 Design Type	Non-Drive Alone Modal Target
Town Center, Main Streets and Corridors	45-55%
Industrial / Employment Areas and Neighborhoods	40-45%

As required by the RTP and the TPR, jurisdictions within the Metro region must adopt policies and actions that encourage a shift towards non-SOV modes. The following existing minimum requirements are recommended from the study for ongoing implementation and monitoring:

- Adopt modal targets in the local TSP
- Adopt street connectivity plans (for all modes) and ordinances
- Adopt transit strategies that support the use of transit including transit-oriented design requirements

RTP Policy on Deficiency Thresholds and Operating Standards

Table 3 summarizes the interim regional mobility policy on defining deficiency thresholds and operating standards as presented in the RTFP Table 3.08-2. These standards apply to regionally-significant facilities in the City of Forest Grove.

Table 3. Interim Regional Mobility Policy – Deficiency Thresholds and Operating Standards (RTFP Table 3.08-2)

Location	Standard	Standard	
	Midday 1-Hour Peak ^A	PM 2-Hour Peak ^A First Hour	Second Hour
Town Center	0.99	1.1	0.99
Employment areas, industrial areas, neighborhoods	0.90	0.99	0.99
Oregon Highway 47	0.90	0.99	0.99

^A The demand/capacity ratios in this table are for the highest two consecutive hours of weekday traffic volumes. The midday peak hour is the highest 60-minute period between the hours of 9 am and 3 pm. The 2nd hour is defined as the single 60-minute period either before or after the peak 60-minute period, whichever is highest.

METRO 2035 POPULATION AND EMPLOYMENT PROJECTIONS

Per the May 2, 2012 memo from John Williams, Metro Deputy Director of Planning, the interim Beta 2035 population and employment forecast will be used as the basis for assessing travel demand and traffic operational performance. These projections are consistent with the City’s existing Comprehensive Plan land use designations. Table 4 presents a summary of the baseline 2010 data and the 2035 Beta forecasts for the Transportation Analysis Zones(TAZs) covering the Forest Grove planning area. The location and boundaries of these TAZs are illustrated in Figure 1.

Table 4. 2010 Baseline and Interim Beta 2035 Population and Employment Forecasts for Forest Grove

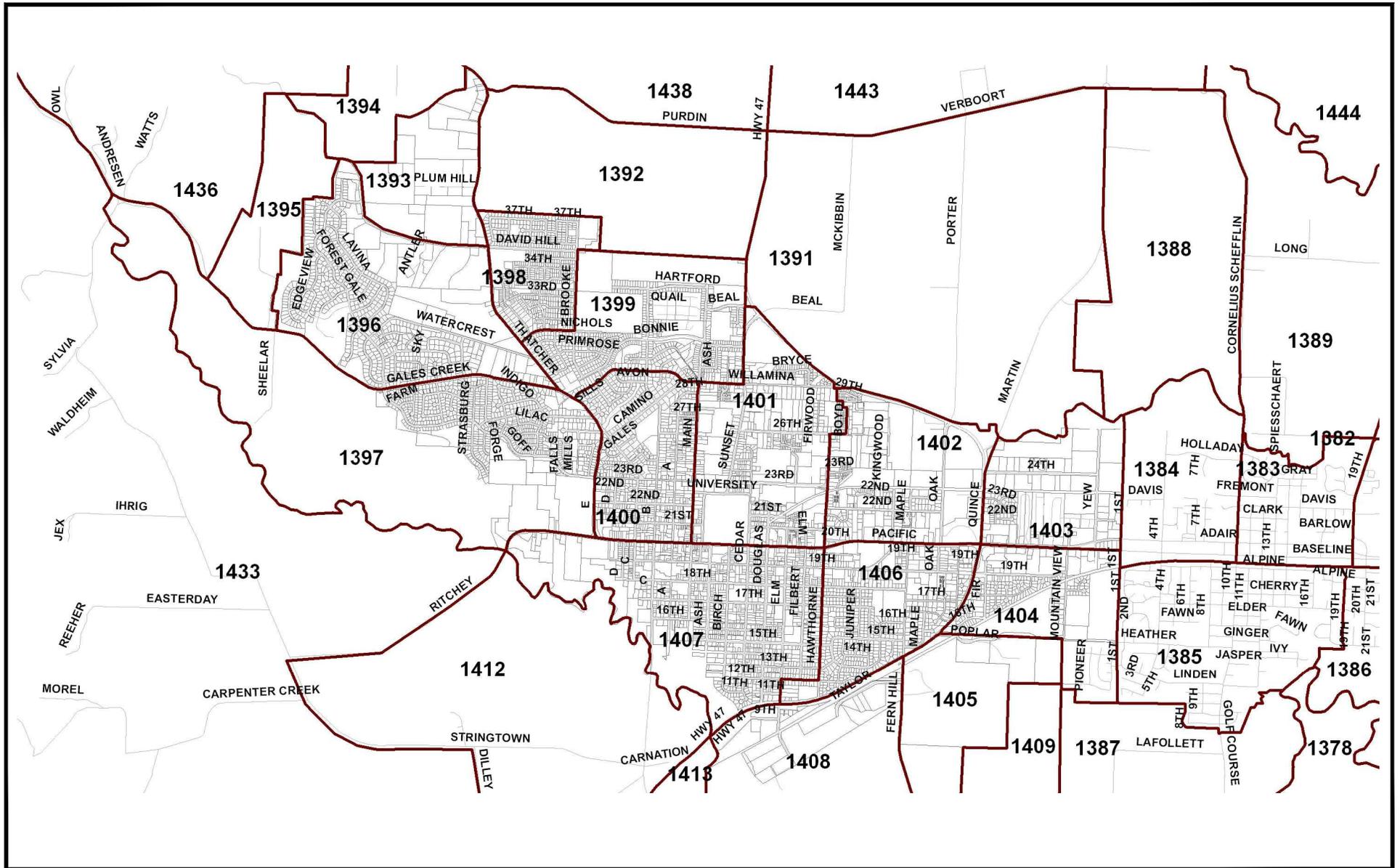
TAZ	Households			Employment		
	2010	2035	Growth over 2010	2010	2035	Growth over 2010
1393	15	492	477	3	4	1
1396	649	1,129	480	124	254	130
1397	543	892	349	179	208	29
1398	307	480	173	28	21	(7)
1399	672	1,029	357	193	254	61
1400	829	1,035	206	242	411	169
1401	953	1,450	497	1,165	1,387	222
1402	694	1,056	362	628	1,607	979
1403	432	460	28	428	1,306	878
1404	527	554	27	456	717	261
1405	1	4	3	825	1,386	561
1406	792	894	102	572	1,186	614
1407	946	1,538	592	856	1,413	557
1408	1	1	0	184	840	656
Total	7,361	11,014	3,653	5,883	10,994	5,111

FOREST GROVE URBAN RESERVE AREAS

Urban reserves are lands currently located outside of existing Urban Growth Boundaries (UGBs) that have been identified as suitable for urban development over the next 50 years. While this designation does not change

existing zoning or land use designations on properties within the urban reserves, it does provide some assurance about the long-term intended use of these properties. The urban reserves surrounding the Portland Metropolitan Area's UGB were approved by Clackamas, Multnomah and Washington Counties in 2010 and 2011, with final approval by the Oregon Land Conservation and Development Commission in August 2011.

Figure 2 shows the location of approved urban reserves adjacent to the Forest Grove planning area. Three locations are identified. Area 7A is located in the northern portion of the city and could be accessed via Gales Creek Road or David Hill Road. Area 7B is located immediately north of the city and could be accessed via Thatcher Road or David Hill Road as identified in the 2011 TSP, Highway 47 if access is permitted by ODOT at some point in the future. Area 7E is located south of the city and could be accessed via Elm Street. This urban reserve is surrounded on the south, west and east by the 100-year flood plain.



Parametrix DATE: August 29, 2012 FILE: PO3452001F-01



NOT TO SCALE

LEGEND

- TAZ BOUNDARY
- XXXX TAZ NUMBER

Figure 1
Regional Transportation Analysis
Zones for Forest Grove Area

