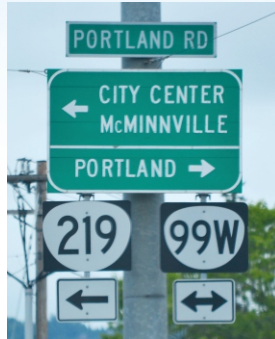


Draft Report for City of Newberg Transportation System Plan



Prepared for



Volume 2 (Appendix)

Prepared by

DKS



Adopted December 19, 2016

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Volume 2 Contents

Volume 2 of the TSP includes all background memos and technical data that was the basis for the Newberg TSP Update. In some cases, these memos include additional information and details than what was included in Volume 1.

The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. **In all cases, the contents of Volume 1 supersede those in Volume 2.**

Memo 1: Public Involvement Plan

Memo 2: Background Document Review

Memo 3: Goals, Objectives, & Evaluation Criteria

Memo 4: Existing Conditions

Memo 5: Future Forecasting

Memo 6: Future Needs Analysis

Memo 7: Stakeholder Interviews #1

Memo 8: Alternatives Evaluation

Memo 9: Stakeholder Interviews #2

Memo 10: Finance Program

Memo 11: Transportation Standards

Memo 12: Code Amendments

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



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MEMORANDUM

DATE: 22 June 2012
TO: Newberg TSP Project Management Team
FROM: Carl Springer
SUBJECT: **Public Involvement Plan for Newberg TSP Update**

P#11086-005

This plan describes the planned public outreach and involvement to support an update to the City of Newberg Transportation Plan or transportation system plan (TSP). The success of public involvement strategies and the evolution of the planning process will be tracked and this plan will be updated to improve the effectiveness and focus of outreach efforts during the life of the planning process

Introduction to the Transportation System Plan (TSP)

A Transportation System Plan (TSP) is a long-range plan that defines the City's existing and future multi-modal transportation system needs and identifies policies and strategies for addressing them. The TSP defines the intended function and general location of transportation facilities supporting auto use, freight, transit, bicycling and walking, provides for coordination with other local governments and transportation service providers and is consulted by planners and policy makers when making investment and policy decisions. The TSP must be consistent with the state Transportation Planning Rule (TPR) (OAR Chapter 660-012) and with state and regional system plans. The TSP serves as the transportation element of the Newberg Comprehensive Plan.

The current Newberg TSP was adopted in 2002. This update will modify that plan to reflect changes in existing conditions, needs through the year 2035, new state and regional policies, and new City priorities. The update will focus primarily on major elements of the system, on updating system and policy provisions as necessary to achieve consistency with other jurisdictions' plans, and in areas where significant changes have occurred and require attention. It will include an updated inventory of existing conditions, a new assessment of future transportation conditions, plans for improvements to the transportation system by mode (e.g. roadway, transit, pedestrian and bicycle), transportation policies and performance measures, and a financing and implementation plan. The financing plan will inform the identification of a "financially-constrained" set of projects that are likely to be constructed during the 20-year planning period.

Key messages for public information

As the TSP update develops, a range of public information materials will be prepared and opportunities for public involvement provided. The following messages should be consistently stressed in the process:

- The transportation plan is important to Newberg residents and businesses because it establishes policies related to how the City will manage its transportation system and sets criteria that guide future decisions about investments. It also defines the level of performance that residents can expect from their transportation system – how much delay or congestion is acceptable, for example – and the role each travel mode is expected to perform. The decisions made in the TSP update will influence which projects are constructed in the City.
- This is an update to the 2025 Newberg TSP; it will not be a completely new plan. The updated plan will look at system needs and characteristics further into the future – through the year 2035 – compared to the existing plan. This TSP update will consider anticipated changes in the city's population and development patterns, state, regional and local policies and regulations, and funding priorities.
- The TSP update will look at conditions and needs on all City transportation facilities, in both incorporated and unincorporated areas. It will look at the needs of drivers, cyclists, pedestrian and transit users, as well as the need to support freight and other commercial activities.
- The TSP update is an opportunity for all City stakeholders to work together to chart the future of the City's transportation system. City residents and others with a stake in the City's transportation system are invited to participate in the process by attending community advisory committee meetings, attending community workshops, following the development of the plan and engaging the tools and resources on the City's web site, or joining the project's mailing list.
- The TSP update development and adoption process is expected to take from 18 to 24 months.

Public Involvement Goals and Decision Process

Goals

The primary goal of this public involvement plan is to ensure that all interested residents, business owners and other stakeholders have the opportunity to meaningfully participate in this TSP update. The City is committed to a public involvement approach that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns.
- Provides all stakeholders with the opportunity to be involved and provide input through public events and online comment cards, interactive maps and project team contact information.
- Encourages the participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language by offering alternative engagement opportunities.
- Builds on existing, and expands to new, relationships with jurisdictions, service providers, organizations and interest groups that may be impacted by this effort or who may have constituents affected by the outcomes.

- Use existing partnerships to build awareness of TSP update participation opportunities and use the TSP update to build additional partnerships that can be leveraged in the future.

Decision Structure and Milestones

A key element of the approach is a structured decision process, clear decision milestones and well-defined roles and responsibilities. Thorough and thoughtful consideration of issues at each decision point by all of the project stakeholder groups helps to ensure quality decisions that are sustainable and supported by the community. The clear identification of decision points creates an expectation for meeting the deadlines and staying on schedule.

The key decision points for the TSP update are:

- Define policies and desired system characteristics
- Define system alternatives and project ideas
- Develop financing plan and final TSP update

Committees and official bodies involved in decision making for the TSP update

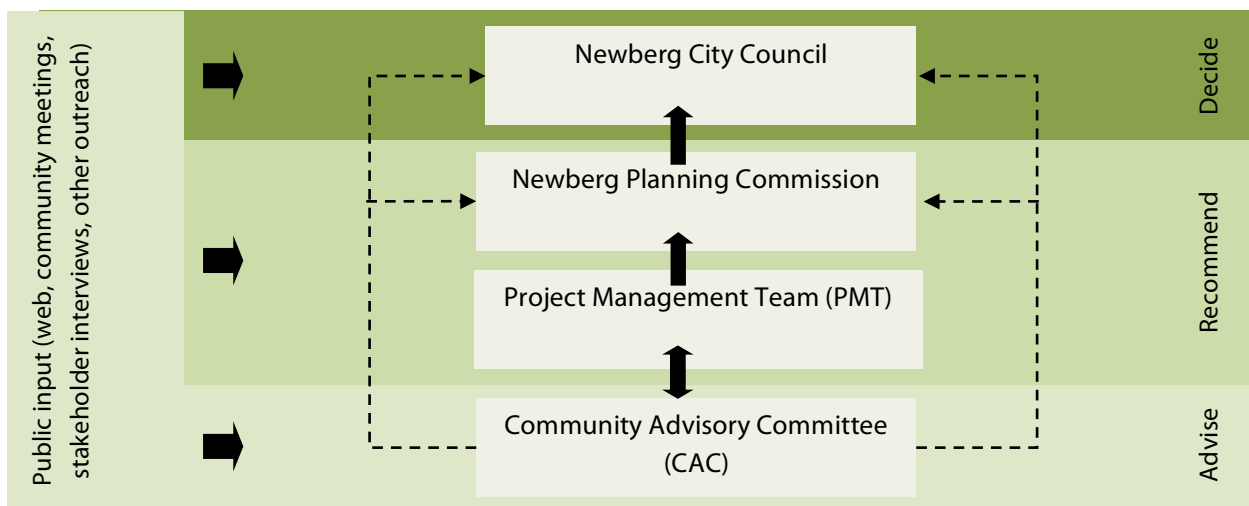
- **Newberg City Council** is a seven-member legislative body that makes decisions for the City.
- **Newberg Planning Commission** is seven-member volunteer board that advises the City Council on land use and transportation issues.
- The **Project Management Team** (PMT) is a group of staff from the Planning and Engineering Departments that is responsible for preparing the TSP update, integrating public input and making staff recommendations to decision makers.
- The **Community Advisory Committee** (CAC) will include members from the City's Planning Commission and one member from the City's Traffic Safety Commission. They will provide input and advice during the development of the TSP update.

Defining the decision structure—groups that will be involved and how they will participate—provides a “level playing field” for all stakeholders and answers questions typically asked by stakeholders:

- **Who** will make the decisions?
- **How** can I influence the decisions?
- **When** will I have an opportunity to participate?
- **Who** will consider my input?

The decision process is illustrated in Figure 1. The City Council has ultimate authority to adopt the TSP update based input received through public hearings and recommendations from the Planning Commission and PMT. The Project Management Team (PMT), comprised of City, ODOT and consultant staff, will provide day-to-day oversight of the process and make recommendations about the final TSP. The Community Advisory Committee (CAC) will advise the PMT and, through the PMT, provide input directly to the Planning Commission and City Council about TSP update decisions. While the PMT will prepare a final recommendation for consideration by the Planning Commission and City Council, the CAC will have the opportunity to provide their input on the PMT recommendation to the Planning Commission and City Council. This input directly to decision makers is illustrated with the dashed arrows in Figure 1.

Figure 1: TSP Decision Making



Community Advisory Coordinating Committee

The Community Advisory Committee (CAC) will be comprised of members from the Newberg Planning Commission and one member from the City's Traffic Safety Commission.

The CAC is charged with providing advice to the PMT at each decision milestone and providing input to the PMT, the Planning Commission and the City Council on the final plan. The CAC will also be responsible for communicating information about the planning process out to groups that they are involved with and bringing information back from those groups. A full charge and protocols will be developed with the CAC.

Public Involvement Methods

This portion of the memo identifies key public involvement activities that will be conducted during the project by the consultant team or agency staff members. Activities conducted for the TSP update will be included below, when there is overlap or coordination between the projects.

Types of Participation

The TSP update will involve many small decisions leading to the development of a final plan. The stakeholders for each decision and the type of participation needed to make each decision will vary. In addition to broad efforts to ensure appropriate stakeholder involvement, at each step of the process, the project team will focus on reaching historically under-represented community members to build awareness and engagement in this process. These efforts align with Regional Transportation Planning principles.

To determine how stakeholders will be involved, it helps to think of public engagement as a spectrum with stakeholders participating in the project at different levels. Many stakeholders will choose to be involved at the inform level – they will want to know that the TSP is being updated, how the planning process is being conducted and what the outcomes are. Other stakeholders will choose to be involved at the consult level. These stakeholders, including those who participate in online comment opportunities, CAC meetings and public meetings, will provide input and, in turn, the project team will listen to their input and provide feedback on how input influenced decisions.

Tasks

A variety of tasks will be used to provide stakeholders an array of opportunities to participate in the process. The attached table describes the stakeholder engagement tasks as well as targeted stakeholder groups, the purpose of each task, the specific tools that will be utilized and the timing for each activity.

Table 1: Stakeholder Involvement Tasks

Task	Purpose	Stakeholder	Tool(s)
Website and Electronic Engagement Web site hosted by the consultant team providing up-to-date project information, background materials and information on how citizens can be involved. Key elements may be provided in foreign languages, based on need.	Inform, consult	All stakeholders, but especially those comfortable with the internet	• Interactive Maps • Virtual open house • eSubscription • Email contact • Social media links
Stakeholder Interviews Review stakeholder interview and survey summaries from other projects for common themes and conduct up to 10 interviews to understand issues/needs. Gather input about public outreach and additional partnerships that may provide additional opportunity for information distribution	Consult	Low-income and historically hard to reach communities, key interests from past planning processes	

Partnership Development Identify partners to help the project reach out broadly, distribute information and gather input	Inform, consult	All stakeholders with a specific focus on hard to reach and low-income communities	- Community analysis - Phone calls/emails to group leaders
Community Advisory Committee Meetings Inform CAC members about project progress and gather input at each step #1: Kick off, policies and goals #2: Existing/future system conditions #3: Ideas for alternatives and project solutions for TSP Update #4: Preferred alternative and finance plan #5: Draft TSP / Next steps	Consult	<i>Representatives on the committee represent the following interests:</i> - Citizens (general interest) - Modal interests (auto, freight, transit, bicycling and walking) - Other key interest (e.g. economic development, business)	- CAC charge and protocols - Facilitated discussion with feedback loops
Community Open Houses Offer broad opportunities to learn about the project and provide input Event 1: Review goals, objectives, and needs Event 2: Review existing and future conditions / candidate solutions Event 3: Review Draft TSP update	Inform, consult	All stakeholders, but especially those that were not targeted during the stakeholder interviews. Use "online" open houses to extend participation to busy residents and those comfortable with the internet.	- Best practices for accessible and welcoming meetings for all community members - Online as well as real-time open houses
Outreach at Other Public Events Attend meetings or events that are already planned to announce the project's progress and collect information from the public	Inform, consult	All stakeholders, but especially those that were geographically under-represented from workshops and other outreach efforts	Distribute printed materials and comment form
Public Information/Media Outreach Share information with stakeholder groups, media outlets, newsletters, interested parties list at key milestones; build interested parties list through contacts, eSubscription	Inform	All stakeholders	- Interested parties list - Facebook, YouTube - Blogs - Email lists of partners from partnership development task - Newspapers - Mailers - Newsletters
Comment Tracking Track comments made by community members at public meetings, online or at CAC meetings; summarize comments recognizing key themes at milestones and note how comments influenced decisions	Involve, consult	All stakeholders	"What we heard and what we did" summaries posted to the web site at 3 decision points

Existing Groups and Partnerships

Working through existing groups and their distribution channels or email lists is an especially effective way of engaging community members in planning processes. Newberg has built many partnerships in the past that the TSP update can utilize. The TSP update process should also build new partnerships increasing the City's capacity to engage community members in future work. Partners might distribute information about how to participate in an upcoming meeting electronically or by distributing a postcard, distributing questionnaires, or distributing information about online comment opportunities.

Table 2: Existing and Potential Partners

Category	Existing and potential partners
Business	Newberg Chamber of Commerce, Providence Medical Center, Hispanic owned businesses, Asian owned businesses
Pedestrian and bike	Bicycle Transportation Alliance, Bicycle Transportation Coalition
Environment and land use	1000 Friends of Oregon, Coalition for a Livable Future
Tourism	Yamhill Valley Visitors Association
Residents	Neighborhood Groups, Newberg School Districts, other private and public schools, faith communities
Renters	Larger rental complexes, rental agencies/management firms
Low-income people	Food pantry (Newberg Soup Kitchen), renters and rental agencies/management firms, Housing Authority, Grocery Outlet, transit providers (Yamhill County Transit Area)
Farm/agriculture	Oregon Farm Bureau
Freight	Oregon Trucking Association

Monitoring Success

The public involvement program will be monitored for effectiveness and this plan will be revised based on the results of this evaluation. The measures and evaluation methods shown in Table 3 will be used to evaluate the effectiveness of public involvement for the TSP update.

Table 3. Monitoring Methods and Measures

Evaluation method	Measure/target
2-3 questions on all comment forms (electronic and print) asking about effectiveness of event. Questions to include: • Did you feel that you had early and ongoing opportunities to comment? • Were your (and other's) comments valued and considered by the project? • Did the project respond to public comments and concerns? • Did you have the opportunity to participate at the level you wanted to participate at?	Most respondents answer these questions positively (3 or above on a 5 point scale)
During stakeholder interviews ask about effective involvement techniques	Qualitative
Use counter on the project web site to document unique visits on a monthly basis	Continued unique visits on a monthly basis
Number of new attendees engaged in the project	Growth in mailing list
The number of partners who receive project information for distribution	Growth in list of partners
Earned media	Number of news stories about TSP update in local newspapers

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MEMORANDUM

DATE: 13 July 2012

TO: Newberg TSP Update Project Management Team

FROM: Carl Springer, Garth Appanaitis

SUBJECT: **Background Document Review for Newberg TSP Update (Tech Memo 2)** P#11086-005

Overview

This memorandum summarizes the planning documents, policies, and regulations that are applicable to the City of Newberg Transportation System Plan (TSP) update. The City's current TSP will serve as the foundation for the update process, upon which new information obtained from system analysis and stakeholder input will be applied to address changing transportation needs through the year 2035, resulting in a new and updated TSP. Proposed new strategies for addressing transportation needs will need to be compliant and coordinated with the plans, policies, and regulations described herein.

Table 1 provides a summary of the documents and key elements that will affect development of the Newberg TSP update.

Table 1: Key Plans and Policies to Consider for TSP Update

Perspective	Document/Policy Source	Key Elements Relevant to TSP
How is transportation system defined?	Highway classifications	Hwy 99W is a statewide highway, a Truck Route and a Freight Route. There is no special transportation area (STA) designation. Highway classifications define expected cross sections and access spacing.
How is the transportation system managed?	State highway mobility targets, as defined by Volume to Capacity Ratios (V/C)	Mobility targets range from a v/c ratio of 0.80 to 0.95 in the UGB depending on facility characteristics.
	City and County mobility standards, as defined by Level of Service (LOS)	City of Newberg is LOS D for signalized intersections and LOS E for other intersections. Yamhill County standard is LOS D for collectors and arterials.
	Access management on state highways	Table 2 summarizes ODOT spacing standards
	Access management on local roadways	Table 3 summarizes Newberg spacing standards.
	Major improvements	Oregon Highway Plan policies require improving efficiency and management before adding system capacity.
	Off-system improvements	Consider improvements to local facilities that support state roadways.
	Traffic safety	Improve safety for users by considering crash history and improvements.
	Non-motor vehicle modes	Consider improvements to support pedestrian/bicycle/transit system modes.
	Improvements on state highways	Highway Design Manual includes standards for state highway design
Other background information	STIP	Phase 1 of the Newberg-Dundee Bypass is funded, and will be assumed in the future baseline scenario
	Newberg-Dundee Bypass	Full Bypass project will be included in future system analysis, to demonstrate conditions if added investments are made.
	Newberg CIP	Several projects are funded for the near-term construction.
Actions/Strategies to be considered in updating TSP	Oregon Freight Plan	OR 99W is a vital freight corridor that connects to the Western Corridor
	Oregon Bicycle and Pedestrian Plan	Consider improvements to pedestrian and bicycle system through modernization and preservation projects
	Oregon Public Transportation Plan	Include transit element consistent with Yamhill County Coordinated Human Services Public Transportation Plan
	Newberg Comprehensive Plan	Identifies goals that can be used to evaluate transportation needs and improvements
	Newberg Development Code	Includes standards for development within the community.
	Newberg public works design standards	Includes standards for design of Newberg facilities.

Transportation System Planning In Oregon

Transportation System Planning is required throughout Oregon to comply with Goal 12, one of the 19 statewide planning goals¹. The Transportation Planning Rule (TPR), OAR 660-012², defines how to implement State Planning Goal 12. Specifically, the TPR directs the State to prepare a TSP, referred to as the Oregon Transportation Plan (OTP); Metropolitan Planning Organizations (MPOs) to prepare a Regional Transportation Plan (RTP) that is consistent with the OTP; and Counties and Cities to prepare local TSPs that are consistent with the OTP and RTP.

The TPR requires TSPs to integrate comprehensive land use planning with transportation planning and to promote systems that serve statewide, regional and local transportation needs. State transportation requirements aim to improve community livability by encouraging land use patterns and transportation systems that make it more convenient and efficient for people to walk, bicycle, use transit and drive less to meet their daily needs.

The OTP³, as the guiding document for regional and local TSPs, establishes goals, policies, strategies and initiatives that address the core challenges and opportunities facing transportation in Oregon. The OTP prioritizes:

- Maintaining and maximizing assets already in place;
- Optimizing the performance of the existing system through technology;
- Integrating transportation, land use, economic development and the environment;
- Integrating the transportation system across jurisdictions, ownerships and modes;
- Creating sustainable funding; and
- Investing in strategic capacity enhancements.

OTP guidance is further implemented by adopted standards in the Oregon Highway Plan (OHP).⁴

¹ Statewide Planning Goals: <http://www.oregon.gov/LCD/goals.shtml>

² Transportation Planning Rule: http://arcweb.sos.state.or.us/rules/OARS_600/OAR_660/660_012.html

³ Oregon Transportation Plan: <http://www.oregon.gov/ODOT/TD/TP/ortransplanupdate.shtml>

⁴ Oregon Highway Plan: <http://www.oregon.gov/ODOT/TD/TP/orhwyplan.shtml>

Why does Newberg need an Updated TSP?

The City's current TSP was adopted in 2005. Since then amendments have been made to the OTP, OHP, and other state regulations, plans for the Newberg-Dundee Bypass have progressed, and other local vision and master plans have been developed. The last 7 years of regulatory, land use, and transportation system changes will guide and be incorporated in this TSP update.

ODOT's Transportation System Plan Guidelines⁵ directs TSP updates to address recent policy and regulatory changes, and calls out some of the recent changes to the OTP, OHP, TPR. Since adoption of the 2005 Newberg TSP, the OTP was updated (2006) to emphasize maintaining assets in place, optimizing existing system performance through technology and better system integration, creating sustainable funding, and investing in strategic capacity enhancements. Policy 1F (Mobility Standards) of the OHP was amended in 2011 to clarify that the adoption of alternative mobility standards is permitted where it is "infeasible or impractical to meet the mobility targets."⁶ Appendix C (Access Management Spacing Standards) has also been updated to be consistent with amendments to the Access Management Rule, OAR 734-051.⁷

The following sections summarize the state highway classifications and applicable state policies for state facilities through Newberg. This information guides planning for these facilities and ultimately determines the adopted standards and regulations that apply to state highways in Newberg.

ODOT Classifications for State Highways in Newberg

Highway Classifications: OHP Policy 1A categorizes state highways for planning and management decisions. Updates to the TSP will support the existing highway classifications and will enhance the ability of the highways in Newberg to serve transportation needs consistent with their defined functions. The following classifications apply to state facilities in Newberg:

- OR 99W (Pacific Highway West, No. 91/1W) is classified as a Statewide Highway, part of the National Highway System (NHS), a Truck Route, and a Freight Route. Statewide highways primarily serve inter-urban and inter-regional travel and strive to provide safe and efficient, high-speed operation with minimal access and interruption. Operation may be affected by special land use designations described below.

⁵ ODOT Transportation System Plan Guidelines: <http://www.oregon.gov/ODOT/TD/TP/TSP.shtml>

⁶ Note that the mobility targets included in the Highway Mobility Policy must be used for the initial deficiency analysis of state highways. However, state policy allows that, where it can be shown that it is infeasible or impractical to meet the targets, local governments may work with ODOT and stakeholders to consider and evaluate alternatives to the mobility targets in Tables 6. Any variance from the targets in Tables 6 requires Oregon Transportation Commission adoption.

⁷ Amendments to OAR 734-051 were made by SB 264 (2011) and went into effect on January 1, 2012.
<http://www.leg.state.or.us/11reg/measpdf/sb0200.dir/sb0264.en.pdf>

- OR 240 is classified as a District Highway. District highways function as county and city arterials or collectors and provide connections between small urbanized areas. The goal of these facilities is to provide moderate to high-speed operation in rural setting and moderate to low-speed operation in urbanized areas.
- OR 219 is classified as a District Highway, except for the portion where it joins with OR 99 (MP 20.19 to 20.73) where it becomes a Statewide Highway and truck route.
- Newberg-Dundee Bypass (to be constructed) is expected to be classified as a Bypass and Expressway. Expressways are characterized by limited access. The primary purpose of expressways is to serve interurban travel and provide for high-speed and high-volume traffic with minimal access and interruption.

Special Designations: OHP Policy 1B permits special highway segment designations where specific types of land use patterns foster compact development and in areas where the need for appropriate local access outweighs the considerations of highway mobility. Currently, there are no Special Transportation Area (STA) designations on OR 99W in Newberg. Such designations may be considered during the TSP update or subsequent planning processes to acknowledge that the highway (and couplet) serves as some of Newberg's primary streets (including retail store-fronts in the downtown area) and that mobility and through traffic needs must be balanced with local access needs. Within an STA designation, which must be adopted as part of the OHP, access spacing standards can be modified and speeds reduced. While an STA designation may be appropriately considered for OR 99W through Newberg, the OHP specifies that the future Newberg-Dundee Bypass, as an Expressway, may not be designated as an STA.

State Highway Freight System: OHP Policy 1C addresses the need to balance the movement of goods and services with other uses. It states that the timeliness of freight movements should be considered when developing and implementing plans and projects on freight routes. Within Newberg, OR 99W is classified as a Federal Truck Route and an Oregon Freight Route. This classification could change with the completion of the Newberg-Dundee Bypass.

How is the Transportation System Managed?

State Highway Mobility Targets: OHP Policy 1F sets mobility targets for ensuring a reliable and acceptable level of mobility on the highway system⁸. The OHP assesses mobility in terms of volume to capacity ratio (v/c). The following mobility targets are applicable to long-range planning for state highways in Newberg during peak hour operation⁹, pursuant to Policy 1F, Table 6:

- 0.85 v/c for Statewide Highways that are Freight Routes inside a UGB, outside of a MPO and STA, where the posted speed is 35 mph or less (OR 99W).¹⁰
- 0.80 v/c for Statewide Expressways and Statewide Highways that are Freight Routes inside a UGB, outside of a MPO and STA, where the posted speed is greater than 35 mph (OR 99W and future Newberg-Dundee Bypass).
- 0.95 v/c for District Highways that are inside a UGB, outside of a MPO or STA, where posted speed is less than or equal to 35 mph (OR 240)
- 0.90 v/c for District Highways that are inside a UGB, outside of a MPO or STA, where posted speed is greater than 35 mph and less than 45 mph (OR 240)
- 0.90 v/c for Statewide Highways that are inside a UGB, outside of a MPO or STA, where posted speed is less than or equal to 35 mph (OR 219)
- 0.85 v/c for Statewide Highways that are inside a UGB, outside of a MPO or STA, where posted speed is greater than 35 mph and less than 45 mph (OR 219)

It is anticipated that the findings of the transportation analysis for the TSP update may support a change of mobility targets for 99W within the city; the TSP update process is an opportunity to develop and apply alternative mobility targets. The Oregon Transportation Commission (OTC) must approve proposed alternative mobility targets on state highways.

City and County Mobility Standards: The City of Newberg TSP¹¹ states that Level of Service (LOS) "D" is typically regarded as the minimum operational threshold for signalized intersections, while LOS "E" is the minimum operational threshold for unsignalized intersections.

⁸ In particular, the mobility targets in Table 6 of OHP Policy 1F are applicable to state facilities in Newberg and are considered standards for purposes of determining compliance with Transportation Planning Rule (OAR 660-012).

⁹ OHP Policy 1F uses the 30th highest annual hour as the peak hour. Alternatives to the 30th highest annual hour may be established as part of adopting an alternative mobility target.

¹⁰ The Dundee City Council recently approved a recommendation by the ODOT speed zone investigator to change the speed from 35 mph to 30 mph on 99W through Dundee. ODOT is waiting for confirmation from the City of Newberg, which is currently considering recommendations pertaining to 99W in Newberg. A speed zone order from ODOT will be issued at the end of the review process.

Similarly, the Yamhill County TSP¹² requires LOS “D” as the minimum acceptable performance standard for County-owned collectors and arterials.

Access Management on State Highways: The Oregon Access Management Rule¹³ (OAR 734-051) strives to balance the safety and mobility needs of travelers along state highways with the access needs of property and business owners. ODOT’s rule sets guidelines for managing access to the state’s highway facilities in order to maintain highway function, operations, safety, and the preservation of public investment consistent with the policies of the 1999 OHP. Access management rules allow ODOT 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 identified. These rules enable the State to set policy and direct the 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.

OAR 734-051 is in the process of being amended to allow more consideration for economic development when developing and implementing access management rules. The new laws will result in substantial changes in rules about how ODOT manages highway approach road permitting. Changes include modifying how ODOT deals with approach road spacing, highway improvement requirements with development, and traffic impact analyses requirements for approach road permits. The law’s provisions went into effect on January 1, 2012.

OHP Policy 3A and OAR 734-051 set access spacing standards for driveways and approaches to the state highway system.¹⁴ The standards are based on state highway classification and differ based on posted speed. The administrative rule is in the process of being amended; the following spacing standards are in effect for unsignalized approaches to statewide highways in urban areas where average daily traffic is more than 5,000 motor vehicles.¹⁵

¹¹ Newberg TSP (2005), Section 3

¹² Yamhill County TSP, Goals and Policies 1, Chapter 5 – Transportation System Plan, Section 5.2 – Collector/Arterial Street Plan, Subsection 5.2.4 – Level of Service

¹³ Access Management Rule: http://arcweb.sos.state.or.us/rules/OARS_700/OAR_734/734_051.html

¹⁴ ODOT Access Management Standards (Appendix C): <http://www.oregon.gov/ODOT/TD/TP/orhwyplan.shtml>

¹⁵ Table 2 in SB 264, <http://www.leg.state.or.us/11reg/measpdf/sb0200.dir/sb0264.en.pdf>

Table 2: Spacing Standards for Urban Non-Designated Statewide and District Highways

Posted Speed (mph)	Spacing (feet)	
	Statewide	District
55 and higher	1320	700
50	1100	550
40-45	990	500
30-35	720	350
25 and lower	520	350

Access Management on Local Roadways: The existing Newberg TSP, Newberg Development Code, and Yamhill County TSP provide access spacing standards and guidelines for public roadways under City and County jurisdiction. The access spacing requirements from the Newberg Development Code are found in Table 3.

Table 3: Minimum Spacing Standards for City Streets

Roadway Functional Classification	Minimum Public Street Intersection Spacing (Feet) ¹	Frontage Required per Additional Driveway ²	Driveway Setback from Intersecting Street ³
Expressway	As shown in the Newberg TSP	NA	NA
Major arterial			
Urban (outside CBD)	600	300	150
Central Business District	200	300	100
Minor arterial			
Urban (outside CBD)	300	200	100
Central Business District	100	200	100
Major collector	200	150	100
Minor collector	150	75	75
Local streets	100	75	50

1. Street spacing measured centerline to centerline
2. Requirement is the minimum frontage required per additional driveway beyond the first. Where two driveways are constructed, at least one curb parking space shall separate each driveway approach.
3. The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible



Yamhill County has jurisdiction over the following collector or arterial roads within the Newberg UGB and Urban Reserve Areas:

- Chehalem Drive
- Bell Road
- Aspen Way (between Bell Road and 435.22 feet north of Mountain View Drive)
- Zimri Drive (North of city limits, about 925 feet north of Mountain View Drive) Springbrook Road (from city limits, about 625 southwest of Benjamin Road, to Bell Road)
- Crestview Drive (from about 376 feet east of Springbrook Street east to the UGB, about 330 feet east of Westlake Loop)
- Columbia Drive (between Chehalem Drive and Main Street)
- 11th Street (between 175 feet west of Mill Place and Wynooski Street)
- Wynooski Street (between 7th Street and Ore 219)
- North Valley Road (between Chehalem Drive and College Street)
- Fernwood Road (600' east of The Greens Avenue and Corral Creek Road)
- Wilsonville Road
- Main Street (Crestview Drive south to about 90 feet south of Nicholas Way).
- South College Street (9th Street to 14th Street)
- 14th Street
- River Street (13th Street to 14th Street)

The policy statements below from the Yamhill County TSP guide access management on County-owned arterials in urban areas.

- Public road access spaced at a minimum of ½ mile apart.
- Driveways spaced at a minimum of 500 feet apart.
- Traffic signals spaced at a minimum of ½ mile apart, and no median control.¹⁶

County policy states that environmental conditions and safety conditions are amongst the factors considered in taking an exception to these policies.

Major Improvements: OHP Policy 1G requires maintaining performance and improving safety by improving efficiency and management before adding capacity. The intent of policy 1G and Action 1G.2 is to ensure that major improvement projects to state highway facilities have been through a planning process that involves coordination between state, regional, and local stakeholders and the public, and that there is substantial support for the proposed improvement.

Off-System Improvements: OHP Policy 2B establishes ODOT's interest in improvements on local roads that maintain or improve safety and mobility performance on state roadways, and supports local jurisdictions in

¹⁶ Yamhill County TSP, Access Management and Functional Classification Policy 8



adopting land use and access management policies. The TSP will include sections describing existing and future land use patterns, access management, and implementation measures.

Traffic Safety: OHP Policy 2F identifies the need for projects in the state to improve safety for all users of the state highway system through engineering, education, enforcement, and emergency services. One component of the TSP update is to identify existing crash patterns and rates and to develop strategies to address safety issues. Proposed improvements will aim to reduce the vehicle crash potential and/or improve bicycle and pedestrian safety by providing upgraded facilities that meet current standards.

Alternative Passenger Modes: OHP Policy 4B, Action 4B.4 requires that highway projects encourage the use of alternative passenger modes to reduce local trips. The TSP will develop ways to support and increase the use of alternative passenger modes to reduce trips on highways and other facilities. This will include improvements to bicycle and pedestrian facilities and consideration of existing and future transit movement along roadways.

Improvements on State Highways: The Highway Design Manual¹⁷ (HDM) provides uniform standards and procedures for ODOT and is in general agreement with the 2001 American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Some key areas where guidance is provided are the location and design of new construction, major reconstruction, and resurfacing, restoration or rehabilitation (3R) projects. The HDM should be used for all projects on state highways in Newberg to determine design requirements, including the maximum allowable volume to capacity ratios for use in the design of highway projects.

¹⁷ ODOT Highway Design Manual: http://www.oregon.gov/ODOT/HWY/ENGSERVICES/hwy_manuals.shtml

Other Background Information for the TSP Update

The following sections summarize additional background information or guidance documents that will be referenced in updating the Newberg TSP.

Projects to Be Considered in Future Transportation Analysis

Several of the documents reviewed identified transportation improvement projects that will be considered in future transportation analysis in Newberg. Relevant projects are found in the following documents.

Approved 2010-2013 Statewide Transportation Improvement Program (STIP)¹⁸

- OR-18/Newberg – Dundee Bypass (Key Number: 12819): Funding for acquisition of right-of-way to preserve alignments in the bypass corridor adopted through the Location Environmental Impact Statement (LEIS). Sufficient funding has already been programmed for the design/construction level EIS for the bypass.

Newberg-Dundee Bypass Tier 2 Draft Environmental Impact Statement (2010)

The Newberg-Dundee Bypass is planned as a four-lane, 11-mile, controlled access expressway proposed by ODOT and the Federal Highway Administration (FHWA). The alignment and design options are based on many years of planning and coordination with Yamhill County and the cities of Newberg and Dundee. The facility is proposed to bypass the central portions of Newberg and Dundee to relieve traffic congestion and allow for downtown revitalization and enhancement in these communities. A Tier 2 Draft Environmental Impact Statement (DEIS) has been completed for the proposed bypass.

Four interchanges are proposed including a Dayton Interchange at the junction of OR 99W and OR 18, an East Dundee Interchange within the Dundee UGB, an OR 219 Interchange at the edge of the Newberg UGB, and an East Newberg Interchange.

The Build Alternative developed through the Tier 2 DEIS process divides the bypass into nine segments. Segments 5, 6, 7, 8.1 and 8.1A extend from the southern part of Newberg to OR 99W as it enters into Washington County. The following sections briefly summarize the proposed improvements for these segments.

- **Segment 5** is located in the southern portion of Newberg and includes property in the Newberg River District and SP Newsprint. This area is inside the Newberg UGB but outside the city limits. All design options require approximately 38 acres for right-of-way, with about 5 acres being outside the corridor and will require amendments to the Newberg TSP and Comprehensive Plan.
- **Segment 6** refers to the OR 219 Interchange and would require about 43 acres. The current design would require 0.1 acres of land outside the UGB for public right-of-way which is allowed for by Statewide Planning Goal 14 and would require an amendment to the Newberg Comprehensive Plan

¹⁸ ODOT STIP: <http://www.oregon.gov/ODOT/HWY/STIP/>



- **Segment 7** is located between the proposed OR 219 Interchange and the East Newberg Interchange. Design options would require raising the intersection of Fernwood Road and Brutscher Street.
- **Segment 8.1** is the East Newberg Interchange and would require roughly 30 acres of right-of-way.
- **Segment 8.1A** would widen OR 99W to allow for an eastbound truck-climbing lane. These improvements would extend approximately 1000 feet into Washington County.

Newberg-Dundee Bypass Phase 1 Technical Report Addendum

ODOT is evaluating options for the first phase of construction of the Newberg-Dundee Bypass.¹⁹ Phase 1 will entail construction of a two-lane roadway (one lane in each direction) extending from OR 219 in Newberg to OR 99W south of Dundee.

Newberg Capital Improvement Plan (CIP)

The 2011-2012 Newberg CIP lists 8 transportation system projects including two new infrastructure projects, three capacity improvement projects, and three infrastructure improvement and repair projects.

Capacity Improvements to Infrastructure

- Install sidewalks on the west side of bike lanes on both sides of N. College Street from Vermillion Street to Aldercrest Drive.
- Install sidewalks on the east side of N. College Street across the railroad tracks.
- Acquire right-of-way on the west side of N. College Street from Aldercrest to Foothills.

New Infrastructure

- Creation of a safe routes to school zone along Deborah Road near Mabel Rush Elementary.
- Install School Zone Flashing Signs on N. College Street at Open Bible School.

Improvement and Repair of Infrastructure

- Improve pedestrian crossing and street lighting at intersection of OR 219 and Everest Road.
- Repair and enhance Sheridan Street
- Pavement rehabilitation of City streets that require improvement.

¹⁹ Phase 1 Technical Report Addendum, Kittelson & Associates, September 2011.

Actions or Strategies to Be Considered in Updating the TSP

Several of the documents reviewed identify transportation actions, strategies, or standards and guidelines that will be considered in updated the Newberg TSP. Relevant actions or strategies include those found in the following documents.

Oregon Freight Plan (2011)

The Oregon Freight Plan (OFP) is a modal plan of the OTP that implements the State's goals and policies related to freight. Its purpose statement is: "to improve freight connections to local, Native American, state, regional, national and global markets in order to increase trade-related jobs and income for workers and businesses."

The objectives of the plan include creating a framework for prioritizing and facilitating investments in freight facilities (including rail, marine, air, and pipeline infrastructure) and adopting strategies to maintain and improve the freight transportation system.

The plan identifies and defines four multimodal corridors whose connectivity is vital to the state economy. OR 99W is a state facility that provides connectivity in one of those corridors, the Western Corridor.

The plan includes a set of 11 strategies and corresponding actions that address defining and preserving a strategic freight system, reviewing investment criteria, establishing procedures to ensure system safety and efficiency, partnering with other organizations, coordinating freight planning with land use planning and other regulatory programs, and dealing with long-term funding needs.

Newly adopted, the plan still needs to develop and take action on implementation measures including an overall implementation plan, performance measures, funding options, and outreach regarding bottlenecks and choke points on the strategic freight system.

While freight needs on OR 99W will largely be alleviated once the bypass is constructed, this TSP update will be coordinated with any Freight Plan implementation measures that may be developed and enacted during the TSP update process. Because OR 99W is currently a designated Freight Route, the requirements of ORS 366.215 also apply. This State Statute states, with specific exceptions, that the Oregon Transportation Commission may not permanently reduce the vehicle-carrying capacity of an identified freight route.²⁰

Oregon Bicycle and Pedestrian Plan (1995; 2007 draft update)

The goal of the Oregon Bicycle and Pedestrian Plan is to provide safe and accessible bicycling and walking facilities in order to encourage increased levels of bicycling and walking. The plan provides measures that will assist local jurisdictions in understanding the principles and policies that ODOT follows in providing bike and walkways along state highways. In order to the meet the plan's objectives, strategies for system design include providing bikeway

²⁰ This statute implements a no Reduction of Vehicle-carrying Capacity (RVC) policy and pertains to all planning, project development, development review and maintenance projects. See ODOT's Guidelines for Implementation of ORS 366.215 <http://www.oregon.gov/ODOT/TD/TP/ORS366.215.shtml>.



and walkway systems that are integrated with other transportation systems; providing a safe and accessible biking and walking environment; and developing education programs that improve bicycle and pedestrian safety.

The plan states that bikeway and walkway systems will be established on urban highways, as follows:

- As part of modernization projects (bike lanes and sidewalks will be included);
- As part of preservation projects, where minor upgrades can be made;
- By restriping roads with bike lanes;
- With minor improvement projects, such as completing short missing segments of sidewalks;
- As bikeway or walkway modernization projects;
- By developers as part of permit conditions, where warranted.

The 1995 document includes two sections, including the *Policy & Action Plan* and *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 assists ODOT, cities, and counties in designing, constructing and maintaining pedestrian and bicycle facilities. The document recommends design standards and provides safety information.

The second section has been updated as a new Oregon Bicycle and Pedestrian Design Guide addressing on-road bikeways, restriping, bicycle parking, walkways, street crossings, intersections, and shared-use paths.²¹ Once adopted, the updated Oregon Bicycle and Pedestrian Plan Design Guide will be referenced where bicycle or pedestrian facilities are planned as part of state funded projects or facilities.

Oregon Public Transportation Plan (1997)

The Oregon Public Transportation Plan serves as the transit modal plan of the OTP. The plan builds on and implements the OTP's long-range vision for public transportation in the State of Oregon. The vision includes a comprehensive, interconnected, and dependable public transportation system, with stable funding, that provides appropriate service in each area of the state, offers an attractive option to driving to meet daily needs, and supports livability and economic development in the state.

The plan contains goals, policies, and strategies relating to the whole of the state's public transportation system. The plan is intended to provide guidance for ODOT and public transportation agencies regarding the development of public transportation systems.

The Yamhill County Transit Committee addresses transit issues in Newberg and Yamhill County. The Yamhill County Transit Area (YCTA) was formed to provide countywide service by contracting with Yamhill County Community Action Partnership (YCAP) and CVSCC (Chehalem Valley Senior Citizens Council). The organizations provide daily service between Tigard and McMinnville in Yamhill County. YCTA plans include the Yamhill County Public Transportation Action Plan (2004) and Yamhill County Coordinated Human Services Public Transportation

²¹ A July 2007 public review draft is available on ODOT's website: at:

http://www.oregon.gov/ODOT/HWY/BIKEPED/bp_plan_update.shtml#Background_Information



Plan (2007).²² This transportation planning process will be coordinated with the County's transit plan and the updated TSP will include a transit element.

Newberg Comprehensive Plan (1979, Updated through 2012)

The city of Newberg's Comprehensive Plan provides a basis for making land use decisions by identifying goals and policies to aid in the management of city growth. The goals outlined in this document reflect statewide planning goals and policies are organized by the goal in which they support. Urbanization, economic development, and transportation goals are particularly relevant to transportation planning in Newberg. Section K (Transportation) is comprised of 12 goals and their supporting policies.

- **Goal 1:** Establish cooperative agreements to address transportation based planning, development, operation and maintenance.
- **Goal 2:** Establish consistent policies which require concurrent consideration of transportation/land use system impacts.
- **Goal 3:** Promote reliance on multiple modes of transportation and reduce reliance on the automobile.
- **Goal 4:** Minimize the impact of regional traffic on local transportation system.
- **Goal 5:** Maximize pedestrian, bicycle and other non-motorized travel throughout the City.
- **Goal 6:** Provide effective levels of non-auto oriented support facilities (e.g. bus shelters, bicycles racks, etc.).
- **Goal 7:** Minimize the capital improvement and community costs to implement the transportation plan.
- **Goal 8:** Maintain and enhance the City's image, character and quality of life.
- **Goal 9:** Create effective circulation and access for the local transportation system. This includes design standards for each roadway classification.
- **Goal 10:** Maintain the viability of existing rail, water and air transportation systems.
- **Goal 11:** Establish fair and equitable distribution of transportation improvement costs.
- **Goal 12:** Minimize the negative impact of a Highway 99 bypass on the Newberg community.

The Comprehensive Plan also provides descriptions for each land use classification included in the plan. Additionally, this document provides estimates for population growth within the City and the associated land requirements.

²² [Note: The Yamhill County Public Transportation Action Plan (2004) is not available online.] Yamhill County Coordinated Human Services Public Transportation Plan (2007)
<http://www.yctransitarea.org/pdf/COORDINATEDPLAN.PDF>



Newberg Development Code

The Development Code coordinates city regulations governing the development and use of land and to implements the Newberg comprehensive plan. This code provides details governing the land use under the various zoning districts. It also establishes overlay zones including the Flood Plain, Airport Overlays, Stream Corridor Overlay, Institutional Overlay, and Civic Corridor Overlay. Additionally, the Development Code provides standards for development, including requirements for off-street parking, bicycle parking, and private walkways.

Newberg Public Works Design Standards

The City of Newberg has a design standard document that addresses general requirements for the construction of public facilities, including a specific section on street requirements. The streets sections covers traffic analysis, intersections according to functional class, speed according to functional class, and other geometric design considerations. It also directs attention to the Newberg TSP and Newberg Development Code for information on performance standards, right-of way and pavement width, access management, and street classification.

Newberg Historic Resources and Local Wetland Inventory

Maps indicating the location and extent of historic and water features have been obtained help inform analysis and recommendations to the transportation system. Most of the historic properties are concentrated near the downtown area (including George Fox University), with a couple located in the east part of town. The majority of water features are along the southern edge of Newberg UGB, but the Hess Creek stream corridor runs north/south roughly through the middle of Newberg.

Recently Constructed Transportation Projects

The following projects on arterials and collectors have been identified based on a GIS map produced by the City of Newberg.

- Hayes Street (between Springbrook Road and Werth Blvd.) (2004)
- Providence Drive (starting at 99W and going about 1000 ft. south) (2005)
- Chehalem Dr (between NE North Valley Rd and Mountainview Dr) (2005)
- E Mountainview Dr (between Chehalem Dr. and Main St.) (2005)
- Mountainview Dr (from about 200 ft. west of Aspen Wy to Springbrook Rd) (2007)
- Springbrook Rd (from Middlebrook Dr. to Alison Ln.) (2007)
- Crestview Dr. (from Emery Dr to 200 ft. east of Springbrook Rd.) (2007)
- 2nd St (from OR 219 to Springbrook Rd.) (2008)
- Providence Dr. (completing improvements between Hayes St. and 99W) (2008)
- Springbrook Rd (starting at OR 219 and going about 500 ft. east) (2008)

Existing Transportation Funding Mechanisms

The City has Gas Tax Revenue, Transportation System Development Charges (SDCs) and a Federal Fund Exchange Program. Funding for Transportation System Plan projects comes primarily from SDCs. These charges are solely based on development and therefore, the City does not have any real guarantees for funding. There needs to be a project priority list. Projects should be constructed when the funds are available. SDC's that are collected can only be used for capacity improvement projects and cannot be used for maintenance projects. The Federal Exchange



Fund dollars can be used on capacity or non-capacity transportation projects but not for maintenance projects. The exchange program shouldn't be considered a guaranteed funding source as its funding level fluctuates from year to year. Gas tax revenues are not as restricted, but do need to be used on transportation related expenditures.

List of Traffic Issues brought to the Traffic Safety Commission

The Traffic Safety Commission has considered 35 requests between 2009 and 2012, on the following general topics:

- Speeding (9 requests)
- Intersection control (6 requests)
- Crosswalks (5 requests)
- Signing (3 requests)
- Parking (3 requests)
- Intersection closure (2 requests)
- Visibility (2 requests)
- Vehicle queuing/blocking (2 requests)
- Other requests – 1 each (3 total requests)

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



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MEMORANDUM

DATE: 13 Jul 2012

TO: Newberg TSP Update Project Management Team

FROM: Carl Springer, PE; Garth Appanaitis

SUBJECT: **Newberg TSP Update – Goals, Objectives and Criteria**

P#11086-005

The purpose of this memorandum is to present draft goals, objectives, and evaluation criteria for the City of Newberg Transportation System Plan (TSP) update, providing a basis for discussion as the community moves through the TSP update process. Goals and objectives presented here are expected to evolve, and will not become fixed until adopted by the Newberg City Council.

The goals reflect broad, high-level statements describing the community's intentions for the future. Each goal is developed around a topic area, and while a goal may never be completely attainable, it is used as a point toward which to strive. The objectives described under each goal are statements providing a specific course of action that moves the community toward that particular goal. Each new capital improvement project, land use application, or implementation measure must be consistent with the objectives.

The goals and objectives will guide the development of the transportation system plan, while the evaluation criteria will be used to assess and prioritize future transportation programs and improvements against the goals and objectives. Once adopted, the goals and objectives, as well as the project list, will become part of the City of Newberg's Comprehensive Plan.

Goals, Objectives and Evaluation Criteria

The Newberg Citizen's Advisory Committee (CAC) helped develop ten criteria¹ that were used to measure the success or failure of alternative projects, and to recommend which projects were included in the 1994 Newberg TSP. Those same criteria were used again for the 2005 TSP update. For

¹ Considering current demands and anticipated local, regional, and national trends in transportation, The Citizen's Advisory Committee of the Newberg Transportation System Plan believes that the success of the Final Newberg Transportation/Land Use System Plan shall be measured by it's ability to satisfy the following 10 criteria. The criteria have been numbered for reference purposes only and do not reflect any order of priority at this time.



the 2012 update, we will carry these criteria forward with a few suggested refinements for consideration by the CAC.

Although these planning parameters have been referred to as criteria in past plans, each of the ten can be broken into corresponding goals, objectives and evaluation criteria. Our intent through this update is to leave the goals – the top-level vision – unchanged, and to focus on tightening up the objectives and adding more criteria to allow for a more robust decision-making framework. In fact, most of the following refinements pertain to adding criteria that further define how projects will be evaluated.

The resulting ten goals and corresponding objectives and evaluation criteria are listed in the following sections. The recommended additions/changes are indicated by underscore for each case. The final section of this memo highlights a few additional goal areas to be considered through this update.

Goal 1. Be coordinated to balance transportation system impacts to and from adjacent communities by:

Objectives

- a. Establishing cooperative agreements to address transportation based planning, development, operation and maintenance; and
- b. Establishing consistent policies which require concurrent consideration of transportation/land use system impacts; *and*
- c. Considering the impacts of regional traffic growth in neighboring communities and regional gateways.

Evaluation Criteria:

- Plan/project is consistent with regulatory documents
- Plan/project is consistent with regional plans

Goal 2. Promote reliance on multiple modes of transportation and reduce reliance on the automobile by:

Objectives

- a. Designing the system and facilities to accommodate multiple modes where appropriate and encourage their integrated use; and
- b. Suggesting modifications to the City's land use plan and development ordinances that will decrease trip length and encourage non-auto oriented development.

Evaluation Criteria:

- Include projects that serve pedestrians and bicyclists
- Project improves pedestrian/bicyclist comfort, convenience and safety



Goal 3. Minimize regional traffic impacts on local system by:

Objectives

- a. Enhancing the efficiency of the existing collector/arterial street system to move local traffic off the regional system
- b. Providing for alternative routes for regional traffic; and
- c. Minimizing the use of local streets for regional traffic.
- d. Providing proper access management

Evaluation Criteria

- Maintain motor vehicle mobility along Highway 99W
- Provide appropriate arterial/collector spacing.

Goal 4. Maximize pedestrian, bicycle and other non-motorized travel throughout the City by:

Objectives

- a. Embracing a “Complete Streets” policy;
- b. Providing a complete system of safe sidewalks;
- c. Providing a well maintained and routed bike system;
- d. Increasing the convenience of non-auto travel routes; and
- e. Providing effective levels of non-auto oriented support facilities (e.g. bus shelters, bicycle racks, etc.).

Evaluation Criteria:

- Include projects that serve pedestrians and bicyclists
- Reduces per capita average daily vehicle miles traveled (VMT)
- Minimize driveways across bike lanes.
- Locate on-street parking safety from bike lanes.
- Encourage multi-use paths that allow bikes, pedestrians and skaters.

Goal 5. Minimize the capital improvement and community costs to implement the plan by:

Objectives

- a. Utilizing the existing transportation system whenever possible; and
- b. Avoiding excessive impacts of improvements to adjacent properties.



- c. Applying system management opportunities (intersection control, lane channelization, etc.)
- d. Identifying range of funding sources that can be used to implement plan and form partnership
- e. Identifying projects that may be triggered as mitigation for private development

Evaluation Criteria:

- Consider portion of right of way costs in project cost estimates
- Does project focus on (low-cost) management improvements?
- Project eligible for multiple funding sources
- Project can be implemented through practical phases
- Share costs by timing work with underground utility projects (such as water and wastewater) when opportunity arises.
- Provide opportunities for franchise utilities to perform their underground work prior to capital improvements through maximum coordination.

Goal 6. Maintain or enhance the City's image, character and quality of life by:

Objectives

- a. Adopting transportation/land use system design standards which emphasize visual and aesthetic quality; and
- b. Encouraging and supporting plans which protect the integrity of existing neighborhoods, downtown and industrial areas.

Evaluation Criteria:

- Improvements consistent with City of Newberg street design standards
- Improvements consistent with City of Newberg character
- Minimize impacts to historic structures
- Improvements that are sustainable and low maintenance.

Goal 7. Create effective circulation and access for the local transportation system by:

Objectives

- a. Enhancing existing and adding alternative routes for local travel; and
- b. Increasing efficient movement of commercial and industrial goods.



Evaluation Criteria:

- Improve system connectivity
- Improve roadway operations

Goal 8. Promote a safe transportation system for all users including operators, pedestrians, passengers and property owners by:

Objectives

- a. Defining effective safety criteria for all transportation system improvements.

Evaluation Criteria:

- Project addresses identified safety need
- Project improves crossing safety

Goal 9. Maintain the viability of existing rail, water and air transportation systems by:

Objectives

- a. Encouraging and supporting compatible transportation and land use development; and
- b. Evaluating and mitigating potential losses whenever possible.

Evaluation Criteria:

- Is there an alternative to projects that impact existing rail, water, and air facilities?

Goal 10. Establish fair and equitable distribution of transportation improvement costs by:

Objective

- a. Defining appropriate phasing and funding which relates to the benefits received.

Evaluation Criteria:

- Include projects that cumulatively serve all areas of the community

Possible goals areas to be considered by CAC

While not included in the previous planning efforts, the following goal areas may be considered for inclusion during the 2012 update. Recent updates to Federal and State planning efforts have included specific goals and policies for these areas, but they are not mandatory. These potential additional areas will be reviewed with the CAC during the first meeting to get further direction.

- **Economic Development:** Provide and maintain a transportation system that fosters economic growth in Newberg, by:
 - a. Providing parking and access to local businesses.
 - b. Accommodating freight movements to support local businesses.
 - c. Providing transportation opportunities for local and regional commuters.

Evaluation Criteria:

- i. Minimize impacts to on-street parking.
 - ii. Provide multimodal connections between employment and residential areas
 - iii. Provide convenience access to transit from employment areas.
- **Freight:** Provide and maintain a transportation system that allows movement of good to, from and through Newberg, by:
 - a. Maintaining mobility along Hwy 99W.
 - b. Maintaining mobility along routes connecting employment areas to Hwy 99W.

Evaluation Criteria:

- i. Minimize impacts to travel time on Highway 99W.
 - ii. Minimize increases in travel time to arterials and collectors that connect employment areas to Hwy 99W.
 - iii. Minimize impacts to loading zones.
- **Accessibility:** Provide and maintain a well-connected transportation system that serves the needs of all members of the community and ensures adequate and efficient accessibility for all acknowledged land uses, and available modes of travel, by:
 - a. Complying with American Disabilities Act (ADA) requirements.
 - b. Providing adequate access to properties.
 - c. Improving connectivity of the local street system except when limited by environmental or topography limitations.
 - d. Providing multimodal connections to connect residential stub streets



Evaluation Criteria:

- i. Project improves connectivity while meeting access spacing standards and safety considerations.
 - ii. Project reduces per capital VMT for system users.
- Environment/Sustainability: Provide and maintain a transportation system that preserves, protects, and supports the social, natural, and cultural environment, by:
 - a. Minimizing energy, social, environmental and economic impacts
 - b. Prioritizing environmentally sustainable transportation impacts
 - c. Planning for a financially-constrained transportation system.

Evaluation Criteria:

- i. Applying green street design and reducing impervious surfaces when possible.
- ii. Consider project cost and system benefits.

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.

What Makes Newberg Different?

The City of Newberg is located in the Willamette Valley, between Portland and the Oregon Coast. As shown in Figure 1, Newberg is a junction for three of Oregon's highways: Highway 99W, OR 240, and OR 219. Newberg is unique in that it maintains a smaller town feel, but is still conveniently close enough for an easy trip into Oregon's biggest metropolitan area. The City of Newberg borders the Willamette River on the south side and is abutted by farms, vineyards and rural forests on the edges of the city. Newberg is located in the heart of the Willamette Valley, a renowned wine making region, and is situated just a few miles east of Dundee. This setting has proved attractive to new residents, with the population growing from 18,064 in the 2000 census to 22,068 in 2010.



Tractor from a nearby farm traveling through the residential neighborhoods in Newberg



Figure 1: Newberg Vicinity Map

Newberg provides many attractions for visitors. The city is home of the Chehalem Cultural Center, Roger's Landing, and George Fox University among many other attractions. George Fox University had an enrollment of just over 3,500 students for the 2011-2012 school year. The campus encompasses about 108 acres on the northeast side of downtown Newberg. The university hosts cultural and athletic events all year long on the campus which draws visitors to the city.

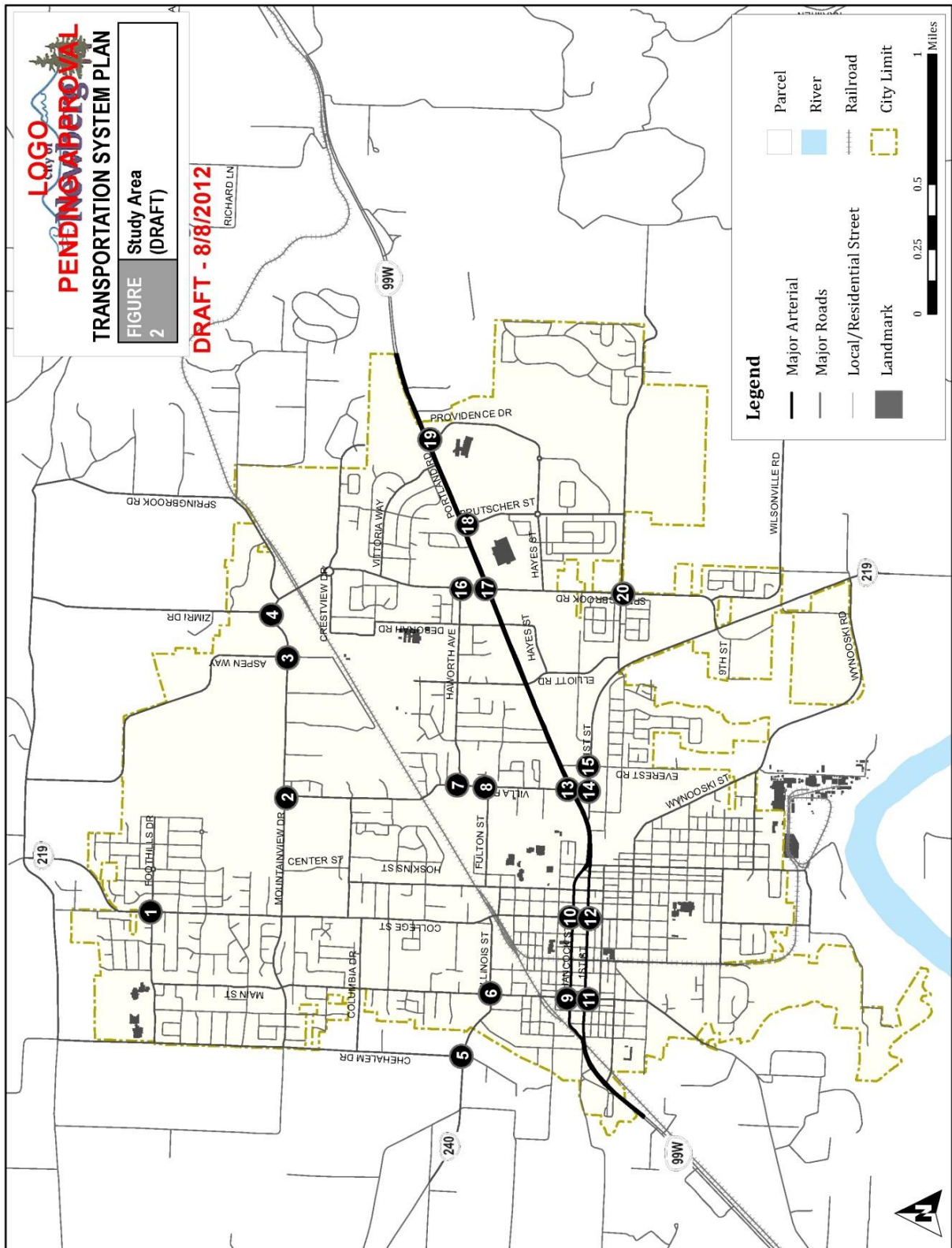
The location of Newberg provides the opportunity for many recreational activities. Near the city there are 11 parks and within the city there is a skateboarding and BMX park. The city is also within an hour drive to the Oregon Coast and adjacent to the Willamette River.

Newberg's first postmaster named the city in 1869 and by 1887 the population was around 200 people. The city became incorporated as a town in 1889 and as a city in 1893. Newberg's location on key freight corridors has always been part of its identity. Early on, Newberg was a key shipping hub along the Willamette River, and later gained interurban rail service when the Red Electric line opened between Portland and Eugene. The automobile age saw the opening of the Capitol Highway through the center of Newberg, which in 1930 was assigned the US Route number 99W. The role of 99W as a key route between the Portland region, the Oregon coast, and attractions is as important to the character of Newberg today as it was when the highway first opened.

The City of Newberg is continuing to make the city an attractive location to visit and live. The city is currently working on the Newberg Cultural District Master Plan which is a plan to further enhance the downtown of the city with the primary focus on the areas surrounding the Chehalem Cultural Center and Newberg Public Library. The focus area and buildings of this plan are planning to be set up so that outdoor events, farmer's markets, beer and wine tasting events, and much more can be held in the downtown area.

Also, the City has worked closely with state and regional partners to plan and design a 99W bypass route that will alleviate some of the traffic issues through the downtown core of Newberg. The planning efforts associated with this Transportation System Plan (TSP) update will address some of the concepts associated with the bypass plans but will primarily focus on ways to enhance the City as a whole. The City of Newberg identified key intersections that will be evaluated as part of this TSP. These intersections are shown in **Error! Reference source not found.**, as well as major roadways and intersections that were reviewed for motor vehicle, pedestrian, and freight activity.

Figure 2: Newberg Roadways and Study Intersections



Where Do People Want to Go?

Planning for a transportation system that meets the City's needs requires an understanding of key travel destinations throughout Newberg – locations that create demand for travel because they are where people go to work, to school, or to take care of other daily needs. These key destinations can be thought of as activity generators, or trip attractors.

Activity generators may be destinations that residents use for their daily needs, or they may be attractions that draw travelers from around the region. The most common categories of activity generators in Newberg include:

- Recreational (e.g., parks, trails)
- Schools (e.g., Newberg High School, George Fox University)
- Places of employment (e.g., business and industrial locations)
- Shopping (e.g., grocery stores, restaurants)
- Public transportation (e.g., bus stops)
- Tourist Locations (e.g., Rogers Landing, Chehalem Cultural Center)

All of these activity generator types represent important starting and ending points for travel in Newberg, and they provide a basis for assessing important travel routes.

How Do People Get There?

Planning for an effective transportation system also means understanding how Newberg residents, workers, and students choose to travel to and from destinations, whether by foot, bicycle, public transportation, motor vehicle, or other mode. Understanding mode choice includes assessing existing travel patterns and activity levels, and looking at the underlying factors particular to Newberg that inform mode choice.

The Commute to Work

Travel occurs for many reasons, including school, shopping, and recreation. The trip type that people most often associate with traffic problems, though, is their work trip, which often occurs in peak traffic conditions. 74% of working Newberg residents commute to work by driving alone (single occupant motor vehicle or SOV), 13% carpool to work, and 6% walk to work. Public transportation (1 %) and bicycling (<1 %) are not common modes for the journey to work, and 5% work at home.

Table 1 compares Newberg residents' mode choice for commute to Yamhill County and to Oregon statewide. The proportions of Newberg residents driving alone and carpooling to work were both slightly higher than the statewide average, and the percentage commuting by transit and biking is lower in Newberg than it is statewide. However, the proportions of residents walking are slightly higher than the statewide average. Overall, the comparisons are similar between Newberg and Yamhill County as a whole.

Table 1: Percent of Commuters Using Modes

Transportation Mode	Newberg	Yamhill Co.	Oregon
Motor Vehicle – Single Occupant	74%	75%	72%
Motor vehicle - Carpool	13%	12%	11%
Walked	6%	5%	4%
Biked/Other	<1%	2%	3%
Public Transportation	1%	1%	4%
Worked from Home	5%	5%	6%

Source: 2006-2010 American Community Survey

While data on commute-to-work mode choice is important in understanding major travel patterns, it is important not to confuse this with overall levels of activity for different travel modes. Work trips for Newberg residents cover long distances in many cases, with 51% of work trip destinations being outside of Yamhill County. Non-motor vehicle modes tend to be more likely for shorter non-work trips to and from other activity generators like schools, recreation, and shopping.

Existing Activity Levels

Pedestrian, bicycle, and motor vehicle activity at intersections throughout Newberg was reviewed for the p.m. peak period (4:00 p.m. to 6:00 p.m.) on a typical weekday in April.¹ The counts were taken at a time when school was still in session and when the weather was adequate for higher levels of pedestrians and bicycles. However, in summer months, activity levels are generally higher due to an increase in the number of visitors and vacationers traveling through. Also, weekend activity levels were not measured, but because of the higher level of shopping and recreational travel on weekends, pedestrian and bicycle activity would be expected to be higher.



Pedestrians crossing at 1st Street and 99W

Pedestrian Volumes

Of all the intersections reviewed, one location on Highway 99W had notably higher levels of pedestrian crossing activity than the other study intersections. The highest pedestrian volume was where 1st Street (Highway 99W) intersects with College Street, which is near both the George Fox University Campus and the Newberg Public Library. The HAWK signal located on OR 219, just west of Everest Road and the intersection of Springbrook Road and Haworth Avenue, also had notably high pedestrian volumes. Both of these locations are outside of the downtown core area but are in commercial areas that provide adequate sidewalks

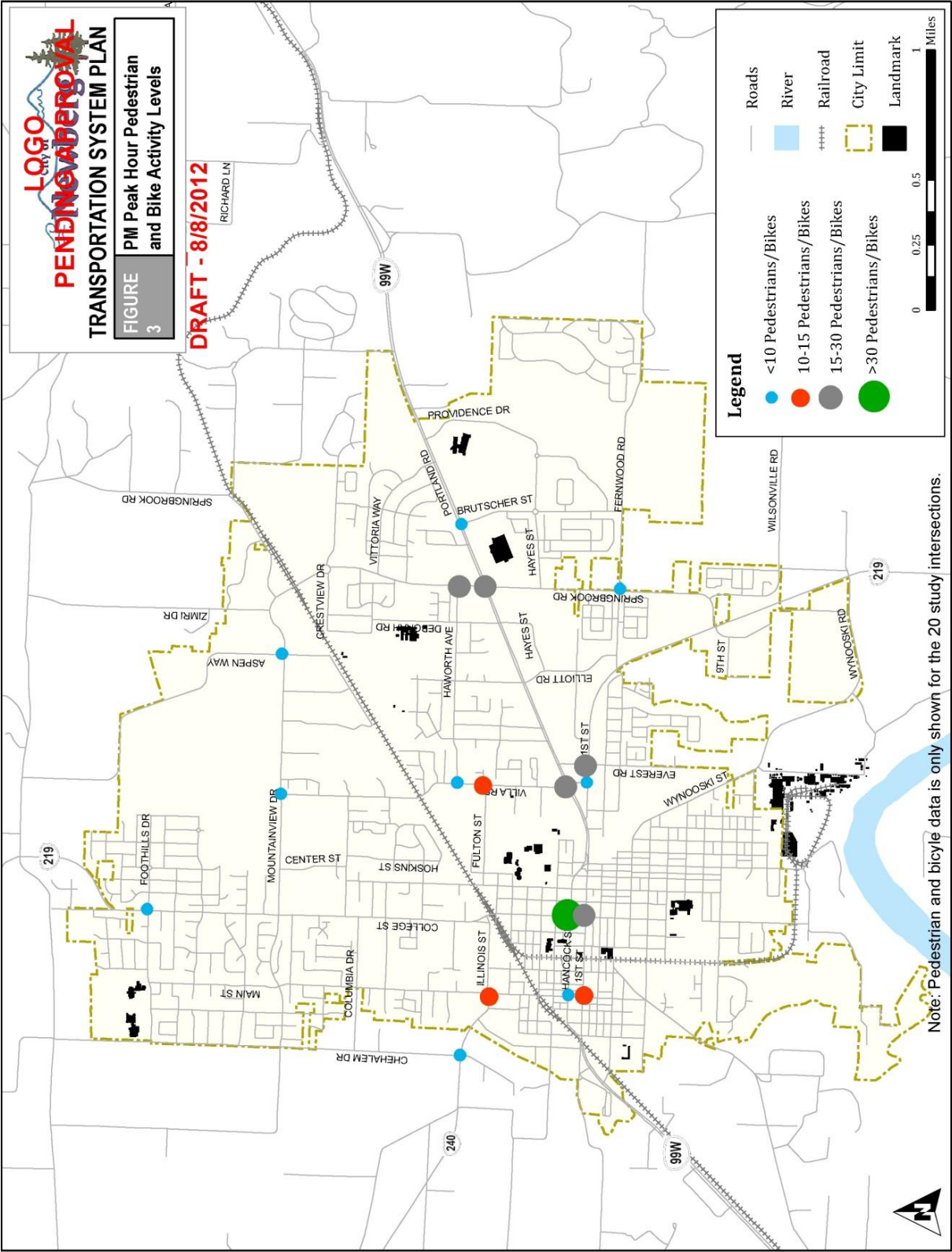
¹ Based on counts conducted April 19, 2012 and April 24, 2012

and crossings that lead into residential areas just outside of the Highway 99W corridor. As can be seen in Figure 3, the intersections of Mountainview Drive/Zimri Drive and Providence Drive/Highway 99W had no pedestrians during the p.m. peak hour. Both of these intersections are on the edge of the City where there is very little commercial or residential development.

Bicycle Volumes

During the weekday p.m. peak period, bicycle volumes are low (four bikes or less per intersection during the p.m. peak hour) through Newberg. The intersections that had the highest bicycle volumes were along OR 219 at 1st Street, Highway 99W, and Fulton Street with a total of four bicycles during the p.m. peak hour. These intersections are generally close to George Fox University and provide adequate bicycle paths that would encourage bicycle traffic. The majority of the study intersections had no bicycle activity during the p.m. peak hour. Bicycle use tends to vary seasonally, as warmer, dryer weather and longer daylight hours make it a more attractive travel mode so it is expected that bicycle volumes would be higher in the summer months. Bicycle activity is shown for only the 20 study intersections for the one-hour p.m. peak period is shown in Figure 3.

Figure 3: Pedestrian and Bicycle Activity



Motor Vehicle Volumes

Review of traffic count data showed that weekday traffic volumes were highest for roadways in Newberg between 4:30 p.m. and 5:30 p.m. Motor vehicle activity varies depending on time of year, however, as the level of tourism increases during summer months. Warmer weather brings an influx of visitors to Newberg and other Yamhill County destinations, and it also brings an increase in vacation travel to the Oregon Coast via 99W. Because of these important seasonal variations, traffic count data was adjusted to represent two separate conditions: p.m. peak hour traffic conditions during (1) the 30th highest annual hour, and (2) the average weekday. ODOT uses the analysis from the 30th highest annual hour to base their design recommendations. Figure 4 show the typical volumes on 99W for a typical summer weekend and an average weekday². Peak summer volumes on Hwy 99W have a higher PM peak than the average weekday volumes. The summer peaks for both the a.m. and p.m. hour also occur later than the typical average weekday (commuter) trend.

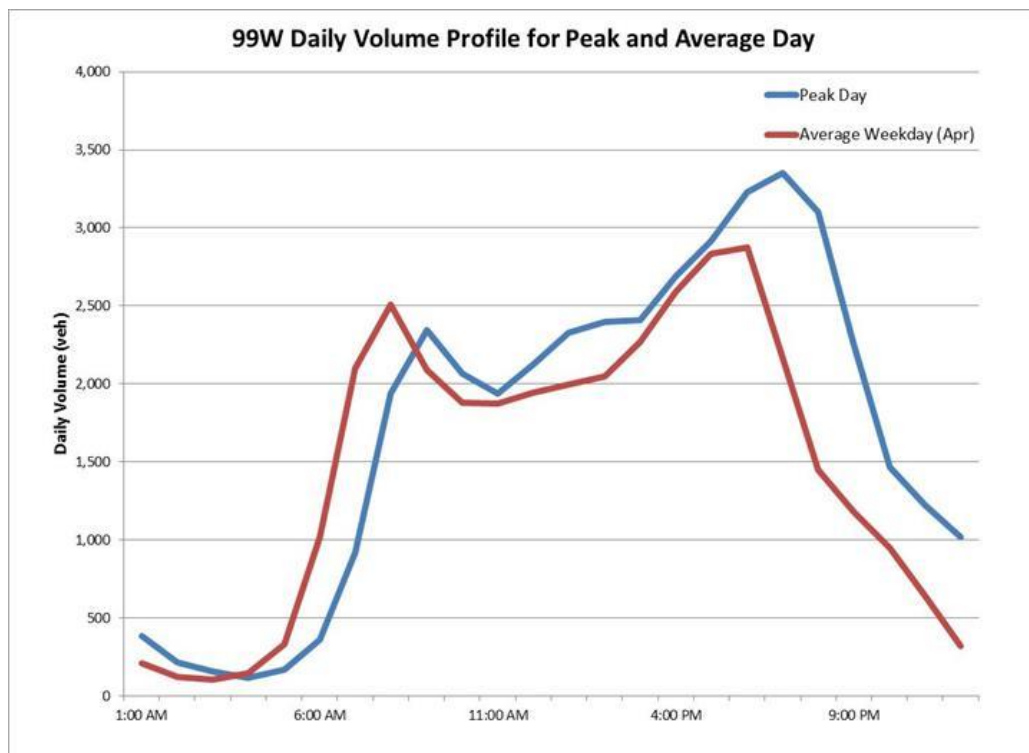


Figure 4: Hourly Traffic Volume Profile on 99W

Figure 5 shows historical growth on Highway 99W (as measured at ATR 36-004 located on the eastern edge of the city). Average daily traffic (ADT) volumes have remained relatively constant around 40,000 vehicles per day between year 2000 and 2009, and also shows the annual growths along 99W³. During this time ADT has ranged from 39,000 (in 2004) to 42,000 (in 2007).

² Data collected from ATR 36-004 in 2009.

³ ODOT Traffic Volume Tables, <http://cms.oregon.gov/odot/td/tdata/pages/tsm/tvt.aspx>

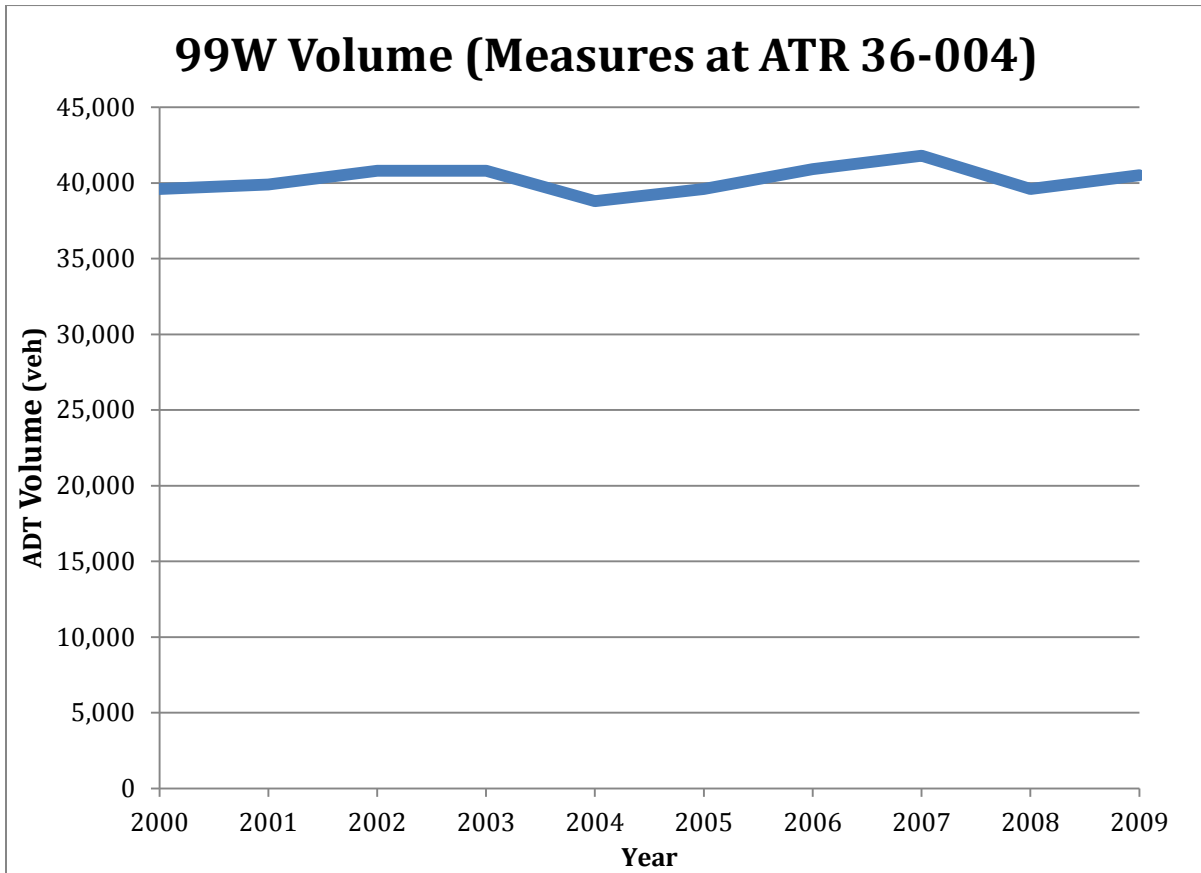


Figure 5: Historical Traffic Growth on 99W

Intersection traffic count data was collected in Newberg in the month of April, and required adjustment in order to represent average weekday and peak seasonal conditions using methodology from the Oregon Department of Transportation (ODOT) Analysis Procedures Manual.⁴ The final p.m. peak 30th highest annual hour and average weekday traffic volumes developed for the study intersections are provided in the Appendix.

Generally, volumes in the p.m. peak hour on 99W are higher at the east end of Newberg, between Villa Road and Providence Drive. The total traffic volumes are relatively high along 99W west of Villa Road through the downtown area. However, the roadway is split into a couplet with the westbound portion carrying about 60% of the 99W traffic and the eastbound portion carrying about 40% of the traffic. The volumes in general along 99W are higher in the westbound direction during the p.m. peak hour, suggesting that much of the volume is most likely commuter traffic from the Portland metro area.

⁴ The Appendix contains additional information on seasonal factoring. To obtain traffic volumes that would reflect the 30th highest design hour, a factor of 1.06 was applied to the existing field collected traffic volumes. As a result the traffic volume data was divided by 1.03 to develop the average weekday traffic volume values.

Mode Choice Factors

The choice of how to get to a destination involves a variety of factors, including which modes are available and what one's habits are. When considering whether a trip will be taken by motor vehicle, walking, bicycle, or transit, the underlying factors affecting choice are typically ease and convenience of travel, travel cost, and travel time. These factors in turn depend on the particular destination, barriers to travel, and demographic characteristics such as age and income.

Destination

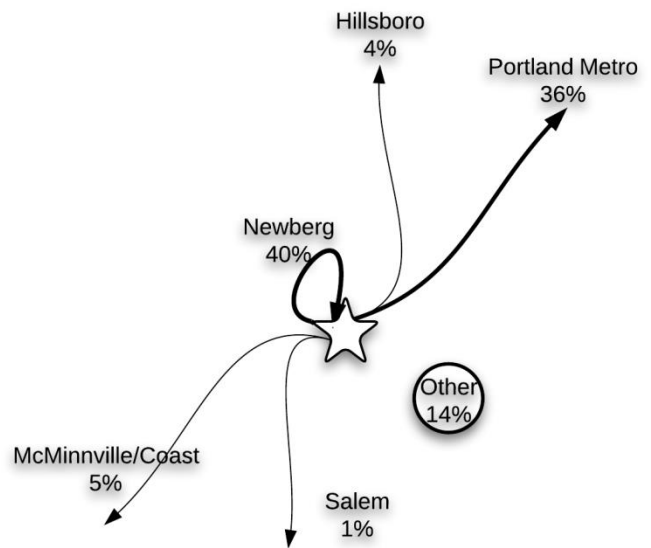
Newberg residents use the transportation system to make many types of trips, including work, school, shopping, and recreation. The type of trip strongly influences the mode of transportation chosen. If the trip destination is a park or an elementary school, then there is a higher likelihood that one will walk or bike because these destinations often exist in one's neighborhood. Conversely, if the trip destination is work or shopping, a motor vehicle is probably more convenient.

Table 2: Commute Time to Work

Commute Length	Newberg	Yamhill Co.	Oregon
Less than 15 minutes	38%	37%	34%
15 to 30 minutes	24%	28%	37%
30 to 45 minutes	22%	17%	17%
45 minutes or more	17%	18%	11%
Average commute time	24 min.	24 min.	22 min.

Source: U.S. Census Bureau, 2008-2010 American Community Survey

Newberg residents who work outside of the City are likely to commute by motor vehicle due to this mode's time and comfort advantages over non-motorized travel and its convenience advantage over bus service. Table 2 shows the range of travel times that Newberg residents experience when commuting, and compares these to statewide figures. The Census data confirms that a significantly higher percentage of workers in Newberg have long commutes (30 minutes and higher) than is the case for typical Oregon workers. This underlines the importance of vehicular travel, whether by SOV, carpool, or transit, to the residents of Newberg.



Newberg Commute to Work

Census data also reveals the commute destinations of Newberg’s workers. As shown in Table 3, a majority (60%) of Newberg’s workers commute to jobs outside of the City, with 36% of workers bound for the Portland metropolitan area. Other workplace destinations for Newberg residents include the areas of Hillsboro (4%), McMinnville and Coast (5%), and other parts of Oregon.

Table 3: Commute to Work

Workplace Destination	Total Workers	Percentage of Total Workers
Newberg	3575	40%
Portland	3219	36%
Other Oregon	1168	13%
McMinnville & Coast	410	5%
Hillsboro	390	4%
Salem Area	124	1%
Out of State	63	1%
Dundee	35	-
Total	8984	100%

Source: 2000 Census Transportation Planning Package (CTPP)

Barriers to Travel

Because Newberg is a smaller city, many of the destinations within the City are within reasonable walking range of many of the neighborhoods. Most of the arterials within the city provide adequate walking paths from the neighborhoods to the commercial areas either via sidewalks or shoulders (which are not optimal). Additionally, there are many crosswalks and curb ramps throughout the city. However, there is still room for improvement in some of the areas that have not been developed or re-developed within the last five years. Locations with sidewalk gaps and faded crosswalk paint provides for a less safe walking atmosphere which is more likely to discourage pedestrians travel.

Much like the pedestrian network the bicycle network provides adequate bike paths and shared lanes between some of the neighborhoods and commercial areas. However, the bike paths and shared bike lanes are even less available than sidewalks and have more gaps reducing the likelihood that people will use bikes as a method of transportation within the city.



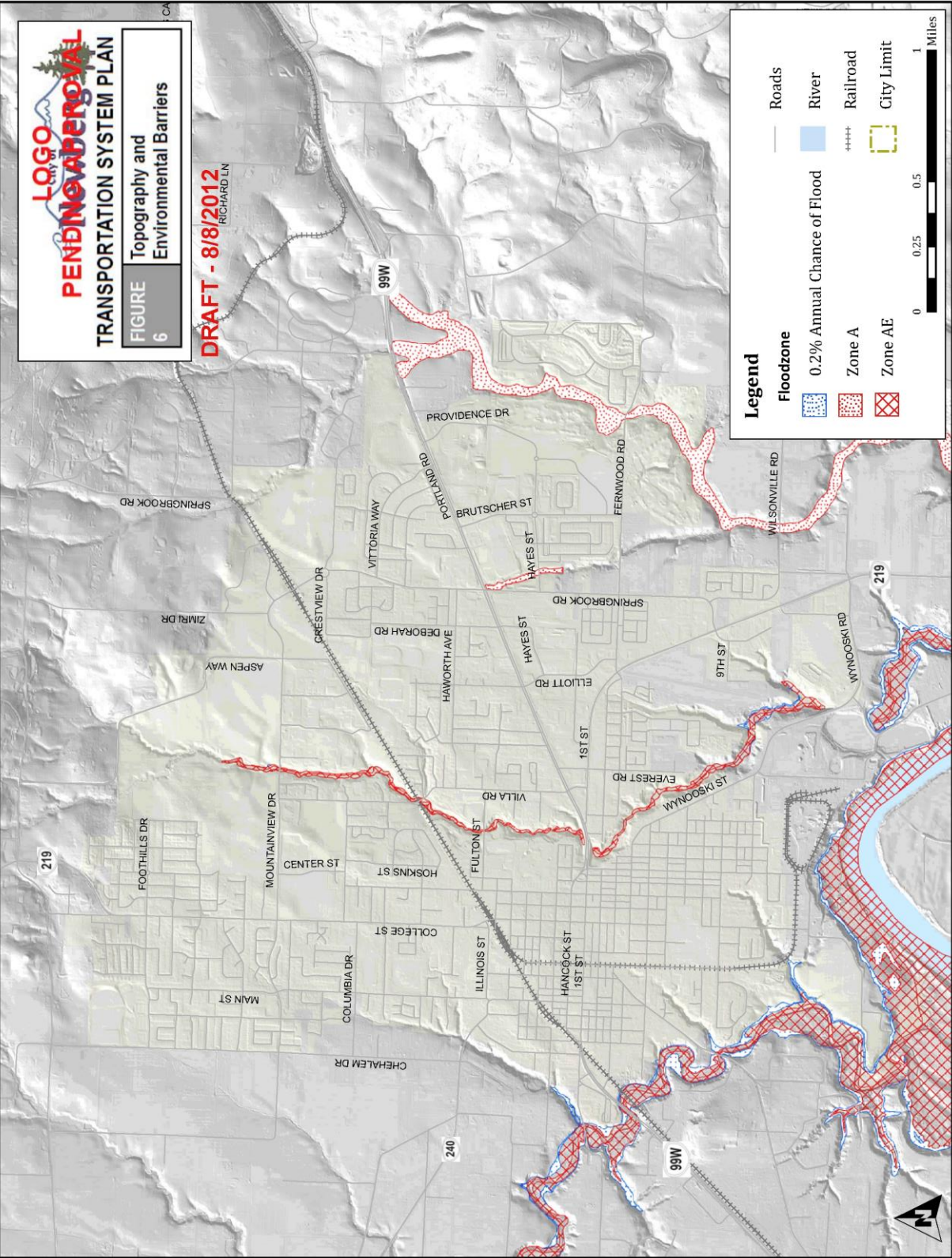
Gaps in Sidewalks on Arterial Roadway

Weather conditions can be a significant factor in whether a person chooses non-motorized travel. Rain, snow, and uncomfortable temperatures may reduce the likelihood of someone walking or biking for leisure, or cause someone to use a car for a trip that in better weather they might make by foot or bicycle.

The topography and physical barriers such as waterways and hills or mountains may also provide natural barriers to choosing different modes of travel and may also limit development potential in certain areas. Figure shows the topography and other potential physical constraints within Newberg. The city is generally flat with hills to the north and east and some small elevation loss closer to the Willamette River. While this setting (between the hills and Willamette River) somewhat limits regional connectivity, regional connections are provided in each direction via 99W and OR 219. Most of Newberg is out of flood zones which results in few limitations in improving the transportation network. However, two primary barriers exist:

- The Willamette & Pacific Railroad (WPRR) operates a rail line that runs parallel to 99W through Newberg, about halfway between 99W and Mountain View Drive.
- Hess Creek runs north-south through the middle of the city, near Villa Road (north of 99W) and Wynooski Road (south of 99W)

Figure 6: Physical constraints



Age and Income

Demographic characteristics like age and income typically play a role in determining how you will get to a destination. Because vehicle ownership has such a strong impact on mode choice, and because residents with lower incomes are less likely to own one or more vehicles, lower income residents often account for more trips via walking, biking, and public transportation. Age is a key factor as well, as the youngest residents cannot drive, and the oldest residents are less likely to drive. Table 4 shows that Newberg has a slightly higher proportion of school age children than Yamhill County or the state of Oregon, with 21% of the population being under 15 years old according to the 2010 Census. Conversely, Newberg has a slightly lower proportion of people who are retirement age or older than is seen in the County or the State.

Table 4: Newberg Residents Age Comparison

Age	Newberg	Yamhill Co.	Oregon
Under 5 years old	7%	6%	6%
5-14 years old	14%	14%	13%
15-64 years old	67%	66%	67%
65 years old and over	12%	13%	14%
Median age	33	37	38

Source: 2010 US Census

Household income can be a major determinant of travel mode as well. Table 5 shows that the household income distribution of Newberg is comparable to that of Yamhill County and Oregon State, with a slightly lower percentage of Newberg households earning less than \$25,000 a year and a slightly higher percentage of Newberg households earning in the \$50,000 - \$75,000 a year range, compared to the state of Oregon. Median household income in Newberg is marginally higher than in the County or State, indicating possible higher levels of vehicle ownership and use.

Table 5: Newberg Residents Income Comparison

Income	Newberg	Yamhill Co.	Oregon
Under \$25,000	19%	21%	24%
\$25,000-\$49,999	27%	27%	27%
\$50,000-\$74,999	24%	21%	20%
\$75,000-\$149,999	27%	27%	24%
\$150,000 and over	4%	5%	6%
Median Household Income	\$54,000	\$52,000	\$49,000

Source: 2006-2010 American Community Survey

What Transportation Infrastructure is Available?

Newberg residents rely on the City's existing transportation infrastructure to travel to work, school, recreational, and other destinations every day. The infrastructure includes sidewalks, off-street paths, bike lanes, roadways, and transit.

Pedestrian and Bicycle Facilities

People who choose to walk or bike to their destination in Newberg may use sidewalks, shared paths, bike lanes, or shoulders. Pedestrian and bicycle facilities provided in the City also include crosswalks and curb ramps.



Sidewalks in Springbrook Neighborhood

Sidewalks and Crosswalks

Sidewalks on arterial and collector streets are generally available near commercial areas but decrease with distance from the core central area of town. Sidewalks are present along most of 99W as it transitions from Portland

Road through the downtown area as the Hancock Street and 1st Street couplet. Newer commercial and residential areas such as the Springbrook neighborhood have sidewalk. The newer commercial and residential developments usually abut older areas that do not have sidewalks, leaving gaps in the pedestrian network. All new sidewalks have ADA-compliant curb ramps at intersections and at driveways.

The majority of crosswalks throughout the city are at intersections. The crosswalks generally provide ADA-compliant curb ramps and are in acceptable condition, with some crosswalk locations throughout the city needing new striping. The crosswalks generally provide adequate advance signing and one location in the city has a pedestrian hybrid beacon (HAWK), which is just west of the intersection of 1st Street (OR 219)/Everest Road.



ADA Compliant Curb Ramp with No Connections

Downtown Newberg has a fairly complete pedestrian network with sidewalks, ADA-compliant curb ramps, pedestrian way finding signage, and amenities such as benches and street . Crosswalks are striped for a majority of the intersection movements downtown and traffic speeds are low, which makes walking easy and attractive. While crosswalks are provided with ADA-compliant ramps at most locations, some of the crosswalks are in poor condition.



Faded Crosswalk in Downtown Newberg

Providing safe pedestrian and bicycle access to school is important in promoting physical fitness for school-age children and creating healthy travel habits that will carry into adulthood. Newberg's pedestrian and bicycle infrastructure does not provide optimal connections for children and families traveling to and from school from nearby residential neighborhoods.

Off-Street Paths

Shared use paths and trails are currently limited within the City of Newberg. However, the Chehalem Park and Recreation District has plans to develop a 70-mile plus system between Dundee and Newberg that will link parks, historical sites, schools, libraries, Willamette River, and regional trails.

Bike Lanes

Bike lanes are portions of the roadway designed specifically for bicycle travel with a striped lane and stenciling indicating bicycle use. ODOT standard width for a bike lane is six feet. The minimum width of a bicycle lane against a curb or adjacent to on-street parking is five feet. A bicycle lane as narrow as four feet is allowed, but only in very constrained conditions. Newberg adopted the



Bike Lanes near HAWK signal on OR 219

Newberg Bicycle/Pedestrian Plan, which incorporates ODOT, AASHTO and MUTCD to guide bikeway improvements. A bike lane width of five feet is used for most public streets, with six feet recommended for arterials.

The bicycle network in Newberg includes several bike lanes on city streets. The most continuous bike path is along 99W. Much like with sidewalks in the city, there are bike lanes near the newer commercial and residential areas with fewer bike lanes in the more established areas of town.

Several other streets in the city have bike lanes for short segments, such as Springbrook Road from Middlebrook Drive to Mountainview Drive and Mountainview Drive from Springbrook Road to Aspen Way. At these locations the bike lane transitions into a shoulder that can be used by bicyclists, which is typical for most locations within the city. However, the changes are not always clearly signed and may catch new cyclists by surprise.

Shared Roadway

Shared roadways occur where bicycles and motor vehicles share the same travel lane. The most appropriate roadways for this type of shared use are those with low speeds (25 m.p.h. or less) and low traffic volumes (3,000 vehicles per day or fewer)⁵. Signed shared roadways are where facilities are designated and signed as bicycle routes and serve to provide continuity to other bicycle facilities (e.g., bicycle lanes) or to designate a preferred route through a community. Such a route is typically has warning signs and often have shared roadway pavement markings.

All local streets in Newberg are low speed, low volume roadways that could be classified as shared roadways. There are a few signed shared roadways in the neighborhood just south of Downtown Newberg. These roadways allow cyclists to avoid using 99W in favor of quieter, more comfortable streets.

Bike Parking

Where you store your bike when you get to your destination is an important part of bicycle infrastructure. If there is nowhere safe and secure to park your bike, then you are less likely to ride even if your trip distance and the roadway facilities are right for cycling. On-street bike parking is not evident in Newberg.

Downtown Parking

Parallel parking in the downtown area of Newberg is provided along the majority of Hancock Street, 1st Street, and the majority of the cross streets. Parking in many locations downtown is limited to two hours or less



Downtown Parking Signs

⁵ The Federal Highway Administration's *Manual on Uniform Traffic Control Devices* guidance states that shared lane markings should not be placed on roadways with a speed limit above 35 m.p.h. <http://mutcd.fhwa.dot.gov/>

between 8 a.m. and 6 p.m.. In some locations parking is not allowed between 12 a.m. and 7 a.m.. All of the parking restrictions for the downtown area are signed clearly next to the road.

Transit Service

Transit service is provided in Newberg by Yamhill County Transit Area (YCTA), which provides bus routes connecting Newberg to destinations along the 99W corridor, including McMinnville, Newberg, Sherwood, and Tigard. YCTA provides two transit lines that provide transit to and from various locations within the city. YCTA also provides an Americans with Disabilities Act (ADA) dial-a-ride service. Transit routes in Newberg are shown in Figure 7.

Transit Service for People with Disabilities

YCTA provides demand response (dial-a-ride) service for people with disabilities who are unable to use regular fixed route buses, and also for people whose origins and/or destinations are not within close proximity (generally $\frac{3}{4}$ mile) of YCTA's fixed route services. This curb-to-curb service, provided by smaller buses equipped with wheelchair lifts, is available Monday through Friday between 8:00 a.m. and 4:30 p.m.



**Curb-to-curb service is provided by
Yamhill County Transit Area**

Bus Service on the 99W Corridor

YCTA Route 44, also known as the 99W Link, runs from downtown McMinnville to Tigard Transit Center with three stops in Newberg northbound near Springbrook Road, near Villa Road, and near Main

Street. Key destinations along this route include the central business districts in McMinnville, Dundee, and Tigard. These destinations include activity generators like Linfield College, George Fox University, and the Tigard Transit Center, which provides connections throughout the Portland metro area.

Route 44 provides service at one-hour frequencies in the a.m. and p.m. peak hours, and two-hour frequencies in mid-day, between 6:00 a.m. and 7:00 p.m. YCTA Route 46S provides service on the same route on Saturdays, with four trips each way between 8:00 a.m. and 7:00 p.m.

YCTA Route 45X is an express service between McMinnville and the Tigard Transit Center. This service is offered once during the a.m. for the northeast direction and once during the p.m. for the southwest direction.

Bus Service within Newberg

YCTA also operates Route 5 and Route 7, which provide service within Newberg. Both services begin and end near Main Street. Route 5 travels along Foothills Drive providing service to attractions such as George Fox University and the Senior Center. Route 7 travels along 99W

providing service to the Providence Hospital. Route 5 and Route 7 provide service at one-hour frequencies between 7:00 a.m. and 6:30 p.m. Monday through Friday.

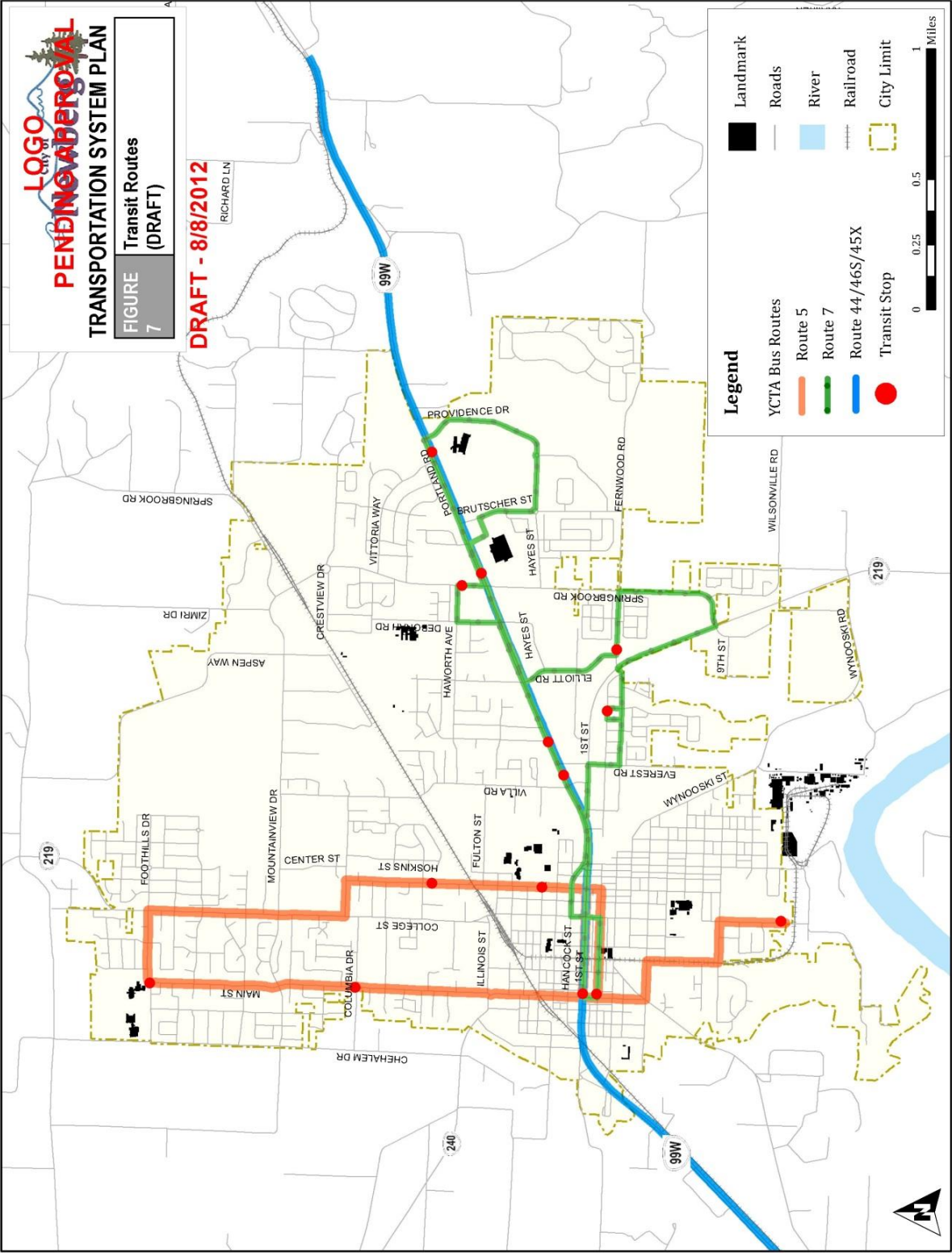
Transit Access and Amenities

One of Newberg's primary transit stops is on 99W near the southern end of the City. The eastbound stop near Main Street is accessible via sidewalks and provides a shelter and bench for travelers waiting for buses bound for Newberg and the Portland metro area. Some other stops also include shelters, however the majority of all other stops throughout the City are neither covered nor provide benches, but do provide a sign and generally easily sidewalk and bicycle accessible.



Bus Shelter on 99W near Main Street

Figure 7: Existing transit routes



Roadways

Within Newberg, roadways are under the jurisdiction of the City, Yamhill County and ODOT. Roadways are organized by **functional classifications**, which provide a hierarchy of intended purposes (as shown in Figure 8). Roadways with a higher intended usage generally have a classification and related standards that promote more efficient vehicle movement through the City, while roadways with lower intended usage are classified to provide greater access to local destinations such as businesses or residences.

The City of Newberg has two classifications for arterials: Major Arterials and Minor Arterials. The only Major Arterial in the city is Highway 99W. Highway 99W has by far the highest traffic volumes in Newberg. Some of the Minor Arterials in Newberg are OR 219, Springbrook Drive, Mountainview Drive, and OR 240. These Minor Arterials also carry some of the higher volumes of any roadway in the city and are used by residents to connect to locations outside the city, as well as provide major connections within the city. The posted speed limits on along arterials in Newberg vary from 55 miles per hour as you enter to the city to as low as 25 miles per hour through the downtown core.

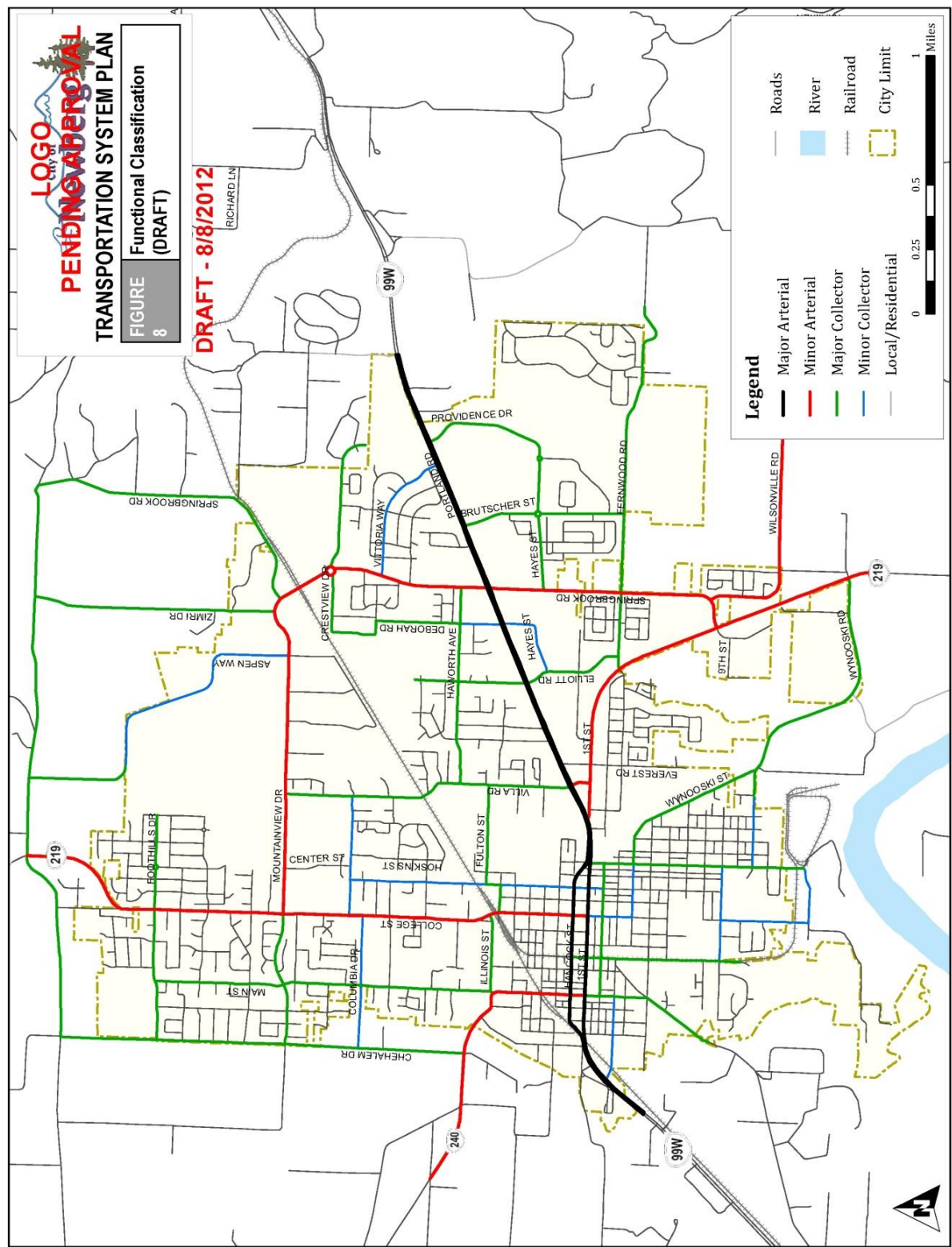


Traffic on 99W During the PM Peak

Roadways that connect neighborhoods and major activity generators to arterials are generally classified as collectors. They provide greater accessibility to neighborhoods than arterials and provide moderately efficient through movement for local traffic. The City of Newberg has two classifications for collectors: Major Collectors and Minor Collectors. Villa Road and Haworth Avenue are examples of Major Collector streets that provide connections between the commercial areas of town and the neighborhoods. Collectors have a posted speed of 25 miles per hour within Newberg.

Roadways that provide more direct access to residences are typically classified as local streets. This classification is typically a low volume street, often lined with residences. All local City streets are posted at 25 miles per hour.

Figure 8: Functional class



Freight

ODOT classifies Highway 99W as a freight route through the City of Newberg. Truck freight movements in Newberg involve shipments both to and from locations in the City, and shipments that pass through the City. OR 219 and OR 240 also provide routes for trucks traveling to and through the City of Newberg. Congestion on 99W currently slows freight movement to and through Newberg. Freight volumes on 99W at OR 219 are greater than 100 trucks during the evening peak hour. However, these trucks account for less than five percent of traffic at this intersection during the p.m. peak (4:00 p.m. to 6:00 p.m.).

Rail

The Willamette & Pacific Railroad (WPRR) operates a rail line that runs parallel to 99W through Newberg (Figure 5). Rail freight originating in the western Willamette Valley is carried on WPRR tracks through Newberg, and on Portland & Western Railroad (PNWR) tracks the rest of the way into Portland. The rail crosses 99W in Newberg at-grade on the west end of the downtown couplet.

The Federal Railroad Administration designates six classes for rail tracks to set maximum speeds for the trains based on the conditions of the tracks. The tracks within Newberg are designated as Class 2, which limits freight speeds to 25 miles per hour. The tracks within the City of Newberg are currently used for freight movement, and have one train operating daily in each direction with up to two additional smaller trains operating periodically. There are no passenger rail services near the study area, with the nearest Amtrak stations located in Portland, Oregon City, and Salem.

In 2008, Yamhill County completed a feasibility study for development of an improved rail system for passengers and freight.⁶ Objectives were to evaluate infrastructure and develop a ridership estimate for a Yamhill County commuter rail service. One recommendation of this study was to take actions to preserve the integrity of existing rights-of-way to retain and enhance passenger and freight transportation options in the future.

Newberg-Dundee Bypass

The City of Newberg has been working with the state and regional partners to plan and design a 99W bypass route. The goal of this project is to improve regional and local transportation along Highway 99W. This project will help relieve congestion and hopefully improve safety through the downtown Newberg corridor. The project is currently in final design and is planned to be moving into construction once funding has been fully acquired.⁷

⁶ *Feasibility Study for Development of an Improved Yamhill County Rail System for Passengers and Freight, Final Report*. Yamhill County, 2008.

⁷ <http://oregonja.org/region2/?p=highway99w>

Air

Within Newberg there is one airport that is privately owned but available for public use. The Sportsman Airpark in the southeast corner of the city has one paved 2,800-foot runway and averages 14,000 operations (takeoffs or landings) per year. Approximately 55 aircraft are based at the airport. The Sportsman Airpark provides general flight instruction and airplane rental and maintenance services, as well as private helicopter and recreational hot-air ballooning services.

A larger general aviation airport is located approximately 20 miles north of Newberg, in Hillsboro. The Hillsboro Airport serves approximately 200,000 operations annually. It is owned by the Port of Portland and has two paved runways (6,600 feet and 4,000 feet). There are three fixed-base operators at the airport, and the airport provides all the facilities to support jet- and propeller-driven aircraft and helicopters.

The nearest airport with scheduled passenger service is the Portland International Airport, located approximately 34 miles northeast of Newberg. This airport is also owned by the Port of Portland and has three runways (7,000 feet, 8,000 feet, and 11,000 feet). The Portland International Airport serves more than 13.7 million passengers and 270,000 tons of cargo annually.

Waterway

The Willamette River is located south of Newberg and provides potential opportunities for recreational boating. Rogers Landing County Park, operated by the Yamhill County Parks and Recreation, takes access to the river at the end of Rogers Landing south of Downtown Newberg. Rogers Landing provides a three-lane boat launch.

Pipeline

Northwest Natural currently runs a 6" high-pressure (400 psi) natural gas transmission line through Newberg south of HWY 99W that feeds the distribution systems within the city. The distributions systems operate at 60 psi or lower and range in size from 1'-4". Additionally there is 12" High Pressure line (720 psi) that runs south of HWY 99W and serves the SP Newsprint Papermill. This 12" High Pressure also supplies the 6" High Pressure line that serves the west side of town. Currently there are district regulators connected to both the 12" and 6" High Pressure lines to reduce pressures as necessary to serve Newberg. Residents of Newberg who live on a street where a natural gas distribution line already exists can be easily connected to that distribution line.

How is System Performance Measured?

Maintaining an acceptable level of performance for Newberg's transportation infrastructure requires a variety of analytical tools and assessment types. The measures used to monitor the transportation system are shown below.

Collisions

The safety of the roadways and intersections in Newberg were monitored through collision data as part of the TSP Update. The data was reviewed to identify potential patterns for motor vehicle, pedestrian, and bicyclist collisions.

Pedestrian, Bicycle, and Transit Facilities

The facilities of alternative modes to motor vehicle were reviewed as part of this TSP Update to identify facility deficits or potential connectivity or access improvement opportunities.

Roadway Jurisdiction

The standards and maintenance responsibilities of the various roadways depend on the roadway's jurisdiction. In Newberg, roadways are typically⁸ under the jurisdiction of either the City, Yamhill County, or ODOT. Each responsible jurisdiction sets standards for the roadways to maintain their intended functional classification, which vary depending on the design speed, connectivity and the priority for access to fronting properties. Higher speed, regional facilities are used primarily for longer trips, while lower speed local city streets are used primarily to access homes, shops, schools and jobs.

Mobility Targets

Mobility is an important consideration because it measures how freely vehicle traffic can move along to its intended destination. In general, roadway systems have their highest degree of conflicts and associated congestion at intersections, and so the performance of a system is often defined by how well the intersections function.

There are two methods used to gauge these conditions – one is numeric, and one is a letter grade. ODOT prefers the numeric volume-to-capacity (v/c) ratio method (see Table 6 and Table 7), while Yamhill County and the City use a letter grade derived from the Level of Service (LOS) method.

All intersections in Newberg must operate at or below the adopted targets or mitigation would be necessary to approve future growth. All intersections under State jurisdiction must comply with the v/c ratios in the 1999 Oregon Highway Plan (OHP), while intersections under Newberg and Yamhill County jurisdiction must meet those respective agencies' LOS standards. The adopted intersection performance targets vary by jurisdiction of the roadways. For Newberg and Yamhill County, the target is Level of Service D. For ODOT, the target for OR 99W, OR

⁸ A few local streets are private.

219, and OR 240 have varying volume-to-capacity ratios depending on the location of the intersection as speeds and roadway classifications vary along these corridors.

Table 6: Mobility Targets by Jurisdiction

Jurisdiction	Performance Method	Mobility Target
ODOT	Volume-to-capacity (v/c) ratio is a decimal representation (between 0.00 and 1.00) of the proportion of capacity that is being used (i.e., the saturation) at a turn movement, approach leg, or an intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually experience excessive queues and long delays.	The OHP v/c threshold varies by intersection based on classification and speed. See Table 7.
City of Newberg	Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.	Level of Service D ⁹ or better
Yamhill County	Same as Newberg	Same as Newberg

⁹ City of Newberg Design Standard and Details and Specifications Manual (2010), http://www.newbergoregon.gov/sites/default/files/2010_DS_Final.pdf

Table 7: Mobility Targets for ODOT Intersections

Intersection	Speed Limit	v/c Target ¹⁰
Hancock Street (99W)/Main Street	25 mph	0.85
1st Street (99W)/Main Street	25 mph	0.85
Hancock Street (99W)/College Street	25 mph	0.85
1st Street (99W)/College Street	25 mph	0.85
Portland Rd (99W)/Villa Rd (OR 219)	35 mph	0.85
Portland Rd (99W)/Providence Drive	45 mph	0.80
Portland Rd (99W)/Springbrook Rd	40 mph	0.80
Portland Rd (99W)/Brutscher Street	40 mph	0.80
1st Street/Villa Rd (OR 219)	35 mph	0.95
Foothills Drive/Hillsboro-Silverton Highway (OR 219)	35 mph	0.95
Yamhill-Newberg Highway (OR 240)/Chehalem Drive	25 mph	0.95
1st Street (OR 219)/Everest Rd	35 mph	0.95

Revenue

Newberg funds needed improvements to the transportation system from a number of revenue sources as listed in Table 8. These limited funds are allocated to expenditures including capital projects, maintenance, engineering design, and administration. On average, the City has approximately \$597,300 per year¹¹ to fund system improvements, which would total approximately \$13.7 million over a through year 2035 if current funding levels are maintained.

Table 8: Newberg Transportation Funding (2011 Dollars)

Revenue Source	Average Annual Amount
Permits	\$7,000
Gas Taxes	\$901,000
Bikeway Taxes	\$11,000
System Development Fees	\$306,000
Federal Exchange Grant	\$300,000
Other	\$139,000
Total Revenues (5-year average)	\$1,664,000
Expenditures	Average Annual Amount
Street Maintenance	\$692,000
Street Engineering Design	\$152,000
Street Administration	\$222,000
Total Expenditures (5-year average)	\$1,066,000
Difference (Revenue Available for Capital Improvements)	\$598,000

Source: City of Newberg, 2012

¹⁰ Oregon Highway Plan 1F Revisions: Adopted December 21, 2011

¹¹ The City has spent approximately \$645,000 per year on capital projects (including overlays) during the last five years.

Access Spacing

Access spacing is a broad set of techniques to balance the need to provide efficient, safe, and timely travel with the ability to allow access to individual destinations. Typically, more driveways and intersections along a roadway results in more conflict points and less efficient operations. Proper implementation of access management techniques will promote reduced congestion, reduced collision rates, less need for additional highway capacity, conservation of energy, and reduced air pollution. ODOT, Yamhill County, and the City of Newberg have adopted access spacing standards (see Table 9). Table 4 from the Oregon Administrative Rules 734-51 was used to determine spacing standards as all highways through Newberg have an average annual daily traffic greater than 5,000.

Table 9: Spacing Standards for Newberg Streets

Facility	Spacing Standard
ODOT Statewide Highway Speeds 30 & 35 (Urban)	500 feet
ODOT Statewide Highway Speeds 40 & 45 (Urban)	800 feet
City of Newberg Major Arterial (Urban)	600 feet
City of Newberg Major Arterial (CBD)	200 feet
City of Newberg Minor Arterial (Urban)	300 feet
City of Newberg Minor Arterial (CBD)	100 feet
City of Newberg Major Collector (All)	200 feet
City of Newberg Minor Collector (All)	150 feet
City of Newberg Local Streets (All)	100 feet
Yamhill County public roads	500 feet

<http://www.oregon.gov/ODOT/HWY/ACCESSMGT/docs/pdf/734-051.pdf>

Newberg Development Code, Section 15.505.200, Vehicular Access Standards

Yamhill County TSP, Access Management Policy 8

Freight Routes

Efficient truck movement plays a vital role in the economical movement of raw materials and finished products. The designation of through truck routes provides for this efficient movement, while at the same time maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system. ODOT has identified Highway 99W as a Freight Route and Truck Route through Newberg.

What Conditions Do Transportation System Users Face?

This section uses the measures discussed above to evaluate performance of the existing transportation infrastructure.

Collision Evaluation

Collision data from the most recent three years of available data (2008 to 2010) for all roadways in Newberg was obtained from ODOT and reviewed. Over the past three years, 492 collisions occurred in Newberg. Figure 8 shows the distribution of crash types in Newberg for the three year period.

The severity of the collisions in Newberg over the past three years is illustrated in Figure 7. 87% of all crashes involved either minor injuries or were PDO only, indicating overall low severity of collisions. Two fatalities were reported over the three-year period. Out of the 492 collisions, 9 involved pedestrians and 12 collisions involved bicyclists.

Intersection Collisions

The total number of crashes experienced at an intersection is typically proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) is used to determine if the number of crashes should be considered high. Using this technique, a collision rate close to or greater than 1.0 MEV is commonly used to identify when collision occurrences are higher than average and should be further evaluated. Further, a threshold value (critical crash rate) that allows for a relative comparison among intersections with similar characteristics is computed for each intersection. The sites that have a higher observed collision rate than the critical crash rate are flagged for further review.

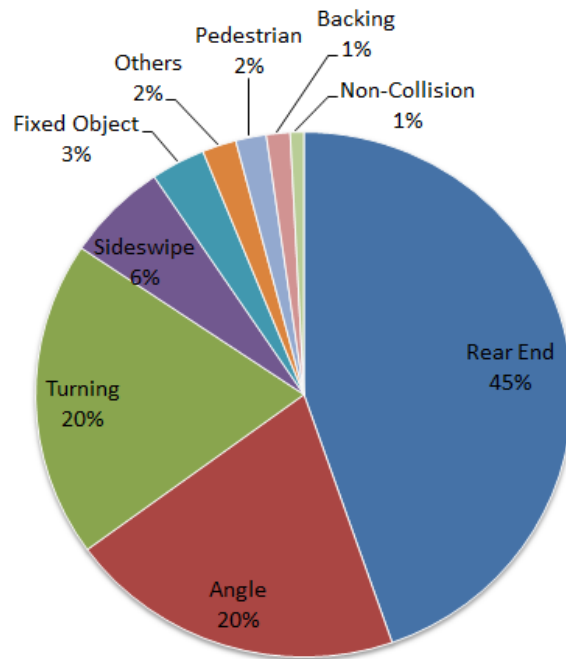


Figure 6: Newberg Collisions by Type, 2008-2010

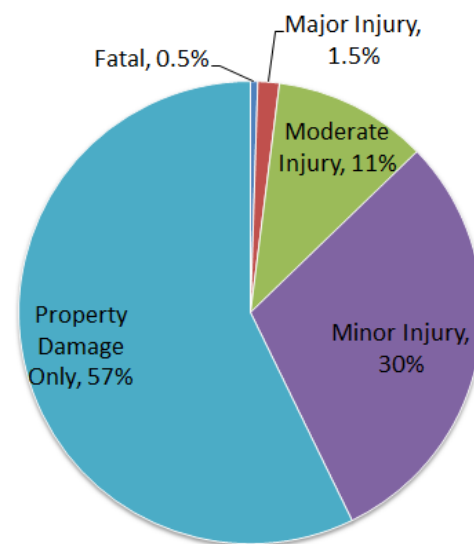


Figure 7: Newberg Collisions by Severity

As shown in Table 10, intersection crash rates and critical crash rates were calculated (based on the past three years of collision data) for each of the 20 study intersections reviewed in Newberg. The crash rate at one intersection is close to the 1.0 per million entering vehicles (MEV) threshold, generally indicating that the frequency of collisions is high for the volume of traffic served. The collisions were further evaluated at this intersection to see if any trends exist.

Table 10: Intersection Collision Evaluation

Intersection	PM Peak Hour Total Entering Volume	Collision Rate	Critical Crash Rate
State Route, Signalized Intersections			
Hancock Street (99W)/Main Street	2379	0.25	0.67
1st Street (99W)/Main Street	1629	0.54	0.72
Hancock Street (99W)/College Street	2473	0.36	0.67
1st Street (99W)/College Street	1782	0.66	0.71
Portland Rd (99W)/Villa Rd (OR 219)	3836	0.46	0.62
Portland Rd (99W)/Providence Drive	3062	0.13	0.64
Portland Rd (99W)/Springbrook Rd*	3929	0.80	0.62
Portland Rd (99W)/Brutscher Street	3272	0.30	0.63
State Route, Unsignalized Intersections			
1st Street/Villa Rd (OR 219)	1358	0.14	0.33
Foothills Drive/Hillsboro-Silverton Highway (OR 219)	656	0.00	0.44
Yamhill-Newberg Highway (OR 240)/Chehalem Drive	825	0.00	0.40
1st Street (OR 219)/Everest Rd	1409	0.28	0.33
Non State Route, Unsignalized Intersections			
Mountainview Drive/Villa Rd	799	0.00	0.49
Mountainview Drive/Zimri Drive	895	0.00	0.47
Illinois Street/Main Street	1117	0.09	0.44
Fulton Street/Villa Rd	638	0.00	0.53
Haworth Avenue/Villa Rd	704	0.14	0.51
Mountainview Drive/Aspen Way	772	0.13	0.50
Fernwood Rd/Springbrook Rd	892	0.11	0.47
Haworth Avenue/Springbrook Rd+	1417	0.69	0.40

Source: ODOT Crash Data System

* Intersection collision rate exceeds 2010 Highway Safety Manual critical crash rate of 0.62 per MEV for signalized state route intersections

+ Intersection collision rate exceeds 2010 Highway Safety Manual critical crash rate of 0.40 per MEV for unsignalized non state route intersections

The highest collision rate occurs at the intersection of Portland Road (99W) and Springbrook Road. This intersection is signalized, with 32 reported crashes in the three-year period analyzed,

14 involved injuries and the rest were property damage only (PDO). A majority of the crashes (27) were of the rear-end variety, caused mostly by vehicles following too closely. There were 4 reported crashes of the turning movement variety caused by drivers disregarding the traffic signal, driving to the left of the centerline, or not yielding right-of-way.

In the non-state route category, the intersection of Haworth Avenue and Springbrook Road had a collision rate higher than the critical crash rate. This is an un-signalized four-way stop controlled intersection with a total of 10 reported crashes at this site with 2 rear-end crashes being caused by drivers following too closely, 4 crashes of the angle variety and the turning movement variety caused by drivers either running the stop sign or not yielding right-of-way.

Roadway Segment Collisions

How does collision frequency on Highway 99W in Newberg compare to other state highways in Oregon? Crash rates identifying the number of crashes per million vehicle-miles traveled for 99W, as well as statewide average crash rates for similar facilities, were obtained from ODOT's 2010 State Highway Crash Rate Tables.¹² For comparison against statewide averages, Highway 99W was classified as a non-freeway principal arterial through an urban city. The reported crash rates are shown in Table 11.

Table 11: State Highway Collision Rate Comparison

Facility	Crashes per Million Vehicle Miles				
	2010	2009	2008	2007	2006
Highway 99W through Newberg (2.77 mi)*	2.50	2.80	2.53	2.03	2.62
OR 219 through Newberg (2.97 mi)**	2.88	2.45	2.53	3.11	2.33
Similar ODOT facilities	2.49	2.36	2.37	2.38	2.37

Source: ODOT 2010 State Highway Crash Rate Tables

BOLD values indicate crash rate exceeds statewide average

* Highway 99W mile points 21.36 to 24.13

** OR 219 mile points 18.45 to 21.42

The 99W segment, and the OR 219 segment through Newberg are both about three miles long and have greater crash rates than similar ODOT facilities all but one of the last five years. The crash rate for the OR 240 segment that is less than a half a mile long through Newberg is too short to accurately calculate the crash rate.

¹² 2010 State Highway Crash Rate Tables. Retrieved March 2012 from ODOT website: http://www.oregon.gov/ODOT/TD/TDATA/car/CAR_Publications.shtml

ODOT High Collision Locations

Highway 99W through Newberg contains four sites that rank among the top ten percent for state highways in Oregon according to the Safety Priority Index System (SPIS) for 2011.¹³ The four sites are:

- Pacific Highway West (99W) between mile points 21.71 and 21.89 has been identified as a top 5% SPIS location. This segment includes the Brutscher Street intersection. A total of 19 crashes were reported at this location in the three year period from 2008 to 2010 (12 Injury and 7 PDO only)
- Pacific Highway West (99W) between mile points 21.96 and 22.14 has been identified as a top 5% SPIS location. This segment includes the Springbrook Street intersection. 42 crashes were reported at this location in the three year period (20 Injury and 22 PDO only)
- Pacific Highway West (99W) between mile points 22.80 and 22.98 has been identified as a top 5% SPIS location. This segment includes the Everest Road and Villa Road intersections. 25 crashes were reported at this location (13 Injury and 12 PDO only)
- Hillsboro-Silverton (OR-219) between mile points 21.11 and 21.29 has been identified as a top 5% SPIS location. A total of 21 crashes were reported at this location, all of which occurred at the intersection of OR-219 and 2nd Street. 11 crashes involved injuries and 10 were PDO only. It is interesting to note that there are a high number of crashes (40%) at this location that are of the turning variety.

¹³ 2011 ODOT Safety Priority Index System (SPIS), <http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/spis.shtml>. SPIS ranks locations based on a combination of crash frequency, rate, and severity.

Motor Vehicle Conditions

The motor vehicle conditions in Newberg vary based on the time of year. Operations at the 20 study intersections, shown in Table 12, were evaluated during the p.m. peak hour of the peak seasonal period (30th highest annual hour) and the average weekday as described in the Motor Vehicle Volumes section of this document. While the average weekday v/c and LOS is provided, the peak seasonal values are what ODOT bases its targets on.

Table 12: Intersection Operations (2012 p.m. peak)

Intersection	Mobility Target	Peak Seasonal		Average Weekday	
		V/C Ratio	LOS	V/C Ratio	LOS
Foothills Drive/Hillsboro-Silverton Highway (OR 219)	0.95	0.39	A	0.36	A
Mountainview Drive/Villa Rd	D	0.28	C	0.28	C
Mountainview Drive/Aspen Way	D	0.11	B	0.11	B
Mountainview Drive/Zimri Drive	D	0.28	C	0.28	C
Yamhill-Newberg Highway (OR 240)/Chehalem Drive	0.95	0.24	C	0.19	C
Illinois Street/Main Street (OR 240)	0.95	0.74	E	0.61	D
Haworth Avenue/Villa Rd	D	0.39	C	0.37	C
Fulton Street/Villa Rd	D	0.25	B	0.23	B
Hancock Street (99W)/Main Street	0.85	0.70	B	0.64	B
Hancock Street (99W)/College Street	0.85	0.76	B	0.70	B
1st Street (99W)/Main Street	0.85	0.57	B	0.52	B
1st Street (99W)/College Street	0.85	0.58	B	0.53	B
Portland Rd (99W)/Villa Rd (OR 219)	0.85	0.84	D	0.77	C
1st Street/Villa Rd (OR 219)	0.95	0.29	C	0.25	C
1st Street (OR 219)/Everest Rd	0.90	0.96	F	0.70	F
Haworth Avenue/Springbrook Rd	D	0.89	E	0.82	E
Portland Rd (99W)/Springbrook Rd*	0.80	0.77	C	0.71	C
Portland Rd (99W)/Brutscher Street	0.80	0.80	C	0.73	C
Portland Rd (99W)/Providence Drive	0.80	0.72	A	0.66	A
Fernwood Rd/Springbrook Rd	D	0.54	B	0.52	B

Notes: V/C ratio and LOS reported for the worst minor street approach for unsignalized intersections

Capacity analysis indicates that the majority of the intersections are meeting mobility targets/standards. The intersection of Haworth Avenue/Springbrook Road exceeds the Newberg mobility standards during the average weekday and the seasonal peak with the southbound approach having the most delay. The intersection of 1st Street (OR 219)/Everest Road and Illinois Street/Main Street meet mobility standards during the average weekday but not during the seasonal peak with the stop controlled approaches operating with significant delay.

Access Spacing

An access inventory was conducted along Highway 99W within Newberg, comparing the number of existing approaches (driveways and public streets) to the applicable ODOT spacing standard. Table 13 shows the number of existing approaches for each segment of 99W and compares it to the approximate number of driveway or public street approaches that would be allowed under full compliance with the spacing standards. As shown, the segments of 99W through the downtown and close to the downtown area have more driveway and public street approaches than recommended under the standard. The couplet portion of 99W is particularly access dense with more than double the recommended driveways on the stretch from Elliot Road to Villa Road. It is expected that, as properties along 99W are redeveloped, accesses will be removed or consolidated in order to move towards the standard.

Table 13: Highway 99W Access Spacing Inventory

Highway 99W Roadway Segment	Segment Length	Recommended Approaches*	Southwest Side	Northeast Side
Providence Drive to Brutscher Street	1,850	2	3	1
Brutscher Street to Springbrook Road	1,350	2	2	3
Springbrook Road to Elliot Road	2,100	4	7	9
Elliot Road to Villa Road	2,250	5	12	12
Villa Road to College Street**	2,800	6	10	9
College Street to Main Street**	1,650	3	1	10

* Segment length divided by 500-foot or 800-foot access spacing standard, minus existing local street approach

**Due to typical roadway to couplet configuration within segment being measured, access on only one side of the couplet was counted.

Summary of Issues

The review of existing conditions identified the following key issues:

- Two primary barriers exist that restrict system connectivity – Hess Creek and the WPRR rail line
- Additional amenities are needed that support multimodal travel in Newberg
 - Sidewalks should be added along all collectors and arterials when possible.
 - Crosswalks should be re-striped at locations where paint has faded.
 - Bike lanes should be added along all collectors and arterials when possible.
 - Bike parking structures should be added throughout the city near major traffic generators.
- Transit stop amenities (benches and shelters) are limited in the City
- Roadway segments with high crash frequencies exist:
 - Three locations on Highway 99W in Newberg are listed as on ODOT's Safety Priority Index System (SPIS) for 2011 and the crash rates along 99W through Newberg have been greater than the state averages for four of the last five years. It is expected that safety will be improved through the City of Newberg with the construction of the Newberg-Dundee Bypass.
 - OR 219 also has crash rate above the state average through the City of Newberg. Additionally two intersections along OR 219 operate above mobility standards. These intersections should be evaluated to determine what operational and/or geometric improvements can improve operations and safety.
- The majority of intersections analyzed meet City and ODOT mobility standards for delay or capacity. However, several locations do not meet standards. These intersections should be evaluated to determine what operational and/or geometric improvements will improve operations and safety.
 - The intersection of Haworth Avenue/Springbrook Road exceeds the Newberg mobility standards during the average weekday and the seasonal peak. Additionally, this intersection has a crash rate that exceeds standards.
 - The intersection of 1st St (OR 219)/Everest Rd does not meet ODOT standards during the seasonal peak.
- The amount of driveways on Hwy 99W exceed the recommended number of approaches based on ODOT standards. Most street segments between public intersections include between two to four times the recommended amount of driveways. While the high number of driveways improves access, it also reduces mobility for the highway through the corridor.

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.

TECHNICAL MEMORANDUM #5 (DRAFT)

DATE: July 16, 2013

TO: Newberg TSP PMT

FROM: Carl Springer, P.E., DKS Associates
Garth Appanaitis, PE, DKS Associates

SUBJECT: Newberg Transportation System Plan Update
Future Forecasting (DRAFT)

The purpose of this memorandum is to present traffic forecasts for Year 2035 for the Newberg Transportation System Plan (TSP) Update and summarize the forecasting methodology. The forecasts are key to identifying future roadway deficiencies and for evaluating potential circulation improvements. The following elements of the forecasting process are discussed:

- **Newberg-Dundee Travel Demand Model**, which estimates vehicular traffic based on future growth and changing development patterns within Newberg and Dundee, as well as future growth in traffic passing through the region.
- **Projected Land Use Changes** in the areas covered by the model.
- **Trip Generation** based on the projected land use.
- **Trip Distribution**, which estimates the origins and destinations of all the trips generated in the model.
- **Traffic Assignment**, which estimates how trips will be routed on the transportation network.
- **Model Application** to the forecasting process, which uses existing traffic volumes and patterns as a basis.

The focus of this memorandum is the year 2035 “Baseline” (30th highest hour -generally representative of a p.m. peak hour from the peak travel month of the year, and average weekday p.m. peak hour) traffic under specific assumptions for transportation network and population growth (described in following sections). The “Baseline” forecasts will be the primary focus of the detailed traffic and needs analysis. However, additional forecasts scenarios that consider different assumptions for traffic network (full Newberg-Dundee Bypass) and/or population growth will also be considered for a sensitivity analysis and presented in Tech Memo #6 (Future Needs Analysis).

Newberg-Dundee Travel Demand Model

The Oregon Department of Transportation (ODOT) maintains a travel demand model that estimates existing year and future year p.m. peak hour demands on the transportation system based on existing and forecast land uses, as well as other data and assumptions. The forecasting process for the Newberg TSP Update uses base year (2000) and future year (2035) models to estimate future traffic volumes. As part of the TSP update, the future model was updated from its previous 2025 horizon year to include projected 2035 land use for the entire model area (both Newberg, Dundee and surrounding rural lands). These models include two key elements that help estimate future traffic:

- **Transportation Analysis Zones (TAZs).** The model area is split into 131 TAZs. Each TAZ represent a small subarea of the model, and each has unique land use attributes that represent the number of households and the number and type of employees within the zone. These land use attributes determine the intensity and directionality of trips generated by the zone. The TAZ structure is shown in Figure 1.
- **Transportation Network.** The model maintained by TPAU includes a network of links that generally represent the major transportation system (collector roads and above) in the model area. Each link is coded with attributes (e.g., speed and capacity) that approximate the function of existing roadways (for the base year and future year) and programmed roadway improvements (for the future year). Each TAZ is connected to links in the model at points that approximate where vehicles are expected to enter the network.

Future Roadway Network

For the Newberg-Dundee model area, the most significant programmed network change is the Phase 1 Newberg-Dundee Bypass, which provides a major alternate route for through traffic on Highway 99W that is not originating from or destined for areas in Dundee or central/western Newberg. Additional (though less regionally-significant) network differences between the 2000 and 2035 models would also have the potential to affect traffic circulation within Newberg. The following network changes were assumed to be included in the year 2035 model:

- Newberg-Dundee Bypass (Phase 1 portion - Dundee to OR 219) – one travel lane in each direction
- Foothills Drive (Aldersgate Drive to Villa Road) – Major Collector
- Villa Road (Aspen Way to Mountainview Drive) – Major Collector
- OR219/2nd Street Reconfiguration

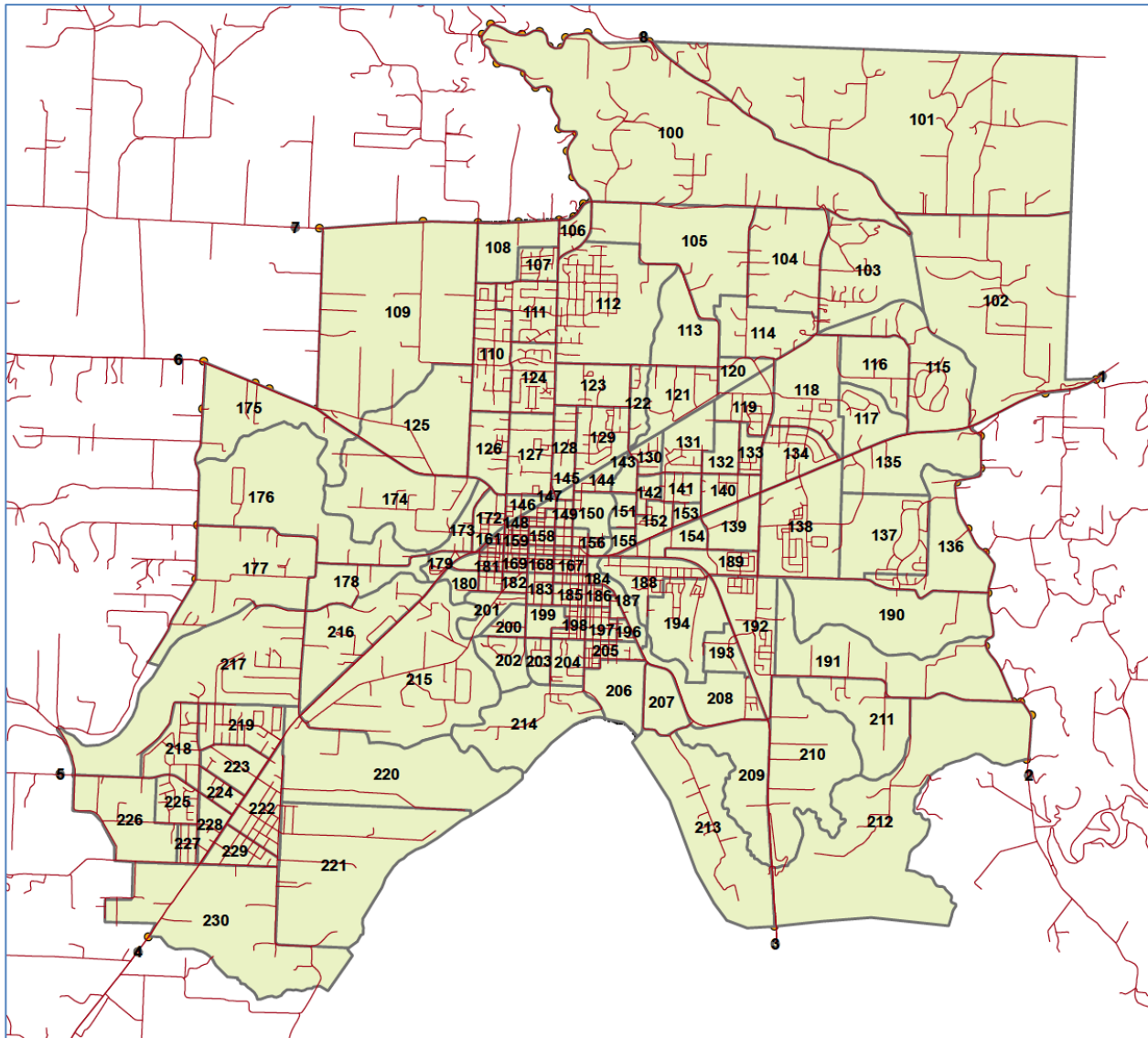


Figure 1: Newberg-Dundee Model TAZ Structure

Projected Land Use Changes

Land use is a crucial factor in forecasting future transportation demand. The amount of land that is to be developed, the type and density of land uses, and how the land uses are arranged within the model area has a direct impact on the future system.

Projected land uses were developed for the model area, with the general development patterns based on the Comprehensive Plan designations for the Cities of Dundee and Newberg. The following resources were key in developing overall population and employment totals for the two cities as well as the unincorporated portions of Yamhill County that are included in the model:

- Yamhill County 20-year (2035) coordinated population projections (2012)
- Newberg Economic Opportunities Analysis (2012)
- Southeast Dundee Riverside Master Plan Market Study (2010)

These population and employment assumptions form the basis for the two travel demand models used for forecasting:

- **Base Year (2000):** The base year model, maintained by ODOT's Transportation Planning and Analysis Unit (TPAU), represents calibrated conditions for the year 2000.
- **Future Year (2035):** The previous future year model for Newberg-Dundee was 2025. This model was refined for this project to reflect anticipated 2035 land uses and growth within and outside the model area consistent with the Yamhill County coordinated population projection.

The next section summarizes the anticipated changes and growth within Newberg, Dundee, and the surrounding unincorporated areas that influence travel.

Growth Within the Model Area

The Newberg-Dundee models generally use households and employment as a basis for estimating future transportation activity. Different types of employment are associated with different types of origin-destination intensities and patterns in the p.m. peak hour. For example, TAZs with large numbers of Service Employees may generate a heavy outbound travel movement, sending trips toward TAZs with more households. Conversely, TAZs with numerous retail employees may attract trips in the p.m. peak hour. Table 1 summarizes how households and employment are assumed to change between the 2000 base year and 2035.

Table 1: Newberg-Dundee Model Land Use Changes, 2000-2035

Land Use	Year 2000	Year 2035	% Increase
Population	23,062	44,289	92%
Households	8,313	16,397	97%
Total Employment	7,310	15,632	114%

Source: Newberg-Dundee Travel Demand Model

The land use changes between the base model year and the 2035 projections reflect efforts on the parts of both cities to improve the jobs-housing balance by increasing industrial and service (office, for example) employment locally. This means that more journey-to-work trips may begin and end within the respective cities rather than would be expected without this improvement in the land use mix. Table 2, below, lists changes only within the model TAZs that fall within Newberg, including the current urban growth boundary (UGB) and land designated within the adopted 1995 urban reserve area (URA).

Table 2: Model Land Use Changes in Newberg, 2000-2035

Land Use	Year 2000	Year 2035	% Increase
Households	6,627	13,681	106%
Total Employment	7,064	14,439	104%

Source: Newberg-Dundee Travel Demand Model

Table 1 and Table 2 show that the number of households in the overall Newberg-Dundee regional model area nearly doubles and the number of employees more than doubles. In Newberg, both household and employment are projected to increase by approximately 105 percent (106 percent and 104 percent, respectively). Therefore, while the regional jobs-housing balance improves in the forecast year, the overall intensity of land use indicates that the transportation infrastructure needed to support this growth is significant. The programmed Phase 1 Newberg-Dundee Bypass is significant improvement that will help alleviate issues on the local transportation system. The TSP update processes for Dundee and Newberg will identify additional needs and help determine strategies and improvements for all modes based on the 2035 forecasts.

The overall growth in land uses was applied to individual TAZs with detailed input and review from staff at the cities of Newberg and Dundee.¹

Trip Generation

The model's trip generation process translates land use quantities (number of dwelling units, number of employees of different types) into vehicle trip ends (number of vehicles entering or leaving a TAZ) using trip generation rates established during the model verification process. The TPAU trip generation process is elaborate, entailing detailed trip characteristics for various types of housing,

¹Buildable Lands, Population, and Employment Forecast for Dundee (July 5, 2012) and Population and Employment Capacity in UGB for the TSP (August 2, 2012). Population and Employment Capacity in URA for TSP (May 13, 2013)

employment, and special activities. The model process is tailored to variations in travel characteristics and activities in the region, including estimation of the likelihood for trip potential to be achieved for a particular land area.

The increase in households and employees in the model area mean an increase in the overall number of trips generated. Table 3 summarizes the total modeled year 2000 and year 2035 motor vehicle trips. Vehicle trips are expected to grow by approximately 76 percent between 2000 and 2035 if the land develops according to the modeled land use assumptions.

Table 3: Vehicle Trip Generation (PM Peak Hour)

	2000 Trips	2035 Trips	% Increase
Newberg-Dundee Model Area	12,709	22,336	76%

Source: Newberg-Dundee Travel Demand Model

Trip Distribution

This step estimates how many trips travel from one TAZ in the model to any other TAZ. Distribution is based on the number of trip ends generated in each TAZ zone pair, and on factors that estimate the likelihood of travel between any two TAZs, such as travel time between the zones.

In projecting future traffic volumes, it is important to consider potential changes in regional travel patterns. Although the locations and amount of traffic generation in the Newberg-Dundee area are essentially a function of future land use in the city, the distribution of trips is influenced by expected congestion on roadways and regional growth, particularly in neighboring areas such as McMinnville, the Oregon Coast, and the Portland metropolitan area. The model and trip distribution can also be used to help define the number of internal, external and through trips for the model area. These types of trips are as follows:

- **Internal trips** (“I-I”) are trips that start and end within the model area. For example, a trip from a home in Dundee to a business in Newberg would be an I-I trip.
- **External trips** (“X-I” or “I-X”) are trips that either start in the model area and end outside it, or vice versa. For example, a trip from a home in Newberg to a place of employment in Portland would be an I-X trip.
- **Through trips** (“X-X”) are trips that pass through the model area and have neither an origin nor a destination within it. For example, a trip from a home in Portland travelling to a restaurant in McMinnville (that passed through Newberg on HIGHWAY 99W) would be an X-X trip.

Overall travel demand model distribution for year 2035 is based on previous assumptions for year 2025. However, traffic volumes at the external gateways to the model (such as OR 219, HIGHWAY 99W, etc.) were updated based on current data and growth forecasts from ODOT’s

Transportation Volume Tables. Table 4 shows these three trip types for all modeled roadways in the Newberg-Dundee area as forecast in the model for 2000 and 2035.

Table 4: Newberg-Dundee Model Vehicle Trip Distribution (PM peak hour)

Trip Type	2000	2035	Change
Internal (i-i)	55%	57%	+2%
External (x-i or i-x)	34%	33%	-1%
Through (x-x)	11%	10%	-1%

Source: Newberg-Dundee Travel Demand Model

Modeling results show a slight increase in the proportion of trips both originating and ending within the model area. This is accompanied by a slight decrease in the proportion of trips beginning and/or ending outside the model area. This change is reflective of both the local growth rates and the housing-employment balance that is assumed to be more equal in the future, leading to proportionately more trips beginning and ending within Newberg and Dundee.

Traffic Assignment

In this modeling process, trips from one zone to another are assigned to specific travel routes in the network, and resulting trip volumes are accumulated on links of the network until all trips are assigned. The route on which a trip is assigned generally depends on whether it offers the shortest travel time among all possible routes, given all the other trips on the network. Figure 2 provides an example of how the model applies trips traveling northbound and southbound between Newberg and Dundee in the base year and future year.

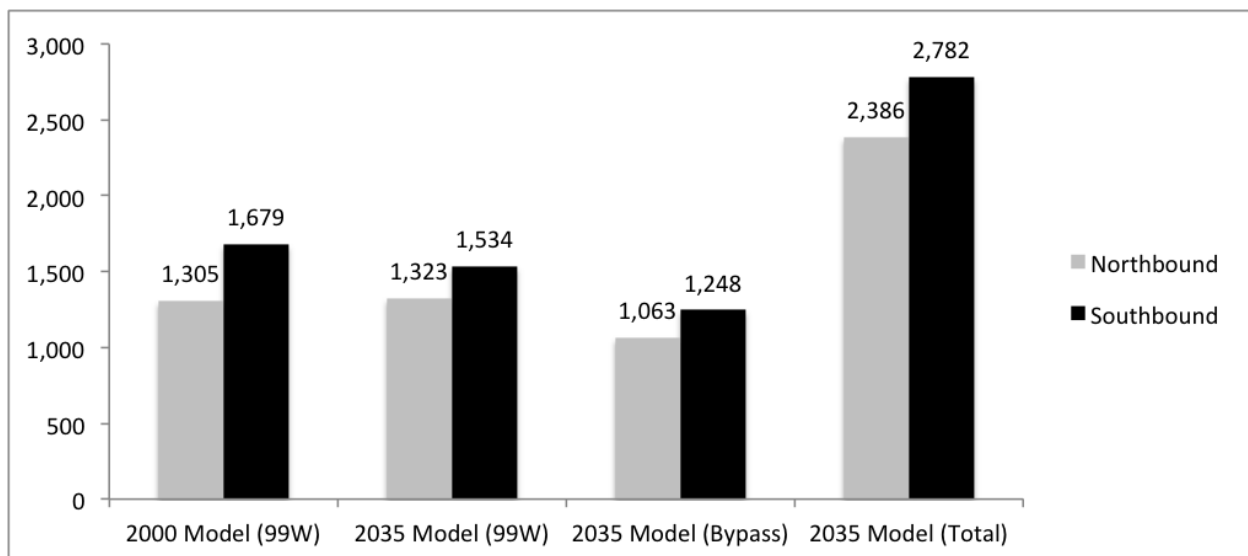


Figure 2: Traffic Volumes between Fox Farm Road and 1st Street, 2000 and 2035 (PM peak hour)

Figure 2 shows that while there is significant growth in the number of trips passing between the two cities, each facility (Highway 99W and the bypass) carries a similar share. Significantly, the addition

of the bypass results in lower demand on Highway 99W southbound in 2035 than exists in the base year, even though overall southbound demand is 55% higher (2,595 trips in 2035 compared to 1,679 trips in 2000).

Model Application to Newberg

The year 2000 and year 2035 model and assignments were prepared and provided by TPAU. Some additional network refinements were applied during the forecasting process to add detail to account for local connectivity and circulation patterns, particularly in the vicinity of study intersections. Adding the new network detail helps refine local circulation in Newberg without affecting routing in the overall regional model. Links added to the network (in addition to the assumed project list for the year 2035 model) include:

- Mountainview Drive (OR 219 to Chehalem Drive)
- Mountainview Drive/Aspen Way realignment
- Brutscher Street (HIGHWAY 99W to Fernwood Road)
- Hayes Street (Springbrook Road to Werth Boulevard)
- Providence Drive (HIGHWAY 99W to Werth Boulevard)
- Everest Road (HIGHWAY 99W to 2nd Street)
- 2nd Street (Everest Road to OR 219)
- Crestview Drive [closure] (Emery Drive to Aspen Way)
- Terrace Drive [closure] (Camillia Drive to North Valley Road)
- Foothills Drive (Chehalem Drive to College Street)

PM peak hour volumes were extracted from the model for both the base year (2000) and forecast year (2035) scenarios. A “post processing” technique following NCHRP 255 Methodology² was utilized to refine model travel forecasts to the volume forecasts presented in Figures 1 and 2. Post processing is a methodology that uses existing traffic volumes³, base year model data, and future year model data to help determine future volumes and minimize potential model error and bias.

Because the increment between the model base year and future year (35 years) is larger than the increment between the base count year (2012) and planning horizon year (2035) (23 years), this analysis considered using an increment smaller than the full 35 year model growth. However, a comparison of base year model volumes and 2012 traffic volumes showed that in most cases the volumes are either very similar, or the 2000 model shows higher volumes. The primary exception to this general trend is the southbound traffic on Highway 99W approaching Providence Drive, which

² *Highway Traffic Data for Urbanized Area Project Planning and Design - National Cooperative Highway Research Program Report 255*, Transportation Research Board, Washington D.C., 1982.

³ See the Existing Conditions project memo for more information on existing year (2012) traffic counts and the seasonal adjustment done to create peak seasonal and average annual volume sets.

was addressed through post-processing to develop future traffic forecasts and account for the directional trends. A sample of this comparison for both Newberg and Dundee is shown in Table 5.

Table 5: Comparison of 2000 model and 2012 existing volumes (PM peak hour)

Location and Direction	2000 Base Model	2012 Peak Seasonal
99W between Fox Farm and 1st, northbound	1,305	1,135
99W between Fox Farm and 1st, southbound	1,679	1,365
99W south of Niederberger, northbound	991	1,040
99W south of Niederberger, southbound	991	1,060
OR 219 (College Street) north of Foothills, northbound	273	197
OR 219 (College Street) north of Foothills, southbound	210	247
99W east of Providence ,northbound	1,358	1,308
99W east of Providence, southbound	1,336	1,835*

Source: Newberg-Dundee Travel Demand Model, Newberg TSP and Dundee TSP Update Existing Conditions Memos

*Note: Difference between model volume and count data addressed through post-processing to reflect directional split

This overall flat trend in travel patterns is typical of many planning studies done in recent years, and most likely reflects the effects of the recession on economic development and employment-related travel. Therefore, the traffic volumes observed under existing conditions are assumed to be a close match to the volumes modeled in the 2000 base year. However, because the future volume forecasts are still intended to reflect the projected land uses for 2035, this analysis assumes the full growth increment between the base year and future year models. The resulting volume forecasts are shown in Figures 3 and 4.

Figure 3: Study Area (Intersection Locations)

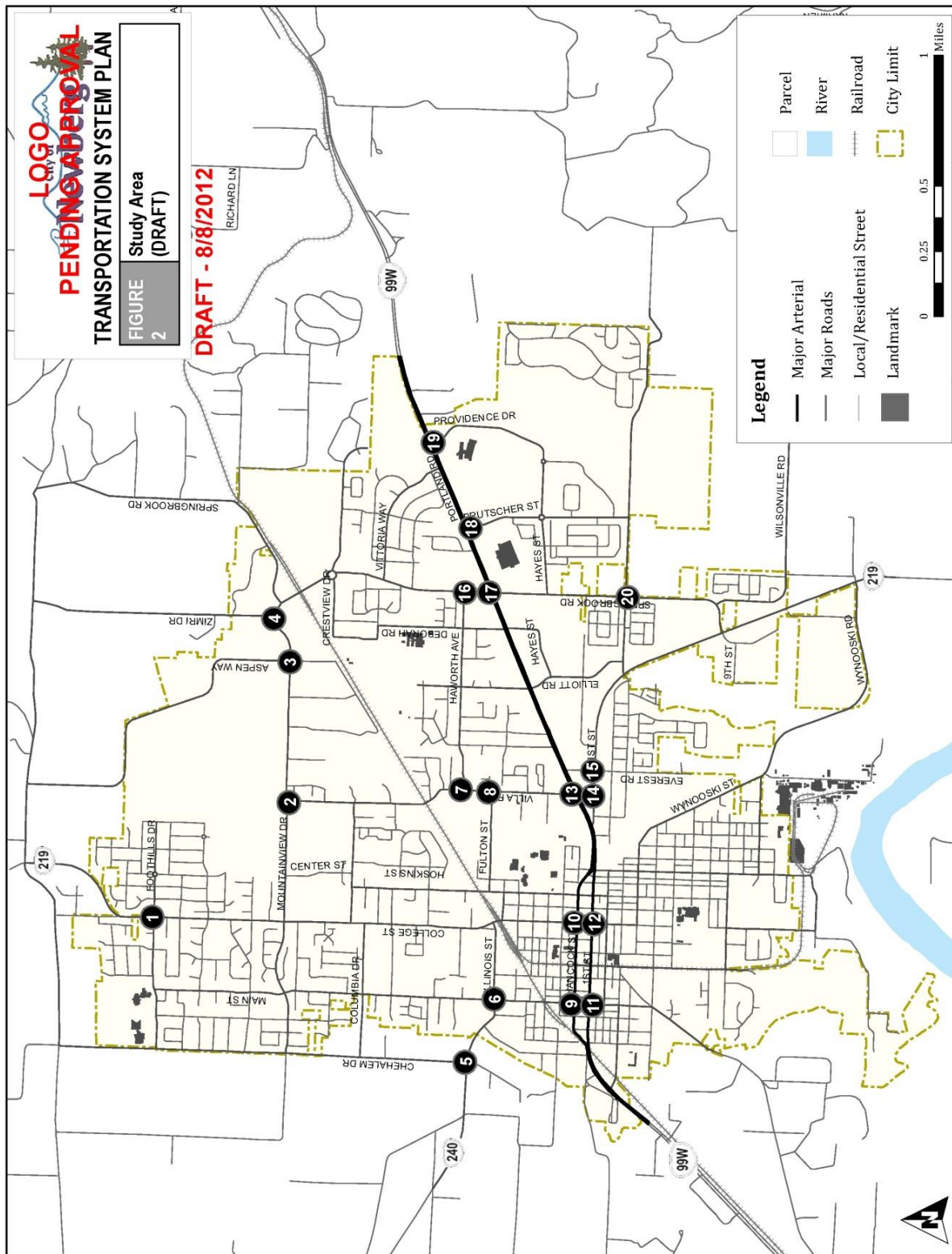
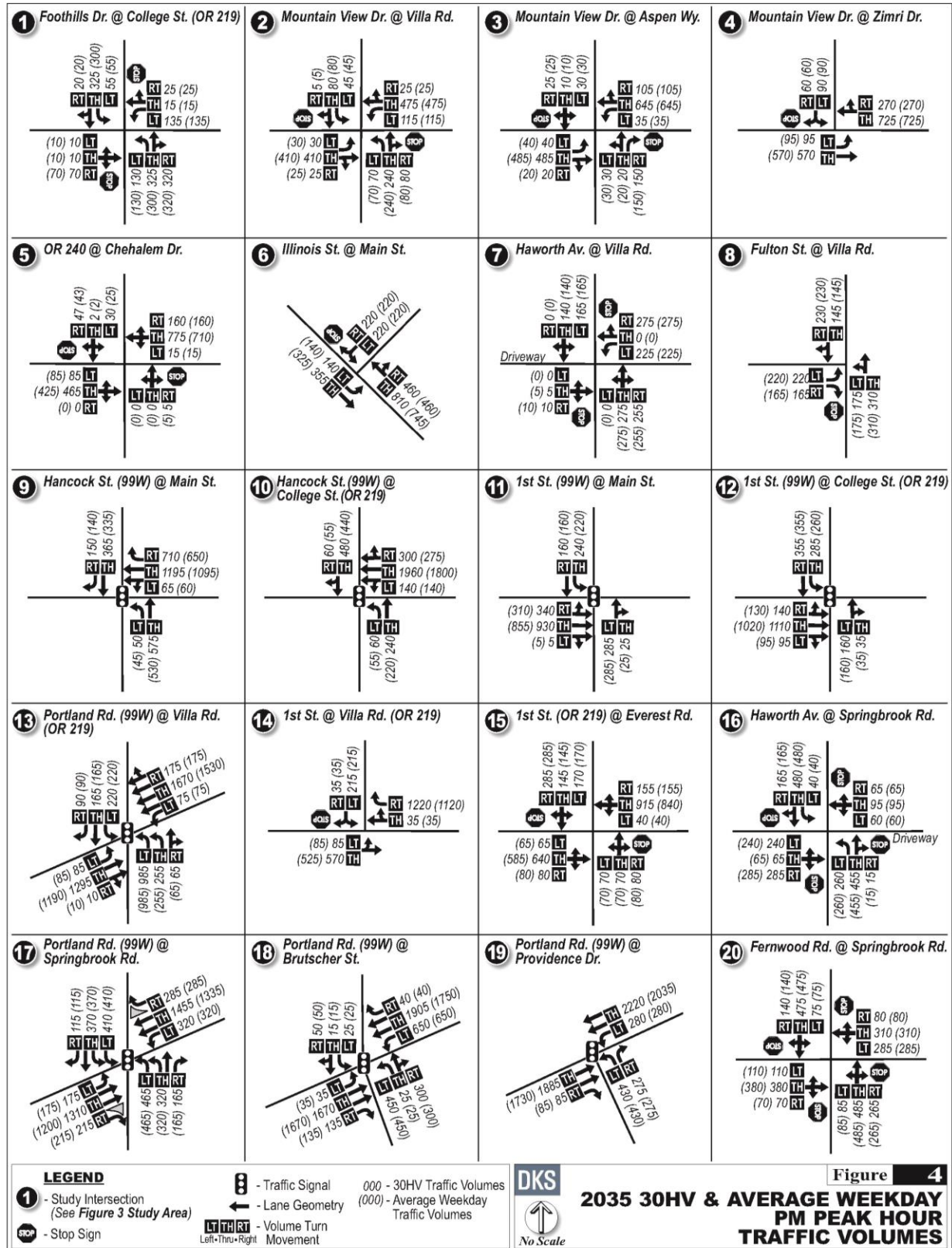


Figure 4: 2035 30 HV and Average Weekday “Baseline” Traffic Forecasts



NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.

DRAFT TECHNICAL MEMORANDUM #6

DATE: November 1, 2013

TO: Newberg TSP Update Project Management Team

FROM: Carl Springer, P.E., DKS Associates
Garth Appanaitis, P.E., DKS Associates
Julie Sosnovske, P.E., DKS Associates

SUBJECT: Newberg Transportation System Plan Update
Future Needs Analysis

This memorandum describes transportation conditions in Newberg in year 2035 if no new investments, other than those already funded¹, are made to the transportation system. The following items are addressed:

- How do we determine future transportation system demand?
- What will Newberg look like in 2035?
- Where transportation solutions are needed?
- What if the future is different than we thought?

The next phase in the TSP update process (to be documented in Technical Memorandum #8: Alternatives Evaluation) will include developing and evaluating alternatives that address these needs.

How Do We Determine Future Transportation System Demand?

To determine future transportation system needs in Newberg requires the ability to accurately forecast travel demand from estimates of future population and employment, and forecast travel patterns based on decisions and preferences demonstrated by existing residents and travelers through the region. Travel demand models help forecast future commuter, school, and other travel patterns, including estimates of the length and time of day a trip will be made. Comparing model outputs with counts and patterns observed on the existing system helps to refine model forecasts. This refinement step is completed before any evaluation of system performance is made. Once the traffic forecasting process is complete, the 2035 traffic volumes are analyzed to determine the areas of the street network that are expected to be congested and that may need future investments to accommodate growth.

¹ Phase 1 of the Newberg-Dundee Bypass (Dundee to Springbrook Road) is funded and included in the analysis.

Estimating Future Travel

The Oregon Department of Transportation (ODOT) maintains a travel demand model that estimates daily and PM peak hour demand for the existing year and future year transportation system in the Newberg-Dundee area based on existing and forecast land uses, as well as other data and assumptions.² The forecasting process for the Newberg TSP Update uses base year (2000) and future year (2035) models to estimate future traffic volumes. As part of the TSP update, the future model was updated from its previous 2025 horizon year to include projected 2035 land use consistent with Yamhill County's coordinated population projections. These models include two key elements that help estimate future traffic:

- **Transportation Analysis Zones (TAZs).** The Newberg-Dundee model area is split into 131 TAZs. Each TAZ is described by the number of households and the number and type of employees within the zone. The type and intensity of the land uses determines the scale and directionality of trips generated by the zone.
- **Transportation Network.** The model includes a network of links that generally represent the major transportation system (City and County collector and arterial roads and the state highway facilities) in the model area. Each link is coded with attributes (e.g., speed and capacity) that approximate the function of existing roadways and programmed roadway improvements (for the future year). Each TAZ is connected to links in the model at points that approximate where vehicles are expected to enter the network.

The following sections provide an overview of transportation growth, impacts, and needs in Newberg through year 2035. The majority of this assessment is based on a “2035 Base Scenario” – which assumes that the bypass will be limited to the currently funded Phase 1 and that Newberg will not develop beyond the urban reserve area (URA) adopted in 1995. Additional scenarios (including a full bypass construction and further urban growth boundary (UGB)/URA expansion) are explored in later sections.

What will Newberg look like in 2035?

In 2000, Newberg had about 6,650 households and around 7,100 jobs. Between now and 2035, both population (households) and employment are expected to grow significantly. By 2035, Newberg is expected to have about 13,700 households and 14,500 jobs, an increase of approximately 105% from year 2000. With more people and more jobs in Newberg, the transportation network will face increased local demand through 2035.

The forecasting process accounts for the existing network as well as any programmed future improvements. The most significant programmed network change is the Phase 1 Newberg-Dundee Bypass, which provides a major alternate route for through traffic on OR 99W. In addition, several roadway connections in Newberg were assumed to be constructed as development occurs.

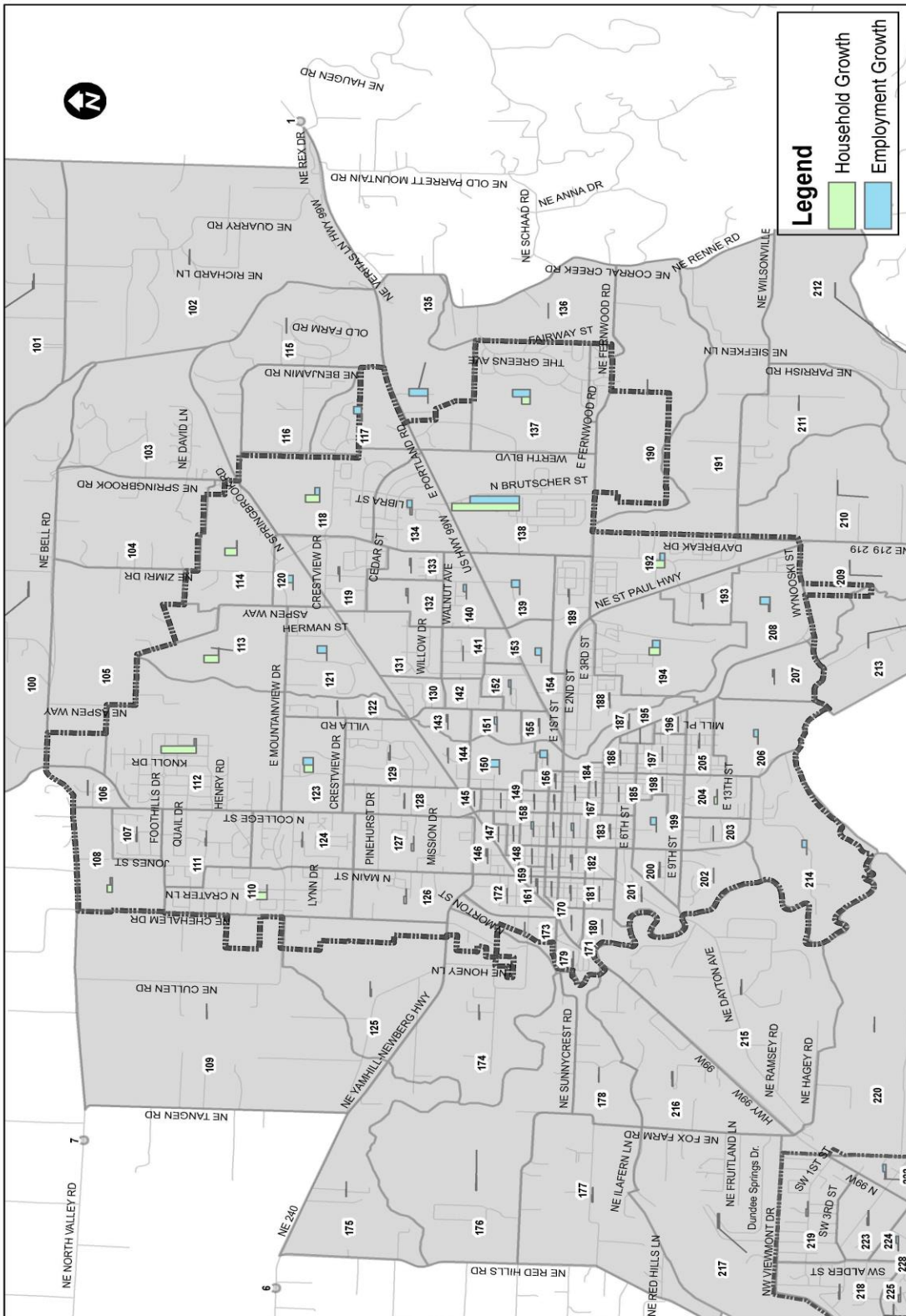
² For more detail on the forecasting process, see this project's Technical Memorandum #5, Future Forecasting.

- Phase 1 Newberg-Dundee Bypass (Dundee to OR 219) – 1 lane in each direction
- Foothills Drive (Aldersgate Drive to Villa Road) – Major Collector
- Villa Road (Aspen Way to Mountainview Drive) – Major Collector
- OR 219/2nd Street Reconfiguration

Growing Population and Employment

Figure 1 provides an overview of land use growth, by zone, that is anticipated through year 2035. Much of the household growth is expected to occur outside of the downtown core, primarily in the north and southeast parts of town. While some employment growth is expected in the downtown core, significant growth is expected in the southeast of OR 99W and Springbrook Road.

Figure 1: Relative Growth and Employment in Newberg TAZs



Change in Travel Patterns

With the forecasted increase in population and employment in Newberg, the transportation infrastructure needed to support growth is significant. The programmed Phase 1 Newberg-Dundee Bypass is a key improvement that will generally serve traffic passing through the Newberg-Dundee area, alleviating some pressure on the local transportation system.

The increase in households and employees through year 2035 mean an increase in the overall number of trips generated. Table 1 shows the change in PM peak hour trip ends estimated by the Newberg-Dundee model within Newberg, and within the entire model area. The table shows that trips are expected to grow at a slower rate in Newberg than in the rest of the model area between 2000 and 2035 if the land develops according to the model's land use assumptions.

Table 1: Vehicle Trip Generation (PM Peak Hour Trip Ends*)

	Year 2000	Year 2035	% Increase
Newberg-Dundee Model Area	25,418	44,672	76%
Newberg TAZs Only	16,025	26,664	66%

Source: Newberg-Dundee Travel Demand Model

Note: *A trip end represents the beginning or ending point of a trip. Each trip has two trip ends.

How Will Changes Affect Traffic Congestion in Newberg?

The analysis of existing conditions indicated that the majority of intersections in Newberg are currently meeting mobility targets/standards. Significant traffic congestion and vehicle queuing exist in only a few areas in Newberg today. While the Newberg-Dundee bypass is expected to divert much of the through traffic away from OR 99W, traffic is expected to increase in the Newberg area over the planning horizon, resulting in traffic volumes significantly higher than today at many locations. Traffic volume growth (relative to present conditions) at select locations includes:

- OR 219 (south of Foothills Drive): 110%
- OR 240 (west of Chehalem Drive): 70%
- Springbrook Road (north of Haworth Avenue): 60%
- OR 99W (east of Providence Drive): 45%
- Mountainview Drive (west of Villa Road): 40%
- OR 99W (west of couplet): 20%
- OR 99W (east of Villa Road): 10%
- OR 99W (both directions) west of College Street: -5%

Three relative levels of growth conditions are present, as indicated by the sample of locations above:

- Higher Growth Areas – Many of the collector and arterial facilities outside the downtown area will have higher growth due to a combination of lower existing traffic levels and more opportunities for adjacent land use development.

- Moderate Growth Areas – Areas along OR 99W outside the couplet will have higher overall traffic volume increases, but relative to existing traffic, growth is more moderate.
- Lower Growth Areas – Some areas, particularly those near the couplet, will have low future growth due to the traffic that will be diverted onto the Bypass. These areas will experience a reduction in traffic following the completion of the bypass, with traffic returning nearer to present day levels through year 2035.

Forecast year 2035 PM peak hour volumes representing the 30th highest hour (or design hour) and the average weekday are shown in Figure 2 (attached).

Motor Vehicle Operations

Intersections in Newberg are evaluated according to mobility targets, helping to identify and maintain a minimum level of efficiency for motor vehicle travel.³ Two methods to gauge intersection operations include volume-to-capacity (v/c) ratios and level of service (LOS).

Volume-to-capacity (V/C) ratio: A decimal representation (with 1.00 representing saturated condition) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays. ODOT mobility targets for intersections along OR 99W are based on v/c ratios.

Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and traffic is highly congested. LOS is used to designate minimum performance standards for intersections under City of Newberg and Yamhill County jurisdictions.

The motor vehicle conditions in Newberg vary based on the time of year. Operations at the 20 study intersections, shown in Table 2, were evaluated for the PM peak hour using the 2035 volume forecasts for both the peak seasonal period and average weekday. Mobility targets for each intersection are shown as well.

³ For more information on mobility targets and operational analysis, see this project’s Technical Memorandum #4, Existing Conditions.

Table 2: Intersection Operations (2035 PM Peak Hour)

Intersection	Mobility Target	Peak Seasonal		Average Weekday	
		V/C Ratio	LOS	V/C Ratio	LOS
Foothills Drive/Hillsboro-Silverton Highway (OR 219)	0.95	>1.0	F	>1.0	F
Mountainview Drive/Villa Rd	D	>1.0	F	>1.0	F
Mountainview Drive/Aspen Way	D	0.83	F	0.83	F
Mountainview Drive/Zimri Drive	D	>1.0	F	>1.0	F
Yamhill-Newberg Highway (OR 240)/Chehalem Drive	0.95	0.64	F	0.47	E
Illinois Street/Main Street (OR 240)	0.95	>1.0	F	>1.0	F
Haworth Avenue/Villa Rd	D	>1.0	F	>1.0	F
Fulton Street/Villa Rd	D	>1.0	F	>1.0	F
Hancock Street (99W)/Main Street	0.85	>1.0	F	0.87	C
Hancock Street (99W)/College Street	0.85	0.91	C	0.91	C
1st Street (99W)/Main Street	0.85	0.67	B	0.66	B
1st Street (99W)/College Street	0.85	0.63	B	0.63	B
Portland Rd (99W)/Villa Rd (OR 219)	0.85	>1.0	F	>1.0	F
1st Street/Villa Rd (OR 219)	0.95	0.93	F	0.86	F
1st Street (OR 219)/Everest Rd	0.90	>1.0	F	>1.0	F
Haworth Avenue/Springbrook Rd	D	>1.0	F	0.73	F
Portland Rd (99W)/Springbrook Rd	0.80	>1.0	F	>1.0	F
Portland Rd (99W)/Brutscher Street	0.80	>1.0	F	>1.0	F
Portland Rd (99W)/Providence Drive	0.80	>1.0	F	>1.0	F
Fernwood Rd/Springbrook Rd	D	>1.0	F	>1.0	F

Notes: V/C ratio and LOS reported for the worst minor street approach for unsignalized intersections
 Intersections not meeting the mobility standard are shaded in black.

Where Are Transportation Solutions Needed?

This section describes where transportation system deficiencies have been identified through future analysis as well the previous existing conditions work. Areas addressed include motor vehicle, walking, biking, transit, and other potential areas of transportation deficiency.

Motor Vehicle Capacity Needs

Operational analysis (Table 2) shows that most study intersections (16 of 20 locations) would fail to meet the ODOT and/or City of Newberg mobility target in the future under both peak seasonal and average weekday conditions. In addition, two other locations would meet mobility targets but would have high average delay or would be nearing capacity. These locations and conditions fall into several general groups:

- **OR 99W (East of Downtown)** – Major intersections along OR 99W east of downtown would degrade due to additional traffic along the corridor. These locations would not be relieved by the bypass and may serve higher turning volumes for trips to and from the bypass.
- **OR 99W (Through Downtown)** – Most of the study intersections through downtown would meet targets due to the relief provided by the Newberg-Dundee Bypass. However, Hancock at Main Street and Hancock at College Street would both fail to meet mobility targets due to the high vehicle crossing volumes. Targets would be exceeded during both peak seasonal and average weekday conditions, however targets during average conditions come relatively close (v/c difference of 0.06 or less) to being met.
- **Stop-Controlled Approaches along Major Corridors** – Growth along major corridors will increase delay for vehicles turning from side streets. These locations may be candidates for intersection improvements (lane channelization or intersection control) or improvements to parallel corridors to provide other routes that can relieve these corridors. These locations include:
 - Mountainview Drive at Villa, Aspen, and Zimri
 - Highway 240 at Illinois/Main and Chehalem
 - Villa Road at Haworth and Fulton
 - Springbrook Road at Haworth
- **Other Spot Locations** – Other study intersection locations that are not identified in the preceding groups also have capacity needs:
 - 1st Street / Everest Road – Traffic volumes along 1st Street (OR 219) will continue to grow due to additional growth in the southeast area. In addition, traffic volumes on Everest will grow due to circulation changes with the planned reconfiguration of the OR 219 / 2nd Street intersection (restricted side street movements to right-in-right-out). Considerations for intersection control and lane channelization at this location will need to account for the adjacent intersections and traffic flow along OR 219.
 - Fernwood Road / Springbrook Road – The western leg at this intersection will have limited traffic growth due to the reconfiguration of OR 219/2nd Street. However, the other approaches will experience increased traffic volume due to growth in the southeast area as well as traffic traveling to and from the bypass. This intersection is a candidate for intersection improvements such as lane channelization or intersection control.

Alternative Mobility Targets

Mobility targets are typically based on 30th highest hour traffic volumes, in this case represented in the peak seasonal analysis shown in Table 2. ODOT also provides avenues for exploring alternative mobility targets, which are typically less difficult to meet. One approach to alternative targets is to analyze operations under traffic conditions that are less intense than the 30th highest hour, such as the average weekday PM peak hour.

While future traffic analysis shows somewhat better operations under average weekday conditions, the difference is not significant enough to allow any intersections to meet the mobility targets under average weekday conditions. However, some locations (such as Hancock Street/ Main Street and Hancock Street/ College Street) may be able to achieve the mobility targets during the average weekday when combined with additional improvements. Therefore, using average weekday operations to inform potential alternative mobility targets may be beneficial and could be further considered through the alternative development process.

Connectivity Needs

The ability to travel between different areas of the city conveniently and efficiently (a direct route) is an important part of system planning. The following connectivity issues have been identified for Newberg:

- The extensions of Villa Road to the north and Foothills Drive to the east are planned into the currently undeveloped area in the northeast area of Newberg. It will be important to provide these collectors through the development process, which are spaced to minimize traffic impacts on local residential streets as well as to provide access into downtown Newberg and to key routes out of town such as OR 99W and OR 219.
- Springbrook Road provides the only through access between OR 99W and Wilsonville Road. Developments to the east of Springbrook Road have limited access to OR 99W and Wilsonville Road, which are key routes into and out of Newberg.
- Additional connectivity is needed north of OR 99W between Springbrook Road and Benjamin Road in both the north-south and east-west directions.
- Currently, OR 99W and OR 219 are the only regional roads that serve trips between Newberg and locations to the south. Additional major connections are constrained by the Willamette River. However, there may be options for creating additional connections, particularly for non-motorized travel.

Safety Needs

As noted in the existing conditions analysis, OR 99W through Newberg (mile points 21.36 to 24.13) and OR 219 through Newberg (mile points 18.45 to 21.42) both have higher collision rates than the statewide average for similar facilities. Specific locations along these facilities were identified through ODOT's Safety Priority Index System (SPIS). While the construction of the Newberg-Dundee Bypass is expected to relieve some congestion, planned housing and employment growth is expected to replace much of the traffic volume diverted to the bypass. Four locations were identified as top 5% SPIS locations and will be reviewed for solutions to address needs:

- OR 99W (M 21.71 to 21.89 - including the Brutscher Street intersection)
- OR 99W (mile points 21.96 to 22.14 - including the Springbrook Road intersection)
- OR 99W (mile points 22.80 to 22.98 - including the Everest Road and Villa Road intersections)
- OR 219 (mile points 21.11 to 21.29 - including the 2nd street intersection)

Walking Needs

Figure 3A shows the presence of sidewalks along collector and arterial facilities in Newberg. Sidewalks on arterial and collector streets are generally available near commercial areas but decrease with distance from the core central area of town. Sidewalks are present along most of OR 99W as it transitions from Portland Road through the downtown area as the Hancock Street and 1st Street couplet. Newer commercial and residential areas have sidewalks. The newer commercial and residential developments usually abut older areas that do not have sidewalks, leaving gaps in the pedestrian network. All new sidewalks have ADA-compliant curb ramps at intersections and at driveways.

Downtown Newberg has a fairly complete pedestrian network with sidewalks, ADA-compliant curb ramps, pedestrian way finding signage, and amenities such as benches. Crosswalks are striped for a majority of the intersections downtown and traffic speeds are low, which makes walking easy and attractive. While crosswalks are provided with ADA-compliant ramps at most locations, some of the crosswalks are in poor condition.

Providing safe pedestrian and bicycle access to school is important in promoting physical fitness for school-age children and creating healthy travel habits that will carry into adulthood. Pedestrian and bicycle infrastructure should be a priority in Newberg to provide good connections for children and families traveling to and from school from nearby residential neighborhoods.

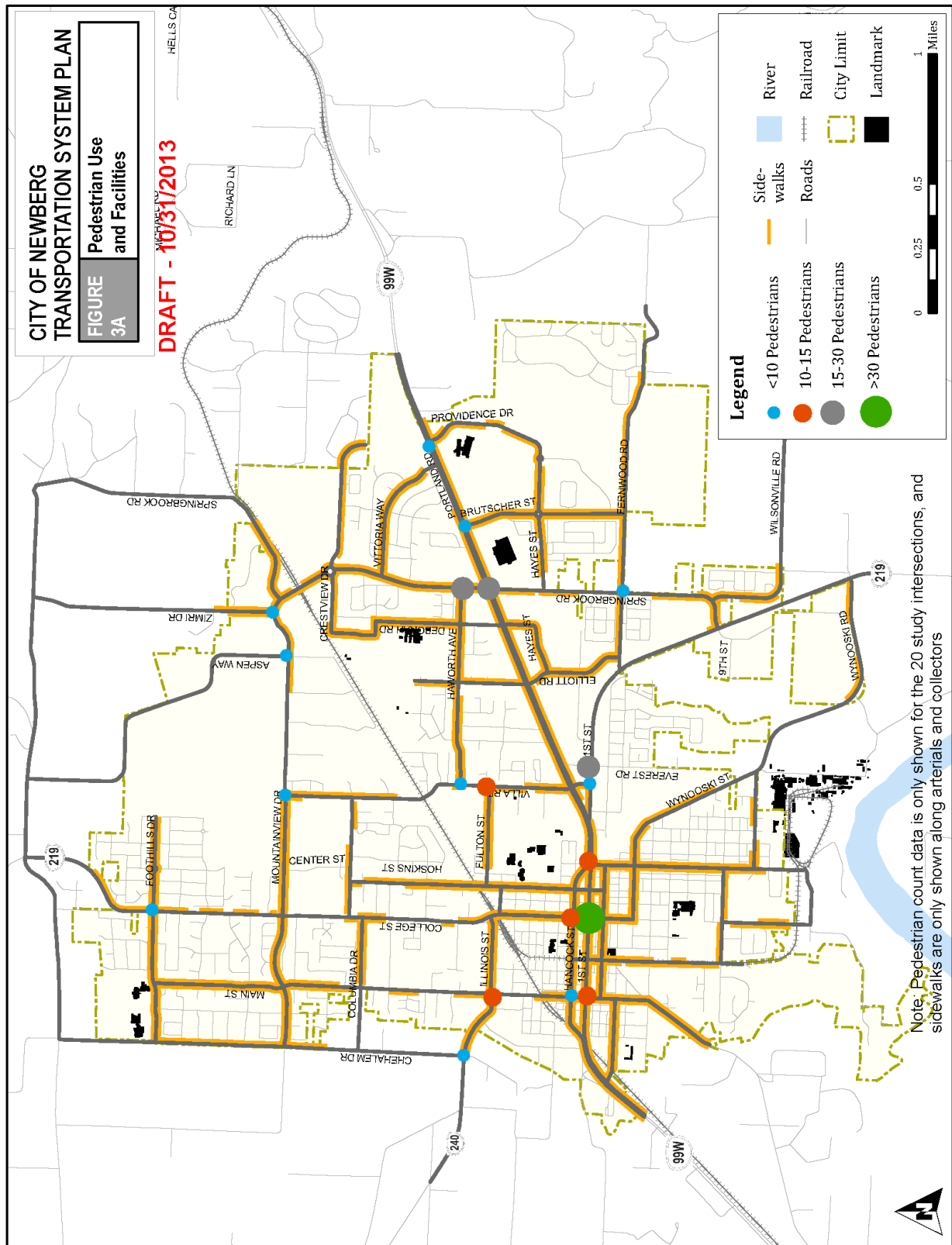
By 2035, pedestrian activity is likely to increase significantly as population and employment grows, and some non-local traffic is diverted to the Bypass. This means that correcting deficiencies in the pedestrian network becomes even more important.

- Sidewalks should be added along all collectors and arterials when possible.
- Key gaps in the arterial and collector system exist on the following routes:

- 1st Street/OR 219 south of Fernwood Road
- 4th Street/Wynooski Street
- Fernwood Road (south side) east of Springbrook Road
- Springbrook Road
- Villa Road (established areas and undeveloped areas)
- Elliott Road north of OR 99W (which provides access to the Newberg High School)
- OR 219 and Main Street adjacent to established neighborhoods
- Mountainview Drive between Villa Road and Aspen Way
- Sidewalks on Aspen Way, Zimri Drive and Springbrook Road will become important as more development occurs in northeast Newberg
- 9th Street (Blaine Street to River Street)
- Blaine Street (Sherman Street to Ewing Young Park)
- Dayton Avenue (5th Street to the UGB)
- Illinois Street (Main Street to College Street)
- Haworth Avenue
- Meridian Street (First Street to Crestview Drive)
- River Street (Sheridan Street to 14th Street)
- The Chehalem Heritage Trail system being planned by the Chehalem Park and Recreation District (CPRD) should be considered when prioritizing pedestrian improvements in Newberg.⁴ This trail system has facilities planned throughout the CPRD area (including both Newberg and Dundee) and includes existing and new or improved facilities for both pedestrians and bicyclists.

⁴ See the *Chehalem Heritage Trail Strategic Plan*, Chehalem Park and Recreation District, 2010.

(INSERT FULL PAGE) - Figure 3A: Pedestrian Use and Facilities



Biking Needs

There are a limited number of routes with designated bike lanes in Newberg, with the most continuous being along OR 99W. Similar to sidewalks, there are bike lanes near the newer commercial and residential areas with fewer bike lanes in the more established areas of town. Currently 40 percent of Newberg residents with jobs work in Newberg. As both population and employment increase in the Newberg area, more Newberg residents are anticipated to live closer to work. This may spur an increase in the number of commuters biking and walking to work.

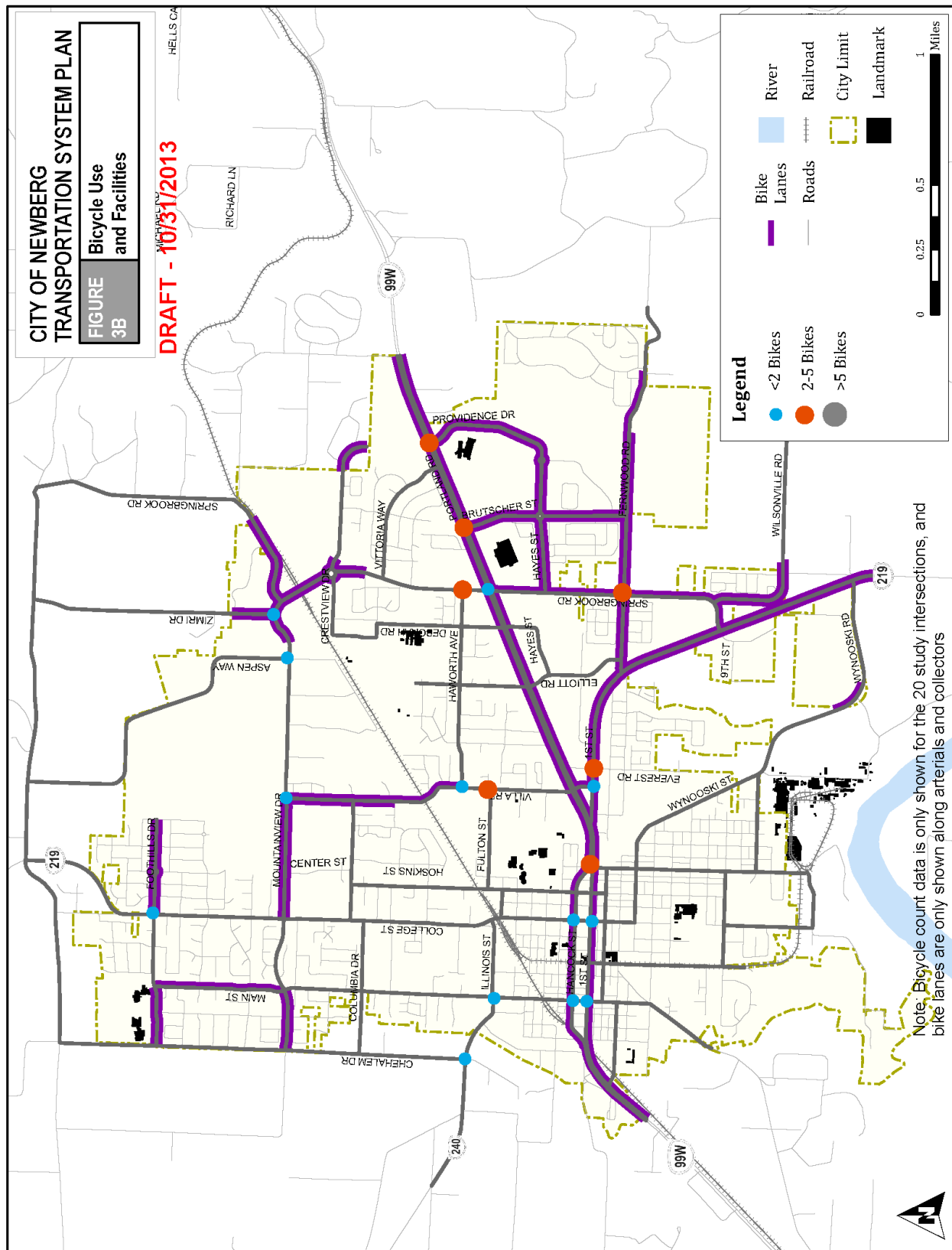
This means that Newberg has excellent potential to increase the number of people who travel by bike. It also highlights the importance of identifying and improving key bike connections to the city. Figure 3B identifies the presence of bicycle facilities along collectors and arterials in Newberg.

- OR 99W provides the most continuous bike route in Newberg with shoulders and/or striped bike lanes through town. The bike lanes are generally at least 5-6 feet wide.
- Newberg's local street system (away from OR 99W) generally features low volumes of motor vehicle traffic, and is suitable for shared use by cyclists, but is not marked or signed as such. Designated bike routes on the local system can provide continuity to other bicycle facilities such as roads with bike lanes and shared use paths. Including wayfinding signs will direct cyclists to key destinations such as shopping, employment centers, and schools. Wayfinding signs can also provide directions and distances to key connections to the bike network such as any trails developed as part of the proposed Chehalem Heritage Trail Strategic Plan.⁵
- Bike lanes should be considered on all collector and arterial roadways with a priority for higher volume routes (those in excess of about 3,000 vehicles daily) to provide access from outlying areas to commercial and employment centers in town. Arterials and high volume collector routes lacking bike lanes include the following:
 - OR 219 (north of OR 99W)
 - Mountainview Drive (between Villa Road and Zimri Drive)
 - Springbrook Road (south of OR 99W – west side and north of OR 99W between Haworth Avenue and Middlebrook Drive)
 - Wilsonville Road east of Daybreak Drive
 - OR 240
 - Villa Road
 - Haworth Avenue and Fulton Street between OR 219 and Springbrook Road (currently marked with sharrows)
 - Main Street/OR 240 between OR 99W and UGB
 - Main Street between Illinois Street and Mountainview Drive
 - Dayton Avenue between OR 99W and City Limits
 - Blaine Street (1st Street to Ninth Street)
 - Dayton Avenue (5th Street to UGB)
 - Elliot Road (OR 99W to Newberg High School)

⁵ See the *Chehalem Heritage Trail Strategic Plan*, Chehalem Park and Recreation District, 2010.

- Illinois Street (College Street to Main Street)
 - River Street (OR 99W to Rogers Landing)
 - Wynooski Street (Willamette Street to OR 219)
- Bicycle facilities identified in the Chehalem Heritage Trails Master Plan, within Newberg, should be considered for potential bicycle treatments (i.e. bike lanes, shared use paths, etc.).
- Bike parking should be considered at key destinations such as the commercial area on OR 99W in downtown Newberg, and in future development areas.

(INSERT FULL PAGE) - Figure 3B: Bicycle Use and Facilities



Transit Needs

Transit service is currently provided in Newberg by Yamhill County Transit Area (YCTA), which provides two fixed bus routes connecting Newberg to destinations along the OR 99W corridor, including McMinnville, Newberg, Sherwood, and Tigard (routes 44/46S/45X). YCTA also provides Americans with Disabilities Act (ADA) dial-a-ride service and two routes within Newberg (routes 5 and 7). The following are future considerations as Newberg grows:

- Route 44/46S/45X, a commuter service with limited stops along OR 99W between McMinnville and Tigard, stops at three locations in Newberg (Safeway, J's Restaurant and Naps Thriftway). Improvements to provide comfortable pedestrian crossings and amenities should be considered in coordination with YCTA.
- Bus stops should be clearly identifiable, with amenities provided, such as shelters and information, where appropriate. Prominent stops help increase local awareness of transit options, and can enhance the street environment.
- Routes 5 and 7 provide local service within Newberg. Expansion of the transit network, and potentially these routes in particular, should be considered for new urban growth areas, particularly in the northeast and southeast parts of town. Connections to transit will be vitally important in southeast Newberg area where both households and employment are expected to grow significantly.
- All current routes provide infrequent service with one to two-hour headways between 6:00 AM. and 7:00 PM Monday through Friday. Route 44 also makes four trips between 8:00 AM and 7:00 PM Saturday.

Freight Needs

ODOT classifies OR 99W as a freight route through the City of Newberg. Currently, truck freight movements in Newberg involve shipments both to and from locations in the City, and shipments that pass through the City, mainly on OR 99W, and also on OR 219 and OR 240. Heavy vehicles typically represent three percent or less of the PM peak traffic in Newberg. With the construction of the Newberg-Dundee bypass, many of the through truck trips will likely be diverted onto the bypass rather than using OR 99W. However, the southeast Newberg area is expected to attract commercial and industrial development, so local truck traffic may increase in Newberg through 2035.

Development in the southeast Newberg area should be designed to accommodate significant freight traffic. Turning radii and pavement design will be important along any future freight routes. Access points into this area should be evaluated for their appropriateness for freight, particularly turning movements, and designed and/or upgraded to accommodate truck traffic.

Transportation System Management and Operations Needs

Access Management

An existing access inventory was conducted along OR 99W. Almost all segments of OR 99W have more driveway and public street approaches than allowed under the applicable ODOT spacing

standard. The stretch from Elliott Road to College Street is particularly dense with driveways. As properties along OR 99W are redeveloped and streetscape improvements are made, accesses should be removed or consolidated in order to move toward the standard.

Demand Management

Currently, 74 percent of Newberg's residents commute to work in single occupancy vehicles despite the various travel options available. One option for encouraging other travel options, such as bicycling or transit, is to market the amenities available to commuters heading to McMinnville or the Portland Metro Area. Wayfinding signage and pavement markings along future routes, including times and distances to key destinations can help promote nonmotorized travel. As new employers open for business in the southeast Newberg area, there may be opportunities to market transit, walking, and biking as travel options to and from the area.

Air, Rail, Pipeline and Water Needs

No system needs have been identified for Newberg's waterway or pipeline systems through 2035. Upgrades to Sportsman Airpark, including extending the runway, have been identified as air needs.

The Willamette & Pacific Railroad (WPRR) operates a rail line that runs parallel to OR 99W through Newberg. The line is currently used for freight movement, and has one train operating daily in each direction with up to two smaller trains operating periodically. A spur from this line is located along Blaine Street and crosses the OR 99W couplet. There are no passenger rail services on this line currently, but the integrity of existing rights-of-way should be preserved in order to retain and enhance passenger and freight transportation options in the future.

What if the Future is Different than we Thought?

The needs identified in this report are tied to assumptions about the future of Newberg (such as level of growth and development of the transportation network) using the 2035 Base Scenario. Solutions and future projects to address the needs identified in this report will be primarily based on these forecasted conditions.

A sensitivity analysis was performed to determine the general areas and magnitude of impact that future changes could bring. This section highlights the general impacts under three different scenarios. While these scenarios are not analyzed in the same detail as the year 2035 Base Scenario, they will be considered as future transportation improvements are considered and prioritized.

The following combinations of scenarios were considered:

- Full Bypass (Extend the bypass east of Springbrook Road to connect to OR 99W)
- UGB/URA Expansion (Development of land in 2007 proposed URA boundary)
- Full Bypass and UGB/URA Expansion (combination of previous scenarios)

The following sections summarize the general impacts of these scenarios relative to the 2035 Base Scenario.

Full Bypass

The full Newberg-Dundee Bypass would extend from the Phase 1 terminus at Springbrook Road eastward to connect to OR 99W near Corral Creek Road. West of Newberg, the bypass would add an interchange to provide access near Fox Farm Road on the north side of Dundee. The bypass would also be extended beyond the Phase 1 southern/western terminus on the south side of Dundee to reach Dayton. The full bypass would include two lanes in each direction, which is wider than the Phase 1 width of 1 lane in each direction. Figure 4 shows the general trends that could result from this scenario:

- Overall the bypass would become a more attractive route. The bypass (with increased length and capacity) would serve additional traffic.
- The largest magnitude of change would occur east of Springbrook Road. The extended bypass alignment would serve both trips added to the bypass trips as well as remove Phase 1 bypass trips from the adjacent street network (OR 99W and roadways connecting to the Phase 1 terminus at Springbrook Road)
- West of Springbrook Road, the original (Phase 1) portion of the bypass would also serve additional traffic due to the increased attractiveness of the full bypass route. The parallel OR 99W route through the couplet would have less traffic.
- Study intersections impacted by this scenario include two general groups: those along OR 99W (less traffic) and those located north of OR 99W (less traffic).

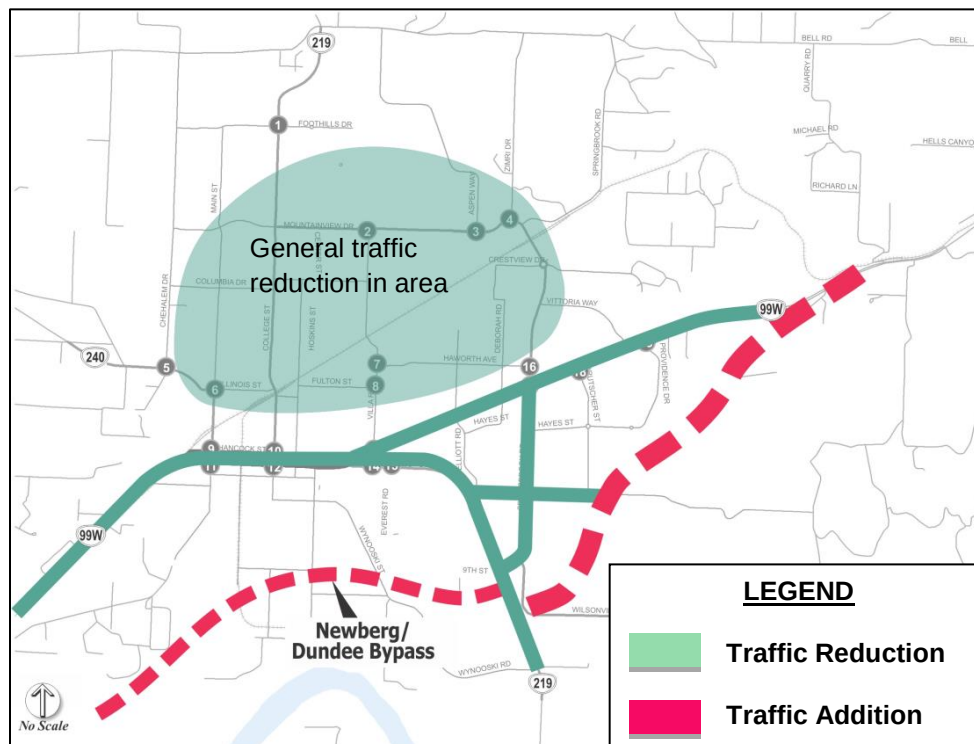


Figure 4: General Impacts of Full Bypass Extension

UGB/URA Expansion

An expansion of the URA was proposed in 2007 that identified potential growth areas that could someday provide future locations for development. These areas were not adopted in 2007 but were explored as a potential future scenario to determine high level impacts to the transportation system. The scenario included approximately 350 additional houses and 1,700 additional jobs above the 2035 Base Scenario, generally located around the eastern edge of Newberg. Figure 5 shows the potential trends that could occur with such development:

- The magnitude of traffic shifts and growth due to this scenario are not as large as the Full Bypass Extension that was explored in the previous scenario.
- Traffic growth would be greatest in the southeast area of the city, adjacent to growth areas.
- Due to shifting trip-making associated with different options, the additional growth in the URA may attract some trips that would otherwise be associated with areas in northern Newberg. Therefore, traffic growth may have minor decreases in areas north of OR 99W.
- Additional traffic in the southeast area could deter through traffic from travelling between OR 99W east of Newberg and the bypass without additional enhancements to mobility through the area (or the full bypass). Without additional enhancements, bypass volumes may slightly reduce while traffic traveling through the downtown core on the existing OR 99W alignment may increase.

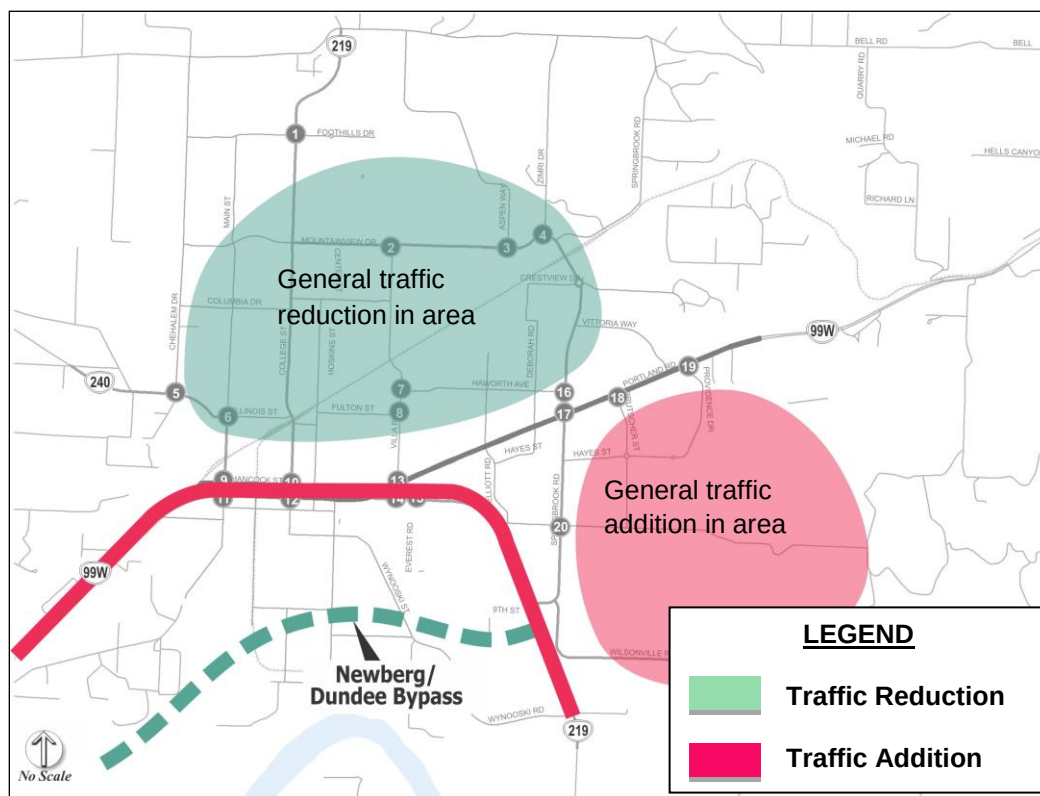


Figure 5: General Impacts of UGB/URA Expansion

Full Bypass and UGB/URA Expansion

The combination of the previous two scenarios (full Newberg-Dundee Bypass and UGB/URA expansion) was explored as a third scenario. Due to the relative impacts of the previous two scenarios (as noted, the Full Bypass scenario would shift a greater magnitude of traffic), the combined scenario would look very similar to the Full Bypass scenario. That is, the addition of the UGB/URA growth areas would not significantly change the general trends that were identified in the Full Bypass scenario. The same general trends (shown in Figure 6) would be identified in this scenario:

- The bypass would become a more attractive route.
- The largest magnitude of change would occur on the bypass east of Springbrook Road.
- West of Springbrook Road, the original (Phase 1) portion of the bypass would also serve additional traffic.
- Study intersections would generally experience a reduction in overall traffic demand.

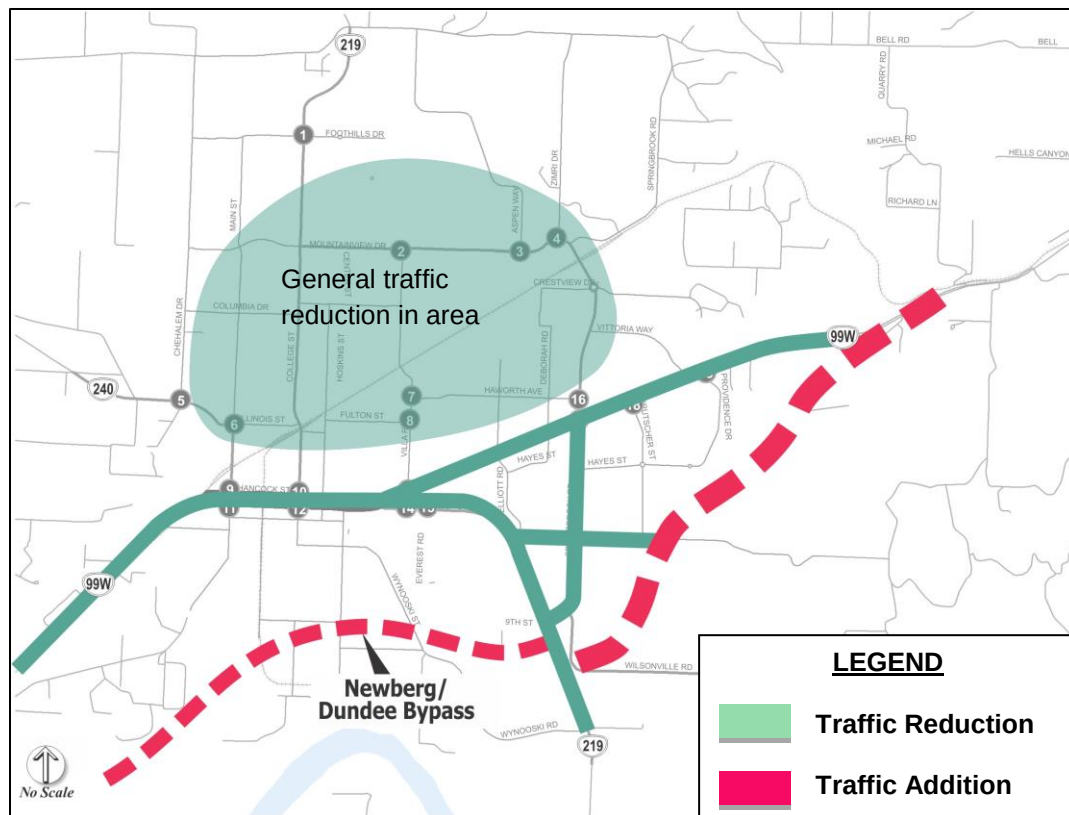
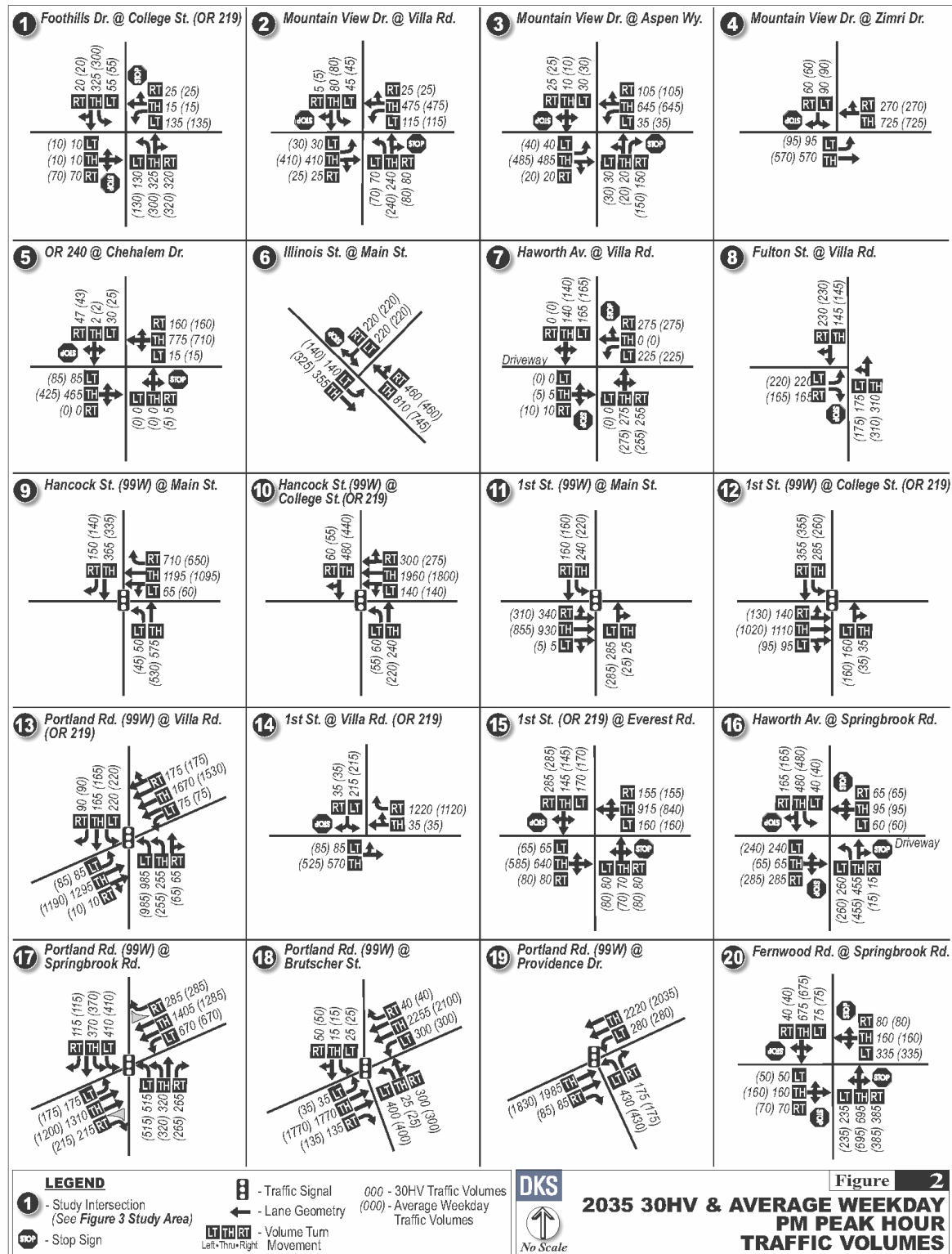


Figure 6: General Impacts of Combined Full Bypass Extension and UGB/URA Expansion

ATTACHMENTS

Figure 2 – Traffic Volumes



NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



MEMORANDUM

DATE: March 26, 2014

TO: Newberg TSP Project Management Team

FROM: Carl Springer
Garth Appanaitis
Anastasia Roeszler

SUBJECT: **Newberg TSP Update**
Tech Memo 7 Stakeholder Interview Summary

P# 11086-005-004

DKS Associates conducted eight stakeholder interview sessions in March 2014 to gain feedback on transportation issues and potential solutions in Newberg. This memo summarizes the interview process and input provided during the interviews, including recommendations for potential projects.

Interview process and participants

Participants were selected to complement the input that the Project Advisory Committee provides. The following stakeholders were interviewed:

1. Mike Ragsdale, Newberg Downtown Coalition
2. Don Clements, Chehalam Park and Recreation District
3. Jamie Morgan-Stasny, Metropolitan Land Group
4. Scott Steckley, Chehalem Diversified (Commercial Development)
5. Joe Kavale, Springbrook Properties
6. Ryan Howard, Newberg City Councilor
7. Mike Antrim, Providence
8. Larry Anderson former City Engineer and Robert Soppe, former City Councilor

Each interview lasted between 30 minutes and 1 hour. The purpose of the interviews was to hear from participants about their reactions to the Future Needs findings and to get further ideas about the needs of the community.

Interview Feedback

Themes and highlights from the interviews are summarized in the following sections by topic.



Downtown Newberg

Many stakeholders expressed support for a strong downtown and the need for economic development to keep downtown viable. Some stakeholders were supportive of two-way conversion downtown, and some were skeptical. Stakeholders had several ideas to revitalize downtown, including:

- Make Hancock two-way and moving the couplet to 2nd Street
- Remove the right turn lane at Hancock and Main Street and add back-in angled parking
- Road Diet
- Revisiting land uses to allow residential above at-grade retail
- Removing some retaining walls to restore front access to converted homes now used for retail

The Newberg Downtown Coalition is launching a community outreach initiative and has received a grant to develop a Downtown Vision Plan. The plan will look at several transportation-related issues, such as road diet, two-way conversion, and parking.

There was some concern about the fate of downtown Newberg after the Newberg-Dundee bypass opens, and stakeholders mentioned that wayfinding will be critical to let people on the bypass know that there is a vibrant downtown. Wayfinding to downtown retail should be installed at Highway 99W and OR 219 decision points.

Newberg-Dundee Bypass

Many stakeholders expressed concern about some issues related to the Newberg-Dundee Bypass, both the section that is under construction, and Phase 2, which is planned but unfunded.

Phase 1

Some stakeholders mentioned and were supportive of a TIGER Grant proposals to fix the “fishhook” interchange south of Dundee, add a free-flow right turn on OR 219, and add shared-use path connections. Stakeholders were not generally supportive of the proposal to fix the connection with Wilsonville Road since they felt that drivers were not likely to take that route anyway.

Phase 2

Several stakeholders were extremely concerned about Phase 2 of the bypass. The proposed alignment of Phase 2 is located partially within the UGB on very developable land, so it is possible that development will occur on the proposed alignment before the bypass is funded. Phase 2 will be much more difficult to build if this land has been developed. Stakeholders are concerned that if the bypass is not built several intersections, particularly Highway 99W and Springbrook Rd, will not meet standards and there will be no funding available to fix them.

Several stakeholders expressed the need for the Phase 2 bypass alignment to be preserved. One idea was for the City to build an arterial through the proposed bypass alignment to “hold the place” for the future bypass. There was previously work done to study connecting Corral Creek Road with Highway 99W, and this could be an option for an arterial connection, but this would require an expansion of the UGB.

Some stakeholders expressed frustration with the City’s planning decisions regarding the bypass, and believed that some decision makers are not taking the future traffic problems seriously enough. There was an expressed

interest in creating an animated model or other visual tool showing future traffic problems, and an interest in more cooperation between the City Council, Planning Commission, City staff, and ODOT to discuss Phase 2 of the bypass and mitigation costs if it is not built.

Some stakeholders expressed concern about the Benjamin Road intersection once Phase 2 of the bypass is built. The bypass will close access to Benjamin Road on Highway 99W, so it will need to be rerouted to intersect with the Crestview Drive extension. The Crestview Drive extension is developer driven, so it is uncertain whether or not it will be completed when the bypass is completed.

Safety Issues

Stakeholders mentioned specific safety issues and ideas for improvement. These are summarized as follows:

- The College Street and Illinois Street intersection is too close to the rail line and left turning vehicles cause traffic to back up onto the railroad tracks.
 - Potential Solution: Bar left turns onto Illinois Street or add a bypass lane for through traffic
- The Villa Road and Mountainview Drive intersection has poor sight distance due to vegetation and topography.
 - Potential Solution: The city could purchase some right of way on corner and remove the vegetation and fence.
- The Fernwood Road and Springbrook Road intersection has safety issues
 - Add a traffic signal (as noted in the previous TSP)
- Traffic calming measures on Meridian

Mobility Issues

Stakeholders mentioned specific mobility issues in Newberg and some ideas for improvement, including:

- Heavy queuing at Springbrook Road near Fred Meyers. Traffic will get worse when land on the northwest corner redevelops.
- Changes to signal timing at Highway 99W and Villa Road have created long queues on northbound Villa Road. The left turn in particular backs up down the street and around the corner, and the change from a leading to lagging left turn seems to have made the problem worse.
 - Explore retiming the signal again
 - Add a lane on 99W for free movement of southbound right turn
- Wayfinding on 1st Street/OR 219
 - Add wayfinding letting drivers know that they need to use Villa Road to turn left on Highway 99W
- OR 219 needs four lanes to accommodate future traffic
- After the bypass is built, the Hayes Street and Brutscher Street intersection may experience heavy traffic cutting through the neighborhood to avoid traffic problems on Springbrook.
 - Address this intersection in the TSP
- Signals on 99W may deter some people from taking the highway – take Bell Road instead

- Connect Crestview to Highway 99W at Providence Drive

Biking and Walking

Many stakeholders expressed support for improve bicycling and walking conditions in Newberg. Stakeholder suggestions for biking and walking projects are summarized as follows:

- College Street - Add curbs, gutters, sidewalks, and storm drains
- Meridian Street – Future bike facility
- OR 219 – Add bike lanes and sidewalks on north side
- Improve shared-use path connectivity on the east end of the city
- Improve pedestrian crossings on Highway 99W
- Springbrook, Crestview, and Chehalem Creek are potential high quality crossing locations
- Add curb extensions for pedestrians
- Third trail connection from Newberg to Dundee along the River
- Connect community to River and Roger’s Landing by providing a high quality connection over Hess Creek
- Hess Creek would be an ideal place for a trail crossing of Highway 99W
- Safe Routes to School
- Dundee Yamhill Trail Connection
- Trail system along Highway 99W
- Springbrook path could be alternate north-south route to 219
- Trails along OR 219 to connect to Champoeg State Park
- All trails will need quality crossings over major roads
- Bicycle and Pedestrian connection from Springbrook to downtown
- Equestrian/walkway/bikeway to Wilsonville Road
- Pursue trails bond

Transit Issues

Stakeholders mention these transit issues:

- There isn’t much regional connectivity
- Would like to see better transit service

General Transportation Issues

Stakeholders mentioned these general transportation issues:

- Road surface conditions are poor, especially on the south side of the city – need a strategy to improve maintenance of the existing system
- Springbrook Road between Highway 99W and Crestview and Villa Road need maintenance
- Pedestrians are not accustomed to the actuated pedestrian signals recently installed along Highway 99W
- Hess Creek is a barrier to connectivity



- Add electric vehicle charging stations to city
- Provide more flexibility for developers in City standards

Transportation Funding

Several stakeholders mentioned the potential for a street fee for road maintenance and transportation funding as an alternative for the gas tax. There is also a possibility that with the Columbia River Crossing shelved, there may be more state funds available for transportation projects.

There was concern about the City's System Development Charges (SDC) fund, especially with regard to collection and expenditure of SDC fees, project cost estimation, and identified likely funding options.

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



MEMORANDUM (DRAFT)

DATE: August 5, 2015

TO: Newberg TSP Project Management Team

FROM: Carl Springer, Garth Appanaitis, Anastasia Roeszler

SUBJECT: **Newberg TSP Update** | Tech Memo 8 Alternative Evaluation (Draft)

P# 11086-005-004

The purpose of this memorandum is to identify transportation system alternatives and evaluate the solutions using the evaluation criteria based on Newberg's transportation goals. The alternatives address ways to improve existing and new transportation facilities and services, including different modes or combination of modes that could reasonably meet identified transportation needs in the community. This memorandum summarizes the general evaluation process and identified transportation alternatives.

Developing the Project List

In the past, a typical transportation planning response to congestion was to expand streets, creating significant barriers to walking and biking and detracting from the livability, health, safety, and fiscal wellbeing of the community. The approach for this TSP update places more value on connectivity and access, and takes a multi-modal network-wide approach to identifying transportation system solutions. This approach, consistent with statewide planning policies, enables more cost-effective solutions to improve transportation system operations and helps to encourage multiple travel options, increase street connectivity, and promote a more sustainable transportation system. In order to accomplish this task, the project list was developed using the process shown in Figure 1, which includes the following components:

- **Evaluation Criteria Identification** – Develop criteria for evaluating potential projects based on Newberg's transportation goals and vision
- **Need Identification** – Identify transportation system needs based on existing and projected deficiencies
- **Solution Identification** – Identify potential solutions to address needs based on prior planning and public feedback
- **Apply Evaluation Criteria** – Evaluate potential solutions using the identified evaluation criteria
- **Preliminary Project List** – Identify the preliminary project list based on the outcome of the project evaluation process

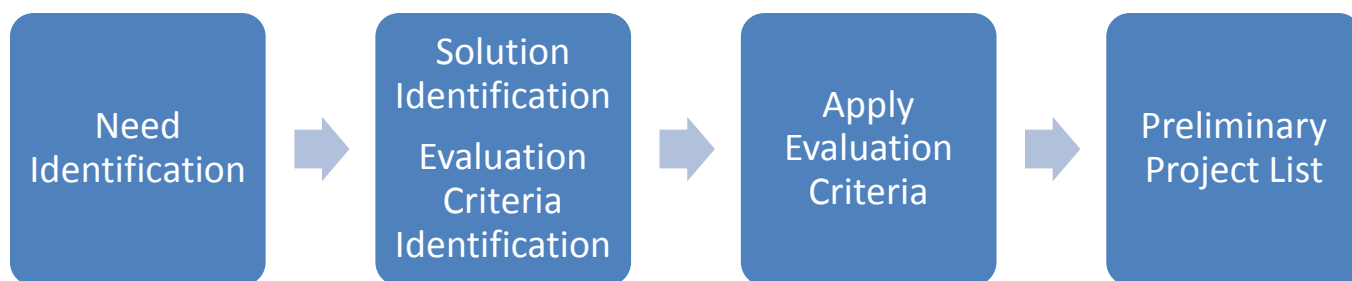


Figure 1: Evaluation Process

Transportation system needs were identified previously during the TSP Update¹. The following sections describe the evaluation criteria that was selected and applied to potential transportation projects to identify the preliminary project list.

Evaluation Criteria

The transportation goals identified in *TM #3 Goals, Objectives, and Criteria* were carried forward from the previous TSP along with several new goals identified by the project team. The transportation goals and policies were grouped by common theme and used to develop the following evaluation criteria:

- Economic Development
- Sustainability
- Health and Safety
- Equity
- Fiscal Responsibility

Full text descriptions of the goals and evaluation criteria are included in the appendix.

Evaluation Methodology

Project alternatives were compared by summing the ratings for each potential project. Ratings for each criterion were based on a five-point scale, from +2 to -2, with +2 generally representing a clear positive impact relative to the criterion, and -2 representing a clear negative impact relative to the criterion. A score of 0 typically represents no impact on the criterion, and +1 and -1 represent minor positive and negative impacts. A maximum score of 10 could be achieved for each project, but project scores are intended to be compared relative to other projects within the same general category. Table 1 provides an example of how the Economic Development criterion, which arises from the Economic Development goal, was applied. The criteria and related scoring parameters generate an aggregate score that reflects each project's effectiveness in addressing the TSP's goal areas.

¹ Tech Memo #4 (Existing Conditions) and Tech Memo #6 (Future Needs) identified transportation system deficiencies.

Table 1: Evaluation Criteria and Scoring Methodology Example

Evaluation Criteria		Evaluation Score	
Economic Development Maintain or improve access to existing properties and employment areas; improve freight traffic and/or minimize downtown trips for through traffic; have minimal impact on adjacent properties.	+2	Improves economic development system wide.	
	+1	Improves economic development in a limited area.	
	0	No change	
	-1	Detracts from economic development in a limited area.	
	-2	Detracts from economic development system wide.	

Project Evaluation

The following sections contain proposed solutions that were identified through previous planning efforts (Newberg TSP, Newberg-Dundee Bypass planning, etc.) and community feedback (meetings, stakeholder interviews, and the Citizen Advisory Committee). Each solution was evaluated individually using the goals and objectives criteria identified in the previous section. Project scores are included in the appendix.

Projects are grouped into the following subcategories based on the general type of solution:

- Transportation System Management and Operations
 - Standard and Safety Projects – Incorporate safety elements or bring to design standard
 - Intersection Projects – Manages system through focused improvement
- Modal Improvements to Reduce Driving Demand
 - Pedestrian Projects – Projects that connect or enhance pedestrian system to make walking more viable.
 - Bicycle Projects – Projects that connect or enhance bikeway system to make cycling more viable.
 - Transit Projects – Projects that improve amenities for transit or improve transit accessibility.
- Motor Vehicle System Expansion
 - Expansion Projects – New or extended roads that may improve mobility and/or attract traffic from adjacent roads.
- Beyond 2035 - Long-Term Network Vision
 - Full Phase Bypass Projects – Projects identified through prior planning as components within the full phase construction of the Newberg-Dundee bypass. While these projects were not evaluated through this process, they are included here for tracking as part of the complete transportation system plan.
- Downtown Circulation Concepts
 - General circulation and road diet concepts for the downtown area. Additional information is provided in the Downtown Operations Memo (Appendix)



Transportation System Management and Operations

Transportation System Management and Operations (TSMO) is a set of integrated transportation solutions for improving the performance of existing transportation infrastructure through a combination of system and demand management strategies and programs. This focus on low cost strategies enhances operational performance of the transportation system. Measures that can optimize performance of the transportation system include signal improvements, intersection channelization, access management, rapid incident response, and programs that smooth transit operation. The most significant measure that can provide tangible benefits to the public is traffic signal system improvements since these directly address intersection bottleneck locations.

Standards and Safety Projects

Standards and Safety projects are those that involve adding safety elements such as traffic calming measures to existing roadways, or bringing existing roadways up to current roadway classification standards, but that do not include adding additional lanes or expanding the roadway network. The Standards and Safety Projects are shown in Figure 2. Standards and Safety projects outside of the UGD may be completed by the City after the area is annexed, or may be the responsibility of Yamhill County.

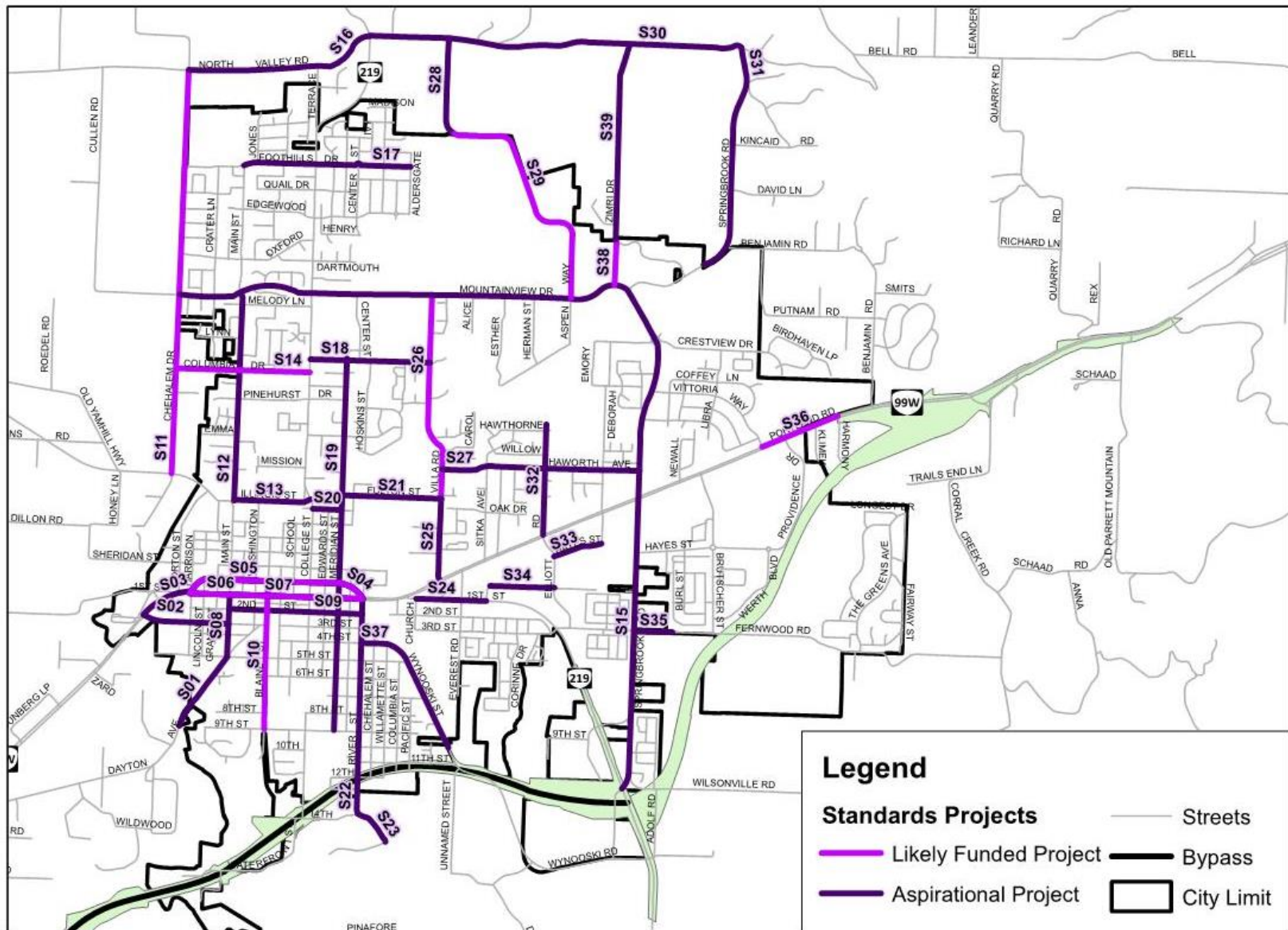


Figure 2: Standards and Safety Projects

Table 2 provides project descriptions for the projects illustrated in Figure 2. Each Standard and Safety project was evaluated using the scoring criteria developed by City staff. Based on the evaluation score and the funding available for Standards and Safety projects, each project was rated Likely or Not Likely to be funded.

Table 2: Standards and Safety Projects

Project #	Project Name	Project Description	Initial Evaluation Status
S01	Dayton Ave Collector Improvement	Reconstruct Dayton Avenue to major collector street standards between 5th Street and Newberg city limits to include sidewalks and bicycle lanes on each side of Dayton Avenue	Not Likely
S02	3rd St Collector Improvement	Reconstruct 3rd Street to minor collector street standards between OR 99W and Main Street to include sidewalks and on-street parking on each side of 3rd Street	Not Likely
S03	OR 99W Arterial Improvement	Reconstruct OR 99W to major arterial street standards between Harrison Street and 3rd Street to include sidewalks and bicycle lanes on each side of OR 99W.	Not Likely
S04	Downtown Street Redevelopment	Pedestrian enhancements such as improved crossings, wider sidewalks, and curb extensions should be considered on 1st St and Hancock St in the downtown	Not Likely
S05	Remove RT Lane on Hancock	Remove right turn lane onto Main St, add back-in diagonal parking	Not Likely
S06	Downtown Two-Way Conversion	Convert Hancock St and 1st St to two-way	Not Likely
S07	Downtown Road Diet	Remove one lane each from Hancock St and 1st St	Likely
S08	S Main St Collector Improvement	Reconstruct to major collector street standards between 1st St and 5th St to include sidewalks and bicycle lanes on each side.	Not Likely
S09	2nd St Collector Improvement	Reconstruct 2nd St to major collector street standards between Main St and River St to include sidewalks, bicycle lanes, and on-street parking on each side of 2nd Street	Not Likely
S10	Blaine St Collector Improvement	Reconstruct Blaine St to major collector street standards between Hancock St and 9th St to include sidewalks and bicycle lanes on each side of Blaine Street.	Likely
S11	Chehalem Dr Collector Improvement	Reconstruct Chehalem Dr between OR240 and North Valley Rd to major collector street standards to include bicycle lanes and sidewalks on both sides of the street. Yamhill County and City of Newberg jurisdictions.	Likely

Project #	Project Name	Project Description	Initial Evaluation Status
S12	N Main St Collector Improvement	Reconstruct to full major collector street standards between Illinois St and Mountainview Dr to include sidewalks and bicycle lanes on each side of Main St.	Not Likely
S13	Illinois St Collector Improvement	Reconstruct Illinois St between Main St and College St to major collector street standards to include on-street parking, bicycle lanes, and sidewalks on each side of the street.	Not Likely
S14	Columbia Dr Collector Improvement	Reconstruct Columbia Dr between Chehalem Dr and College St to minor collector street standards to include a travel lane in each direction, and sidewalks and on-street parking on both sides	Likely
S15	Ore 219 Rerouting	Rerouting of Ore 219 through Newberg.	Not Likely
S16	North Valley Rd Collector Improvement	Reconstruct North Valley Rd to major collector street standards between College St and Chehalem Dr to include sidewalks and bicycle lanes on each side of North Valley Rd.	Not Likely
S17	Foothills Dr Collector Improvement	Reconstruct to major collector street standards between Main St and Aldersgate Dr to include sidewalks and bicycle lanes on each side.	Not Likely
S18	Crestview Dr Collector Improvement	Reconstruct Crestview Dr to minor collector street standards between College St and Villa Rd to include sidewalks and on-street parking.	Not Likely
S19	Meridian St Traffic Calming	Meridian St Traffic Calming	Not Likely
S20	Vermillion St Collector Improvement	Reconstruct Vermillion St between Meridian St and College St to major collector standards to provide bicycle lanes and sidewalks on each side of the street.	Not Likely
S21	Fulton St Collector Improvement	Reconstruct Fulton St between Meridian St and Villa Rd to major collector standards, providing bicycle lanes and sidewalks on each side of the street.	Not Likely
S22	River St Collector Improvements	Reconstruct to major collector street standards between 1st St and Rogers Landing Rd to include sidewalks and bicycle lanes	Not Likely
S23	Rogers Landing Rd Collector Improvement	Reconstruct Rogers Landing Rd to major collector street standards between River St and the Willamette River to include sidewalks and bicycle lanes on each side of the street.	Not Likely
S24	Villa Rd Wayfinding	Improve wayfinding on OR219 directing traffic bound for 99W onto Villa Rd	Not Likely
S25	Villa Rd Collector Improvement	Reconstruct Villa Rd to major collector street standards between OR 99W and Fulton St to include sidewalks and bicycle lanes on each side of Villa Rd.	Not Likely
S26	Villa Rd Collector Improvement	Reconstruct to major collector street standards between Fulton St and Crestview Dr to include sidewalks and bicycle lanes on each side of Villa Rd.	Likely

Project #	Project Name	Project Description	Initial Evaluation Status
S27	Haworth Ave Collector Improvement	Reconstruct Haworth Ave to major collector street standards between Villa Rd and Springbrook St to include sidewalks and bicycle lanes on each side of Haworth St.	Not Likely
S28	Villa Rd Collector Improvement	Reconstruct Villa Rd to major collector street standards between Aspen Way and Bell Rd to include sidewalks and bicycle lanes on each side of Villa Rd.	Not Likely
S29	Aspen Way Collector Improvement	Reconstruct Aspen Way to minor collector standards between Villa Rd and Mountainview Dr to include sidewalks and on-street parking on each side of Aspen Way	Likely
S30	Bell Rd Collector Improvement	Reconstruct Bell Rd to major collector street standards between College St and Springbrook St to include sidewalks and bicycle lanes on each side of Bell Rd.	Not Likely
S31	Springbrook St Collector Improvement	Reconstruct Springbrook to major collector standards between Mountainview and Bell Road,	Not Likely
S32	Elliott Rd Collector Improvement	Reconstruct to full, major collector street standards between OR 99W and Newberg High School to include sidewalks and bicycle lanes on each side of Elliot Rd.	Not Likely
S33	Hayes St Collector Improvement	Reconstruct Hayes Street to minor collector street standards between Elliott Road and Deborah Street to include sidewalks and on-street parking on each side of Hayes Street	Not Likely
S34	Hancock Street - Local Improvement	Reconstruct Hancock between Sitka and Elliot to include sidewalks and on-street parking on each side.	Not Likely
S35	Fernwood Rd Collector Improvement	Reconstruct Fernwood Rd between Springbrook St and Creek to major collector standards to include bicycle lanes and sidewalks on each side of the street	Not Likely
S36	OR 99W Arterial Improvement	Reconstruct OR 99W to major arterial street standards between Vittoria Way and Harmony Ln to include sidewalks and bicycle lanes on each side of OR 99W.	Likely
S37	Wynooski St Collector Improvement	Reconstruct Wynooski Street to major collector street standards between River Street and Bypass to include sidewalks and bicycle lanes on each side of Wynooski Street	Not Likely
S38	Zimri Dr Collector Improvement - in UGB	Improve Zimri Dr within the UGB to major collector standards, providing bicycle lanes and sidewalks on each side of the street	Likely
S39	Zimri Dr Collector Improvement - outside UGB	Improve Zimri Dr from UGB to Bell Rd to major collector standards, providing bicycle lanes and sidewalks on each side of the street	Not Likely

Intersection Projects

Twenty intersections (summarized below and shown in Figure 6) were identified for focused traffic analysis and capacity needs through the development of the TSP. Potential improvements were evaluated to address intersection traffic control needs and traffic mobility at these locations for 2035 traffic demand. Potential intersection projects include changes to traffic control at an intersection, including the addition of a traffic signal, geometry changes, or the addition of diverters or median islands. Proposed new traffic signals must meet traffic signal warrants as provided in the Manual on Uniform Traffic Control Devices (MUTCD). A preliminary warrant analysis is provided for the proposed traffic signals in the appendix.

1) Foothills Dr / Hillsboro-Silverton Hwy (OR 219)

As growth traffic volumes increase due to growth on OR 219 and development of northern Newberg, the average delay would increase for vehicles on Foothills Drive. The intersection would not meet ODOT mobility targets, but also would not meet traffic signal warrants for a future traffic signal. The addition of turn lanes would not significantly improve the conditions at this location. A roundabout would improve mobility at the intersection to meet ODOT targets, but there may be impacts to adjacent right of way. Future coordination with ODOT is needed to determine if a roundabout could be a viable solution and determine full impacts to right of way.

2) Mountainview Dr / Villa Rd

The future extension of Villa Rd to the north of Mountainview Dr and other growth in north Newberg would increase traffic through the intersection and the need for intersection improvements. The addition of a traffic signal and left turn lanes for all approaches would allow the intersection to meet Newberg intersection mobility targets and provide refuge stopped left-turn traffic waiting for gaps in the oncoming traffic stream.

3) Mountainview Dr / Aspen Wy

Future growth in northern Newberg will increase traffic volumes along both Mountainview Drive and Aspen Way, causing vehicle delay to increase on Aspen Way and not meet Newberg's mobility targets. The addition of turn lanes would only provide nominal improvement and the intersection would continue to not meet Newberg mobility targets. Additionally, the intersection would not meet traffic signal warrants since traffic on Aspen Way would be low volume. This location should continue to be monitored as adjacent areas develop to determine if a traffic signal does become warranted depending on future growth patterns.

4) Mountainview Dr / Zimri Dr

Future traffic growth at the intersection will increase the delay for southbound vehicles turning left from Zimri Drive. However, the location is not projected to meet traffic signal warrants due to the low traffic volumes from Zimri Drive. The addition of a southbound left turn lane would provide nominal relief for the intersection mobility. This location should continue to be monitored as adjacent areas develop to determine if a traffic signal does become warranted depending on future growth patterns.

5) Yamhill-Newberg Hwy (OR 240) / Chehalem Dr

The intersection is projected to meet ODOT mobility targets in 2035 without additional improvements.

6) Illinois St / Main St (OR 240)

This location would not meet mobility targets in year 2035, due to the unique configuration and traffic growth on OR 240 and within Newberg. This location currently meets mobility targets. Due to the unique nature of the configuration, and potential sensitivities to regional and/or local growth patterns, a future solution should be determined based on actual growth patterns. It is recommended to perform a future study to determine appropriate intersection improvements to address future safety and mobility needs triggered by future growth. Possible alternatives could include traffic signal, roundabout, or four-way stop control. Realignment of the intersection may be required; alternatively, closure of either the north or east approach may be considered. Potential improvements to be determined.

7) Haworth Ave / Villa Rd

The vertical and horizontal curve north of Haworth may limit sight distance for traffic approaching stopped vehicles in the southbound direction at Haworth Ave. Adding additional turn lanes on Villa Rd (southbound left turn and northbound right turn) would improve the mobility and provide refuge for turning vehicles, but the intersection would still not meet Newberg mobility standards with these improvements. Traffic volumes at this location would not warrant a traffic signal due to the high share of right turning vehicles from Haworth Ave. This location faces similar challenges to the intersection to the south at Fulton St.

8) Fulton St / Villa Rd

The intersection would not meet Newberg mobility standards due to the high delay on Fulton Street. However, the traffic on Fulton Street would not meet warrants for adding a traffic signal. Adding an additional northbound left turn lane would improve capacity at the intersection but would still not meet mobility standards. This improvement would also provide a safe refuge for vehicles making a northbound left turn movement by removing them from the traveled way. While this intersection is not projected to meet traffic signal warrants through the planning horizon, it should continue to be monitored as future growth occurs.

9) Hancock St (OR 99W) / Main St

This location would meet ODOT mobility targets with the existing intersection configuration. However, the operations and potential improvements at this location will be determined pending findings from the Newberg Downtown Improvement Plan, additional coordination with ODOT, and a decision on overall downtown circulation concept and design. The downtown circulation section and appendix contain additional information about potential concepts.

10) Hancock St (OR 99W) / College St

This location would not meet ODOT mobility targets with the existing intersection configuration. However, the operations and potential improvements at this location will be determined pending findings from the Newberg Downtown Improvement Plan, additional coordination with ODOT, and a decision on overall downtown circulation concept and design. The downtown circulation section and appendix contain additional information about potential concepts.

11) 1st St (OR 99W) / Main St

This location would meet ODOT mobility targets with the existing intersection configuration. However, the operations and potential improvements at this location will be determined pending findings from the Newberg Downtown Improvement Plan, additional coordination with ODOT, and a decision on overall downtown circulation concept and design. The downtown circulation section and appendix contain additional information about potential concepts.

12) 1st St (OR 99W) / College St

This location would meet ODOT mobility targets with the existing intersection configuration. However, the operations and potential improvements at this location will be determined pending findings from the Newberg Downtown Improvement Plan, additional coordination with ODOT, and a decision on overall downtown circulation concept and design. The downtown circulation section and appendix contain additional information about potential concepts.

13) Portland Rd (OR 99W) / Villa Rd (OR 219)

This intersection is generally built out and has multiple turn lanes at each approach (except the eastbound right turn lane which is not needed since traffic can bypass the intersection using 1st Street). However, it will not meet ODOT mobility targets due to the volume of traffic at the intersection. Additional widening would increase crossing distances for pedestrians and bicyclists and is not recommended. This intersection, along with other locations along OR 99W east of downtown, ultimately need the extension of the Bypass east of OR 219 to provide relief to OR 99W. Alternative mobility standards likely need to be pursued.

14) 1st St / Villa Rd (OR 219)

Pending the addition of a traffic signal at 1st Street (OR 219) / Everest Road, traffic control at this location may need to be modified to maintain mobility along OR 219 and the function of traffic flow through the adjacent traffic signals. These measures could include adding stop control to the eastbound approach and removing stop control from the southbound approach. In addition, turn restrictions that limit movements to right in-right out from the west leg of 1st Street may be required. All future improvements will need to be coordinated with ODOT.

15) 1st St (OR 219) / Everest Rd

A traffic signal is programmed for this location to be included with the Bypass Phase 1 improvements. Additional improvements may be needed at the adjacent intersection of 1st/Villa in order ensure mobility along OR 219.

16) Haworth Ave / Springbrook Rd

This intersection currently operates as all-way-stop-control at the confluence of Haworth Avenue and the retail access. Future traffic growth will increase delay and cause the intersection to require a traffic signal. Due to the proximity to OR 99W, the traffic signals may require coordination to preserve mobility and function. Left turn lanes on the Haworth Avenue and shopping center access would also be needed to improve traffic operations to meet Newberg standards.

17) Portland Rd (99W) / Springbrook Rd

This intersection is programmed to have additional widening to support the Bypass Phase 1. However, while the intersection will be fairly built out (including multiple turn lanes at all approaches), it will not meet ODOT

mobility targets due to the volume of traffic at the intersection. Additional widening would increase crossing distances for pedestrians and bicyclists and is not recommended. This intersection, along with other locations along OR 99W east of downtown, ultimately need the extension of the Bypass east of OR 219 to provide relief to OR 99W. In the interim, improvements to parallel facilities (including the Crestview connection) may provide some relief. Alternative mobility standards likely need to be pursued.

18) Portland Rd (99W) / Brutscher St

This location would not meet ODOT mobility targets and existing right of way along Brutscher Street is fairly constrained, restricting potential widening. As adjacent properties redevelop, there may be opportunities to add additional turn lanes from Brutscher Street. However, depending on the configuration of such improvements, the intersection is not likely to meet ODOT mobility targets. This intersection, along with other locations along OR 99W east of downtown, ultimately need the extension of the Bypass east of OR 219 to provide relief to OR 99W. In the interim, improvements to parallel facilities (including the Crestview connection) may provide some relief. Alternative mobility standards likely need to be pursued.

19) Portland Rd (99W) / Providence Dr

The future extension of Crestview Drive to OR 99W would add a northern leg to this intersection. While this connection will provide some potential relief to OR 99W, the intersection will not meet ODOT mobility targets. This intersection, along with other locations along OR 99W east of downtown, ultimately need the extension of the Bypass east of OR 219 to provide relief to OR 99W. In the interim, improvements to parallel facilities (including the Crestview connection) may provide some relief. Alternative mobility standards likely need to be pursued.

20) Fernwood Rd / Springbrook Rd

A traffic signal is programmed for this location to be included with the Bypass Phase 1 improvements.



The twenty study intersections would operate as listed in Table 10 with the improvements described above in 2035.

Table 3: Intersection Operations (2035 PM Peak Hour) and Potential Improvements to Improve Mobility

Intersection	Mobility Target	Peak Seasonal (No Build)		Peak Seasonal (Mitigated)		Improvements Included in Mitigated Conditions
		V/C Ratio	LOS	V/C Ratio	LOS	
Foothills Drive/Hillsboro-Silverton Highway (OR 219)	0.95	>1.0	F	0.67	B	Roundabout
Mountainview Drive/Villa Rd	D	>1.0	F	0.62	A	Traffic signal Left turn lanes for all approaches
Mountainview Drive/Aspen Way	D	0.83	F	N/A	N/A	Low volume, no improvements
Mountainview Drive/Zimri Drive	D	>1.0	F	>1.0	F	SB left turn lane
Yamhill-Newberg Highway (OR 240)/Chehalem Drive	0.95	0.64	F	N/A	N/A	Meets standard
Illinois Street/Main Street (OR 240)	0.95	>1.0	F			Refinement study as improvement triggered
Haworth Avenue/Villa Rd	D	>1.0	F	>1.0	F	Southbound left turn lane
Fulton Street/Villa Rd	D	>1.0	F	0.79	E	Northbound left turn lane
Hancock Street (99W)/Main Street	0.85	0.85	C	0.85	C	Road Diet + Right Turn Lanes
Hancock Street (99W)/College Street	0.85	0.91	C	1.04	C	Road Diet + Right Turn Lanes
1st Street (99W)/Main Street	0.85	0.67	B	0.84	B	Road Diet + Right Turn Lanes
1st Street (99W)/College Street	0.85	0.63	B	0.74	B	Road Diet + Right Turn Lanes
Portland Rd (99W)/Villa Rd (OR 219)	0.85	>0.97	F			No improvements
1st Street/Villa Rd (OR 219)	0.95	0.93	F			No improvements
1st Street (OR 219)/Everest Rd	0.90	>1.0	F	0.73	C	Traffic signal and turn lanes
Haworth Avenue/Springbrook Rd	D	>1.0	F			Traffic signal and turn lanes
Portland Rd (99W)/Springbrook Rd	0.80	>1.0	F	1.15	F	Crestview (E14) and Hayes (E15) projects could provide alternate routes
Portland Rd (99W)/Brutscher	0.80	>1.0	F	1.2	F	Crestview (E14)
Portland Rd (99W)/Providence Drive	0.80	>1.0	F	1.32	F	Crestview (E14)
Fernwood Rd/Springbrook Rd	D	>1.0	F			Traffic Signal

Notes: V/C ratio and LOS reported for the worst minor street approach for unsignalized intersections

Intersections not meeting the mobility standard are shaded in black.



Modal Improvements to Reduce Driving Demand

The following sets of improvements would enhance the transportation system to make other modes such as walking, biking or riding transit more viable options to help balance the transportation system. These projects focus on improving the safety and/or convenience for using these other modes. Travelers that continue using or switch to these modes of transportation help relieve the demand for motor vehicle use.

Sidewalk Projects

Newberg lacks sidewalks on some of its streets. For the purpose of the TSP, only sidewalks on collector streets or proposed collector streets were included in the inventory of sidewalk projects. Missing sidewalks on local streets can be addressed through city code. The Sidewalk projects developed by the project team are shown in Figure 4. Many sidewalk projects could be addressed through collector or arterial improvement projects already addressed under Expansion or Standards and Safety projects. For this reason, the sidewalk projects in Figure 4 have been color coded, with Sidewalk projects covered under Expansion projects shown in red-orange, projects covered under Standards and Safety Projects shown in yellow-green, and standalone Sidewalk projects shown in orange. Sidewalk projects that are a part of other Expansion or Standards and Safety projects are listed in this section so the City has an option install just the sidewalks if funding for the entire road project is not available.

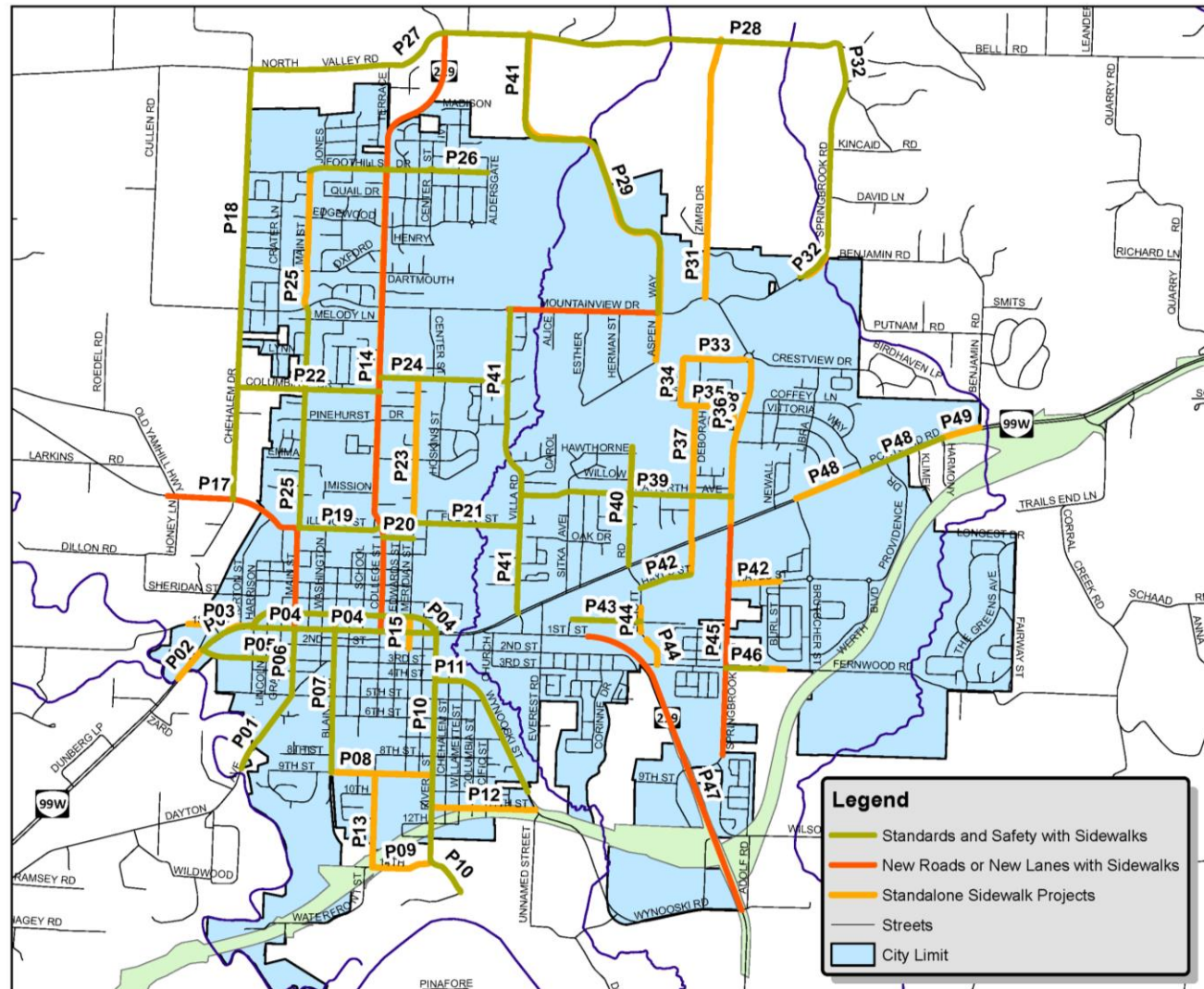


Figure 4: Sidewalk Project Locations

Table 4 provides project descriptions for the projects illustrated in Figure 4. Each Sidewalk project was evaluated using the scoring criteria developed by City staff. Based on the evaluation score and the funding available for Sidewalk projects, each project was rated Likely or Not Likely to be funded.

Table 4: Sidewalk Project Evaluation

Project #	Project Name	Project Description	Initial Evaluation
P01	Dayton Ave Sidewalks - With S01	From 5th St to UGB	Likely
P02	OR 99W Sidewalks	From UGB to 3rd Street	Likely
P03	1st St Sidewalks	From UGB to Ore 99W	Likely
P04	Hancock St/1st St Sidewalks - with E02, S06, S07	From 3rd to River Street	Likely
P05	3rd St Sidewalk Infill - With S02	From OR 99W to Main Infill	Not Likely
P06	S Main St Sidewalk Infill - S08	From 5th St to Hancock Infill	Likely
P07	Blaine St Sidewalk Infill - With S10	From River St to Hancock St Infill	Likely
P08	9th St Sidewalks	From Blaine St to River St	Likely
P09	14th St Sidewalks - Partially with BY	From College St to River St	Likely
P10	River St Sidewalks - With S22	From Sheridan St to 14th St	Likely
P11	Wynooski St Sidewalks - With S37	From 4th St to 11th St	Likely
P12	11th St Sidewalks	From River St to Wynooski St	Likely
P13	College St Sidewalks	From 9th St to 14th St	Likely
P14	College St Sidewalks - With E05	From Ella Ct to Foothills Drive	Likely
P15	Meridian St Sidewalks	From Hancock Street to 2nd Street	Likely
P16	N Main St/OR240 Sidewalk Infill -With E03	From Hancock St to Illinois St Infill	Likely
P17	OR240 Sidewalk Infill - With E01	From Main to UGB Infill	Likely
P18	Chehalem Dr Sidewalk Infill - With S11	From OR240 to North Valley Rd Infill	Likely
P19	Illinois St Sidewalks - With S13	From Main St to College St	Not Likely
P20	Vermillion St Sidewalk Infill - With S20	From College St to Meridian St Infill	Not Likely
P21	Fulton St Sidewalk Infill - With S21	From Meridian St to Cherry St Infill	Likely
P22	Columbia Dr Sidewalk Infill - With S14	From Chehalem Dr to College St Infill	Likely
P23	Meridian St Sidewalks	From Crestview Dr to Fulton St	Likely
P24	Crestview Dr Sidewalk Infill - With S18	From College to Villa Rd Infill	Not Likely
P25	N Main St Sidewalk Infill - With S12	From Illinois St to Mountainview Dr	Likely
P27	North Valley Rd Sidewalks - With S16	From Chehalem Dr to College St	Likely
P28	Bell Rd Sidewalks - With S30	From College St to Springbrook Rd	Likely
P29	Aspen Way Sidewalks - With S29	From Bell Rd to Crestview Dr	Likely
P30	Mountainview Dr Sidewalks - With E11	From Villa Rd to Aspen Way	Likely
P31	Zimri Dr Sidewalks - With S38 and S39	From Mountainview Dr to Bell Rd	Likely
P32	N Springbrook Rd Sidewalks	From S of Benjamin Rd to UGB	Likely
P33	Crestview Dr Sidewalks	From Emery St to Springbrook St	Likely
P34	Emery St Sidewalks	From Crestview Drive to Douglas Ave	Not Likely

Project #	Project Name	Project Description	Initial Evaluation
P35	Douglas Ave Sidewalks	From Emery St to Springbrook Way	Not Likely
P36	Springbrook Way Sidewalks	From Douglas Ave to 100 ft S of Douglas	Likely
P37	Deborah St Sidewalks	From Douglas Ave to Haworth Ave	Not Likely
P38	Springbrook Rd Sidewalks	From Crestview Drive to Ore 99W	Likely
P39	Haworth Ave Sidewalks - With S27	From Villa Rd to Springbrook Rd	Not Likely
P40	N Elliott Rd Sidewalk Infill - With S32	From Ore 99W to Newberg HS	Likely
P41	Villa Road Sidewalks - with S25 and S26	From OR 99W to Mountainview Dr	Likely
P42	Hayes St Sidewalks	From Springbrook St to Burl St	Not Likely
P43	Hancock St Sidewalk Infill - with S34	From Sitka to end	Likely
P44	S Elliott Rd Sidewalk Infill	From OR 99W to 2nd St	Likely
P45	S Springbrook Rd Sidewalks - With E16	From OR 99W to 8th St	Likely
P46	Fernwood Rd Sidewalks - With S35	From Springbrook St to Brutscher St	Likely
P47	OR219 Sidewalk Infill - With E18	From 1st St to UGB	Likely
P48	OR 99W Sidewalk Infill	From Brutscher Street to Vittoria Way	Likely
P49	OR 99W Sidewalk Infill - with S36	From Vittoria Way to East of UGB	Likely

Bicycle Projects

Bicycle projects may include adding bike lanes to busier, higher-speed roads, adding shared-roadway markings to lower-traffic streets, or constructing shared-use paths. The Bicycle projects developed by the project team are shown in Figure 5. Many Bicycle projects could be addressed through collector or arterial improvement projects already addressed under Expansion or Standards and Safety projects. For this reason, the Bicycle projects in Figure 5 have been color coded, with Bicycle projects covered under Expansion projects shown in dark blue, projects covered under Standards and Safety Projects shown in light blue, and standalone Bicycle projects shown in medium blue. Bicycle projects that are a part of other Expansion or Standards and Safety projects are listed in this section so the City has an option install just the bicycle infrastructure if funding for the entire road project is not available.



Figure 5: Bicycle Projects Locations

Table 5 provides project descriptions for the Bicycle projects illustrated in Figure 5 and Table 6 shows supported projects from the Chehalem Heritage Trails Master Plan. Each Bicycle project was evaluated using the scoring criteria developed by City staff. Based on the evaluation score and the funding available for Bicycle projects, each project was rated Likely or Not Likely to be funded.

Table 5: Bicycle Projects Evaluation

Project #	Project Name	Project Description	Initial Evaluation
B01	Dayton Ave Bike Lanes - With S01	From OR 99W to UGB	Likely
B02	Main St Bike Lanes - with S12, E03, S08	From 5th St to Mountainview Dr.	Not Likely
B03	Hancock/1st Bike Lanes - with E02, S06, and S07	From 3rd St to River St	Likely
B04	Blain St Bike Lanes - With S10	From 1st St to 9th St	Likely
B05	9th St Bike Lanes	From Blaine St to River St	Likely
B06	River St Bike Lanes - With S22	From OR 99W to Rogers Landing Rd	Likely
B07	College St Bike Lanes - with E05	From 1st to UGB	Likely
B08	Meridian St Bike Lanes	From Crestview Dr to 1st St	Likely
B09	OR240 Bike Lanes - With E01	From Main to UGB	Likely
B10	Chehalem Dr Bike Lanes - With S11	From OR240 to North Valley Rd	Likely
B11	Illinois Street Bike Lanes - With S13 and S20	From College St to Main St	Not Likely
B12	Jaquith Park Path	New pedestrian/bicycle pathway adjacent to Jaquith Park between Main St and College St	Likely
B13	Foothills Drive Bike Lanes - with S17	From Main St to Villa St	Likely
B14	North Valley Road /Bell Road Bike Lanes - with S16 and S30	From Chehalem Dr to Springbrook Rd	Likely
B15	Villa Rd Bike Lanes - With S25, S26, S28	From OR 99W to Mountainview Dr	Likely
B16	Mountainview Dr Bike Lanes - With E11	From Villa Rd to Aspen Way	Likely
B17	Haworth Ave Bike Lanes - With S27	From Villa Rd to Springbrook Rd	Not Likely
B18	Fulton St Bike Lanes - with S21	From Meridian St to Villa Rd	Likely
B19	11th St Bike Lanes	East of River St	Likely
B20	Hess Creek Path	New pedestrian/bicycle pathway along Hess Creek can serve recreational and school bicyclists and pedestrians.	Likely
B21	Rogers Landing Rd Bike Lanes - With S23	From 1st to Rogers Landing	Likely
B22	New Willamette River Pedestrian-Bicycle Bridge	Extended from Rogers Landing Drive across to Champoege Park. This would link the Newberg bicycle-pedestrian system with Champoege Park and Marion County	Likely
B23	Wilsonville Rd Bike Lanes	East of Daybread Drive	Likely
B24	OR219 Bike Lanes - with E18	From Wyooski St to 1st St	Likely
B25	Springbrook Road Bike Lanes - Partially with E16	South of OR 99W on west side and north of OR 99W between Haworth and Middlebrook	Likely

Project #	Project Name	Project Description	Initial Evaluation
B26	Fernwood Dr Bike Lanes - With S35	From Springbrook to Brutcher St	Likely
B27	Hancock St Bike Lanes	West of Springbrook	Likely
B28	Elliot Road Bike Lanes - With S32	From OR 99W to Newberg HS	Not Likely
B29	Vittoria Way Bike Lanes	From Springbrook to OR 99W	Not Likely
B30	Aspen Way Bike Lanes	From Mountainview Dr to Springbrook	Likely
B31	Benjamin Rd Bike Lanes	From the railroad to UGB	Likely
B32	Springbrook Rd Bike Lanes - With S31	From UGB to Bell Road	Likely
B33	Wynook St Bike Lanes	From Willamette St to OR219	Likely

Table 6: Chehalem Heritage Trails

Project #	Project Name	Project Description	Initial Evaluation
CH01	Central Newberg Trail Segment	Bicycle boulevard connections to the Chehalem Cultural Center, Newberg Library, Newberg City Hall, city center shops, George Fox University, local parks, and other places. Includes Sheridan, Howard, and Meridian Street.	Likely
CH03	Dayton Ave	Combination of bicycle boulevards, bike lanes/bike shoulders, and multi-use paths to connect Memorial Park in Newberg to Billick Park in Dundee.	Likely
CH05	Hess Creek Path	Off-street multi-use trail along Hess Creek	Not Likely
CH06	Chehalem Glenn	Multi-use path that connects the Willamette riverfront with Ewing Young Park	Likely

Transit Projects

Two transit strategies were identified to improve the accessibility and convenience of transit use. These strategies would require additional coordination with Yamhill County Transit Area to implement and develop into specific projects.

Table 7: Transit Project Evaluation

Project #	Project Name	Project Description	Initial Evaluation
T01	Bus Stop Improvements	Amenities and improved pedestrian crossings at bus stops along 99W	Likely
T02	Route 5 and 7 Expansion	Expand routes 5 and 7 to new urban growth areas	Likely



Motor Vehicle System Expansion

The group of expansion projects are those that involve building new roads, extending roads, or adding lanes to existing roads (Figure 6). This includes projects to bring an existing facility up to arterial standards by adding a two-way left turn lane. These project would generally better connect the transportation system or improve the mobility of existing roads. Both of these outcomes have the potential to improve traffic flow along congested routes or attract traffic from adjacent routes that may be experiencing congestion. The capacity improvements or traffic shifts realized by these projects could further improve the intersection operations listed in Table 8.

Many of these projects are near the outskirts of Newberg in undeveloped areas or outside the UGB. Projects outside the UGB in the urban reserve area may be completed by the City once those areas are annexed, or may be the responsibility of Yamhill County.

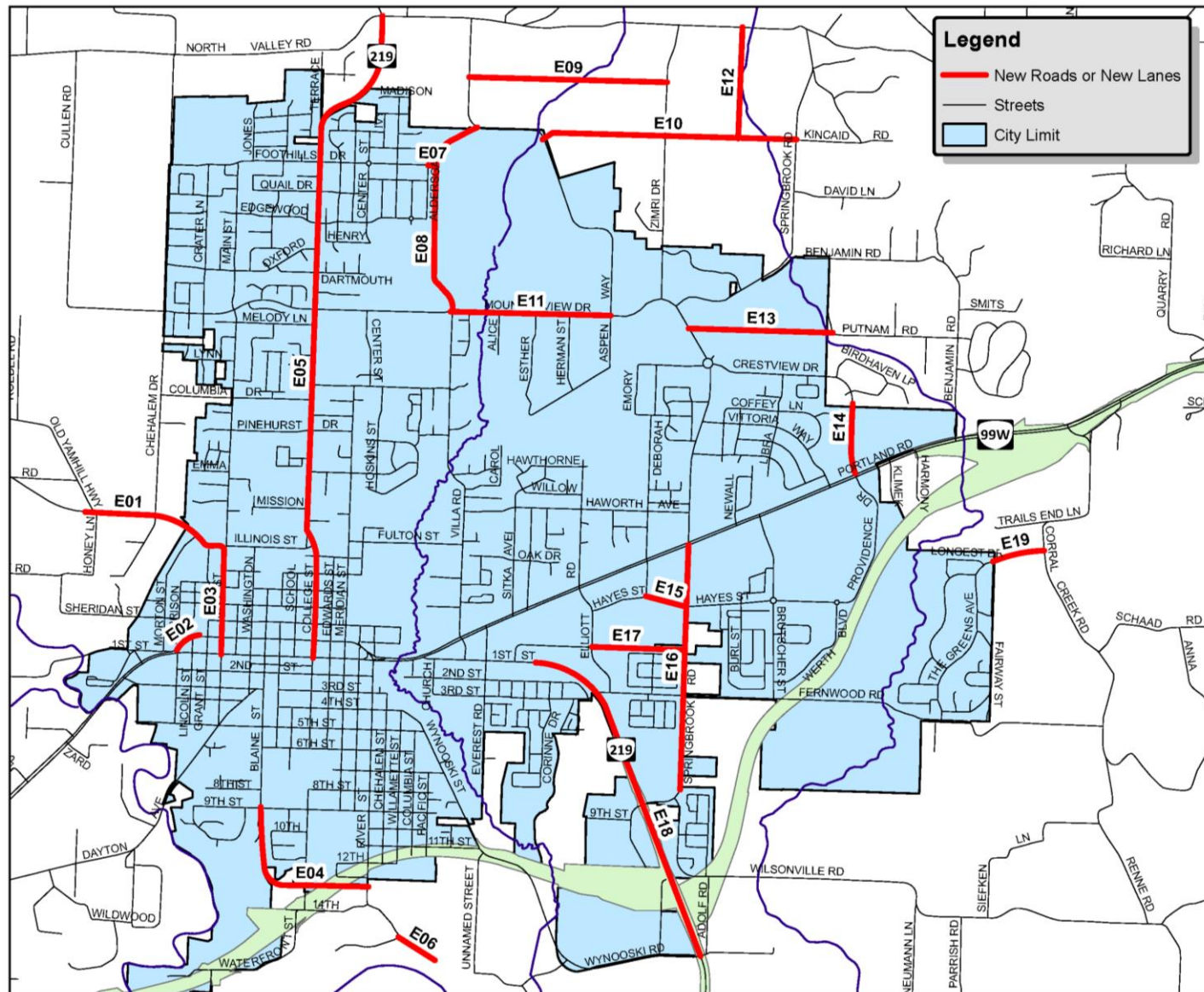


Figure 6: Expansion Project

Table 8 provides project descriptions for the projects illustrated in Figure 6. Each Expansion project was evaluated using the scoring criteria developed by City staff. Based on the evaluation score and the funding available for Expansion projects, each project was rated Likely or Not Likely to be funded.

Table 8: Expansion Project Evaluation

Project #	Project Name	Project Description	Initial Evaluation
E01	OR 240 Minor Arterial Improvement	Reconstruct Ore 240 for approximately 0.36 miles between the west edge of the Urban Reserve Area and Main Street to full, 3-lane minor arterial street standards.	Not Likely
E02	Hancock Street Arterial Improvement	Reconstruct Hancock Street to major arterial street standards between Harrison Street and Main Street to include sidewalks and bicycle lanes on each side of Hancock Street.	Not Likely
E03	N Main Street (OR240) Arterial Improvement	Reconstruct to full minor arterial standards between Illinois and 1st to include three travel lanes, bike lanes, and sidewalks.	Not Likely
E04	Blaine St Extension	Construct new street between 9th St and River St to major collector standards.	Not Likely
E05	College St Arterial Improvement	Reconstruct to minor arterial street standards between 1st St and Bell Rd to include sidewalks and bicycle lanes on each side of College Street.	Not Likely
E06	Rogers Landing Rd Extension	Construct Rogers Landing Rd from Willamette River to UGB to major collector standards.	Not Likely
E07	Foothills Dr Extension	Construct Foothills Dr from Aldersgate to Villa Rd.	Likely
E08	Villa Rd Extension	Construct Villa Rd from Mountainview Dr to Aspen Way and construct to major collector standards with sidewalks and bike lanes.	Likely
E09	New Camelia Dr	Construct a new local street connection between Aspen Way and Zimri Dr, as development occurs.	Likely
E10	New Kincaid Rd	Construct a new local street connection between Aspen Way and Springbrook Rd, as development occurs.	Likely
E11	Mountainview Dr Arterial Improvement	Reconstruct Mountainview Dr between Villa Rd and Aspen Way to minor arterial standards. Include bike lanes and sidewalks on both sides.	Not Likely
E12	New North-South Local St	Construct a new local street connection between Bell Rd and New Kincaid Rd extension (#6 above), as development occurs.	Likely
E13	Putman Rd Extension	Construct approximately 0.42 miles of new Putman Rd between Springbrook St and Putman St to local street standards.	Likely
E14	Crestview Dr Extension	Construct Crestview Dr from southern terminus to OR 99W. Construct to major collector standards	Likely
E15	Hayes St Extension	Construct Hayes St from its eastern terminus at Deborah St to Springbrook St to minor collector street standards	Likely

Project #	Project Name	Project Description	Initial Evaluation
E16	Springbrook St Arterial Improvement	Reconstruct to minor arterial standards between OR 99W and 8th St. Include sidewalks and bike lanes.	Likely
E17	Hancock St Extension	Construct Hancock St between Elliot Rd and Springbrook Rd to local street standards. Reconstruct eastern terminus of Hancock at Springbrook to local street standards.	Not Likely
E18	OR219 Arterial Improvement	Reconstruct OR219 to arterial standards between 1st Street and the UGB to include sidewalks and bicycle lanes on each side of OR219.	Likely
E19	New Greens Drive	Construct a new local street connection between Eagle Street and Corral Creek Rd, as development occurs.	Not Likely

The expansion projects would provide various benefits to the transportation system. While the impacts would depend on a combination of other factors including other transportation system improvements and timing of implementation, Table 9 summarizes the benefits that were estimated in the 2035 traffic analysis.

Table 9: Expansion Project System Mobility Benefit Summary

Project #	Project Name / Location	Summary of Impacts	Study Intersection Benefit Locations
E15	Hayes St Connection (Existing terminus to Springbrook Rd)	Improves system connectivity and removes traffic on 99W.	99W / Springbrook Rd
E14	Crestview Dr Extension (Existing terminus to Hwy 99W)	Improves system connectivity and removes traffic on 99W and Springbrook Rd by providing alternate connection between east and north.	99W / Vittoria Wy 99W / Brutscher St 99W / Springbrook Rd Haworth Ave / Springbrook Rd

Newberg-Dundee Bypass-Related Projects

A number of additional projects have been identified² through the long-range planning needs for the Newberg-Dundee Bypass. These projects would complement the ultimate full-build bypass alignment, which would include two travel lanes in each direction and the extension from Springbrook Road to the east side of Newberg. While these projects would serve a critical role in the grand vision of the full bypass, the incorporation of individual project elements would have limited impacts without the full set of improvements and are not anticipated be pursued until funding for the full build bypass has been secured. However, in order to track these projects and not preclude them through intermediate planning efforts, they are included here. The need and benefits of these projects have already been assessed through the Bypass planning and since these projects are not anticipated to be funded during the TSP horizon they are not being evaluated at this time.

² Newberg Dundee Bypass Tier 2 FEIS, Chapter 3, Transportation

[PLACEHOLDER – INSERT FINAL BYPASS PROJECT MAP FROM TSP]

Figure 7: Newberg-Dundee Bypass-Related Projects Locations



Table 10 lists the Bypass projects that are mapped in

Figure 7.

Table 10: Bypass-Related Projects

[PLACEHOLDER – INSERT FINAL BYPASS PROJECT LIST FROM TSP]

Downtown Circulation Concepts

A separate memorandum was prepared that describes the traffic impacts of two circulation concepts for the downtown area along 1st Street and Hancock Street³. Two primary concepts for downtown Newberg circulation, post-bypass opening day, in addition to the “no change” option, have been suggested for Council consideration – one by the Downtown Committee (Concept A) and one by City staff (Concept B).

- Concept A: 2-Way Conversion
 - Convert Hancock and 1st to two-way travel
 - Both streets would have one travel lane in each direction with left turn lanes at intersections
 - 1st would “T” into Hancock at either end and Hancock would be through route
 - This concept would introduce additional challenges (related to design treatment, traffic mobility, and project cost) at either end of the couplet to convert the existing one-way flow to a two-way configuration
- Concept B: Road Diet
 - Remove one travel lane in each direction along Hancock and 1st, while retaining the one-way couplet flow

This memorandum, attached in the Appendix, includes additional information, summarized here:

- Future Context - For the horizon year of 2035, only the initial “Phase 1” portion of the Bypass is currently funded (one lane each direction from Dundee to Oregon 219 and Springbrook Rd.)
- Future Conditions – While initially improved after opening, by 2035 with the existing couplet configuration and just Phase 1 of the Bypass, traffic flow through downtown will be slightly worse than it is today due to future growth in Newberg and increased activity in downtown for non-Newberg traffic.
- Concept Capacity Reduction - Both downtown concepts include removing a lane of traffic on both Hancock and 1st to include a total of two travel lanes in each direction (total of both streets) compared to the existing 3-lanes in each direction.
- Concept Performance - Either downtown concept will make traffic conditions through downtown significantly worse than the conditions that are expected with the existing configuration. The projected 2035 level of traffic congestion based on the existing configuration would be reached or exceeded much sooner with either of the alternative concepts (immediately exceeded with the Downtown Committee’s two-way concept and reached by 2018 with the City staff’s reduced couplet).

³ Memorandum: Newberg TSP Downtown Traffic Concepts – Operations Summary, DKS Associates, November 7, 2014.



- Limited Function & Life – Due to degraded traffic conditions, both concepts would have short usable life. Removing a lane in each direction would cause traffic congestion to reach 2035 levels by approximately 2018. Converting the existing 3-lane couplet to two-lane, twoway traffic flow would result in levels of congestion that would immediately exceed 2035 congestion levels by a significant margin.
- High Concept Cost – While both concepts could make use of some existing infrastructure, there would still be significant costs associated with signal modifications, crossing treatments, drainage, and other factors that go beyond painting and striping the pavement. Preliminary project costs are estimated to be \$5 to \$10 million for each concept.



Appendix

- Newberg Transportation Goals
- Project Evaluation Criteria
- Planning Level Cost Estimates
- Downtown Operations Memo
- Signal Warrant Sheets
- HCM Worksheets

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



MEMORANDUM (DRAFT)

DATE: June 17, 2016

TO: Newberg TSP Project Management Team

FROM: Garth Appanaitis
Christy Zellmer

SUBJECT: **Newberg TSP Update**
Tech Memo 9 - Stakeholder Interview Summary

P# 11086-005-005

DKS Associates conducted stakeholder interview sessions (five in September 2015 and two in April 2016) to review and collect feedback on the draft transportation system plan (TSP). This memo summarizes the interview process and input provided during the interviews.

Interview process and participants

Participants were selected to represent a variety of backgrounds in the community with broad viewpoints. The feedback gained from the stakeholder interviews is intended to complement public feedback from other sources collected during the TSP process, including: Project advisory committee, public open houses, and public website. The following stakeholders were interviewed:

1. Larry Anderson, former City Engineer; and Robert Soppe, former City Councilor
2. Brett Baker, Austin Industries
3. Mike Ragsdale, Newberg Downtown Coalition
4. Scott Steckley, Chehalem Diversified (Commercial Development)
5. Jamie Morgan-Stasny, Metropolitan Land Group
6. Cynthia Thompson, Yamhill County Transit Area
7. Don Clements, Chehalem Park and Recreation District

Interviews generally lasted about 45 minutes, though additional time was provided (and some interviews went longer) to discuss stakeholder concerns. The purpose of the interviews was to hear from participants about their reactions to the Draft TSP and to get feedback about the plan contents, project lists, and any additional transportation needs of the community.

Interview Feedback

The primary themes and highlights from the interviews are summarized in the following sections by topic.

TSP Formatting and Contents

Many stakeholders had thoughts on the formatting and general contents of the TSP, including:

Overall Administrative and Format

- Concern about how will the amendments to the TSP will be tracked and how the Citizen will know the current state of ordinances. How will this be organized and tracked by the City?
 - Stakeholders requested that there be strict implementation guidelines for the TSP and associated policies and strategies. They requested that amendments be reviewed by a transportation professional.
- A question about the dots on the map and concern that without clarification it could be misleading. Consider showing areas, rather than dots, as needed.
- Confirm the basis of the reported traffic reduction on 99W reported in the downtown memo and TSP

Additional Content

- A request to add a local street connectivity map
 - include local streets from the project map
 - arrows with future connections
 - currently platted streets
- A request to add a map with planned amenities for transit

Implementation and Funding

- A request to clarify the terms “responsible” versus “Project Lead” on the project list.
- A desire to include language that is supportive of Transit and TOD
- Concerns about project implementation and potential funding. How would SDC funds be used?
- A request that previous methodology used for cost estimated in 2005 TSP be reevaluated. And include a summary of the methodology/assumptions for costs for this TSP.
- Additional funding sources should be looked at- local tax options
- A disagreement with the schematic that shows the TSP progress. A TSP is never “completed and left to sit on a shelf. Rather, it is continually updated with amendments or full updates.

Projects

Stakeholders were asked to pay particular attention to the project list and evaluate which projects were critical, which projects should be dropped, and if there were any additional needs that would require additional projects.

General Feedback

Stakeholders commented that overall the projects are good and reflect community needs. However, there was some concern that not all the projects will be funded in the allotted 20 years.

Critical projects

Projects listed as critical included:

- Aspirational bypass projects.
 - Should be added on a figure and a table.
- Second phase of the bypass should have more focus.
 - What are the conditions present with the full bypass, how bad will the conditions be?



- E11- Section Villa to Alice is a safety need and should be higher priority
- E19- important connection
- Downtown opportunities and improvements to enhance livability
- Crestview to Providence connection
- Chehalem Creek and Hess creek are crucial connections to get to the river across the bypass.

Projects, Needs, and Opportunities to Add

Stakeholders suggested these projects or areas for consideration to be added to the TSP:

- Something should be done about congestion in the east
- Bike/Ped connection to get from the Springbrook area
- Two-way downtown circulation
- Need a better transit center or hub in Newberg- dream project
 - Potential loop on east end of couplet
- Transit funding with NDIP (art in transit stops)
- Add a stop by the library
- ConnectOregon Projects on the table with ODOT (CPRD)
 - ODOT has supported TIGER pursuits.
- Looking for opportunities to connect the bypass
- Fulton Street- retirement homes going in, but no trail improvements are listed
- Work with the District, City and ODOT to provide connections to the river
 - Both pedestrian and bike connections

Project concerns

Concerns with existing projects or additional gaps include:

- Include SDC eligible portion and methodology and total cost
- Control at 99W/Springbrook and U-turns and NB right turns. Prohibiting the right turn on red could cause additional congestion. Clarify when Springbrook/99W will fail and why.
- Connectivity needs between Springbrook and Benjamin Road
- Greens Neighborhood: City previously argued that connectivity wasn't needed
- Concern with placement of sharrows
- Cost estimate with the 2nd/219 seems low. Issues with the cost needed for a right in/right out
- The walking path on the west side of Springbrook was removed when Hayes was built and the left turn lanes was added to Springbrook.
- Concerns about growth on Fernwood
- Transit related items can fit in the ADA projects
- Central Trail segment – should list the City as the project lead
- Clarify the Crestview connection to Providence
- B22 is a likely project since it could connect 8th street in Dundee to Newberg. State Parks is looking to purchase Ash Island.
- Property owners fighting over development in future bypass alignment.
- \$4M estimated for CPRD funding is too high



- Focus on safety- especially for pedestrians

Project removal

No projects from the TSP were requested or mentioned for removal.

Policy and Strategy

Stakeholders suggested the following policies and strategies for implementation:

- A policy about protecting the right of way for future phases of the bypass
- Comments provided for code section 15.505.020:
 - How do you get permit approval if you can get the stuff built, requires the approval (catch 22). Should cite section E3 (not just E)
 - D2 - (exceptions for doing 3/4 instead of full street) - condition 2 is it intended to be both of these? What about and/or instead of "and"? If it is inside the UGB, it should be annexed at some point.
 - E - (improvements to existing streets) - This should clarify that if you are doing the half street improvement you dedicate half of the ROW width, not the full street width
 - Citation of 15.505.060 thinks it is 15.505 G (table was relabeled)
 - Cross Section Design Table
 - Should provide some flexibility or direction
 - Minor Collector shows that bike lanes are the standard - this isn't consistent with Figure 17 in TSP. The listed curb to curb width would not provide for the travel lanes and parking
 - Because there is no ability to reduce the street width, it goes against the storm water goals for reducing impervious surface
 - There used to be flexibility for having 11 foot lanes in place of 12, but this wiggle room has gone away. (note under the table). What about locations where you have built out constraints?
 - In general, if you eliminate flexibility, you'll have problems
- All Cities should have the Transit Plan in the code/TSP
- A statement that the Chehalem Heritage Trail system is an evolving plan. Include placeholder flexibility in budget for improvements and opportunities.



NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.

MEMORANDUM

DATE: July 24, 2015

TO: Newberg TSP Project Management Team

FROM: Carl Springer, Garth Appanaitis, Anastasia Roeszler

SUBJECT: **Newberg TSP Update** | Tech Memo 10 Finance Program (Draft)

P# 11086-005-005

The purpose of this memorandum is to present the transportation funding that is expected to be available for Newberg through 2035. The funding assumptions will help prioritize the investments the City can make in the transportation system, and will be utilized to develop a set of transportation improvements that will likely be funded to meet identified needs through 2035.

Current Newberg Funding Sources

Two general funding sources are utilized by the City for transportation, the State Highway Trust Fund and System Development Charges (SDCs). In addition to City-funded projects, new private development will lead some of the proposed transportation projects in Newberg.

State funds through the State Highway Trust Fund come from state motor vehicle fuel tax, vehicle registration fees, and truck weight-mile fees, and are distributed on a per capita basis. Cities and counties receive a share of State Highway Trust Fund monies. By statute, the money may be used for any road-related purpose, including walking, biking, bridge, street, signal, and safety improvements.

The state gas tax funds have previously failed to keep up with cost increases and inflation. With increased fuel efficiency of vehicles and the State's emphasis on reducing vehicle miles traveled, the real revenue collected has gradually eroded over time. The gas tax in Oregon increased on January 1, 2011 by six cents, to 30 cents per gallon. This was the first increase in the state gas tax since 1993.

System Development Charges (SDCs) are fees collected from new development and used as a funding source for all capacity adding projects for the transportation system. The funds collected can be used to construct or improve portions of roadways impacted by applicable development, such as the UGB expansion area. The SDC is collected from new development and is a one-time fee. The fee is based on the proposed land use and size, and is proportional to each land use's potential PM peak hour vehicle trip generation. Newberg collects \$3050 per single-family residence and slightly less for multi-family residences. Commercial and industrial developments are charged based on ITE trip generation rates.

With an estimated \$137 million worth of transportation solutions identified, Newberg must make investment decisions to develop a set of transportation improvements that is reasonably likely be funded to meet identified needs through 2035. As shown in Table 1, Newberg is expected to have approximately \$18.7 million available for capital expenditures through 2035 with current funding sources and maintenance/operations expenditures.

Table 1: Newberg Transportation Funding

Revenue Source	Average Annual Amount	Estimated Through 2035
Gas Taxes	\$820,600	\$16,400,000
Bikeway Taxes	\$12,400	\$250,000
System Development Charges	\$286,700	\$20,700,000
Total Revenues	\$1,100,000	\$37,300,000
Expenditures	Average Annual Amount	Estimated Through 2035
Operations and Maintenance	\$930,000	\$18,600,000
Revenue over Expenditures (Available for Capital Improvements)		\$18,700,000

Revenue

Current revenue sources are expected to provide about \$18.7 million through 2035. Over the past three years, Newberg averaged \$821,000 in State Highway Fund shared revenue and \$287,000 in SDC revenue. As a conservative estimate,¹ the same levels for State Highway Fund revenue (\$821,000 per year) was assumed in the future, for a total of about \$16.4 million through 2035.

Newberg is expected to receive \$20.7 million from SDC charges through 2035. This figure was calculated by determining the expected household and commercial growth in Newberg over the planning horizon and using Newberg's existing SDC rates. State law requires that SDC revenue be used only on capacity increasing capital projects that increase the level of performance of an existing facility or provide new facilities.

State law requires that a minimum of one percent of the State gas tax and vehicle registration funds received must be set aside for construction and maintenance of walking and bicycling facilities. In Newberg, this represents approximately \$12,000 per year and over \$240,000 through 2035.

Expenditures

Current operations and maintenance expenditures are expected to top \$18.6 million through 2035 (based on expenditures over the past three years).

¹ The population growth rate in Newberg was assumed to be roughly the same as the cost inflation rate, therefore existing revenues were maintained through 2035.



Project Investments

The projects in this plan fall within one of several categories:

Walking projects for sidewalk infill, providing seamless connections for pedestrians throughout the City.

Newberg identified 48 walking projects. Of these projects, 30 are covered by other projects in this TSP, and 18 are standalone projects. The 18 standalone projects would cost the City a combined total of \$1.9 million to complete.

Biking projects include an integrated network of bicycle lanes and marked on-street routes that facilitate convenient travel citywide. Newberg identified 33 biking projects. Of these projects, 14 are standalone projects and 19 are covered by other projects in the TSP. The 14 standalone projects would cost the City a combined total of \$11.2 million to complete.

Chehalem Trail projects include trails identified under the Chehalem Heritage Trails Master Plan. These trails will provide pedestrian and bicycle connectivity between Newberg and Dundee. There are six Chehalem Trail projects, four within or partially within Newberg, and two within Dundee or Yamhill County. The trail segments within Newberg are expected to cost approximately \$12.4 million to complete.

Intersection projects include safety and mobility improvements for intersections in Newberg. Newberg identified 13 intersection projects with a combined total cost of \$4.7 million to complete.

Expansion projects are those that add or extend new roads or add more lanes to existing roads. Newberg identified 19 expansion projects that are expected to cost \$44.4 million to complete. Many of these expansion projects would be paid for by new development in undeveloped areas of Newberg.

Safety and Standards projects are those that bring an existing facility up to Newberg's most current roadway standards, or address a known safety need. Newberg identified 39 Safety and Standards project that are expected to cost \$62.0 million to complete. Some of these projects would be paid for by new or infill development along existing facilities.

Transit projects are those that expand or add amenities to existing transit service, or that add new transit routes within the City. Newberg identified two transit projects with a total cost of \$85,000.

Funds for Transportation Improvements

In addition to Newberg funds, ODOT has determined that it is reasonable to assume that \$10 million in state discretionary funds will be available to fund new projects in Newberg over the next 20 years². Many of the identified transportation improvements are expected to be funded, at least in part, by new development. About \$50 million of the identified projects would be development-led.

ODOT Highway Safety Improvement Program (HSIP) Funding

With Oregon's funding under HSIP increased significantly and direction from the Federal Highway Administration to address safety challenges on all public roads, ODOT will increase the amount of funding available for safety projects on local roads. Safety funding will be distributed to each ODOT region, which will collaborate with local governments to select projects that can reduce fatalities and serious injuries, regardless of whether they lie on a local road or a state highway.

To maintain commitments in the current Statewide Transportation Improvement Program (STIP) for 2013-2015 and because the development of 2016-2018 STIP is well underway, a reasonable expectation is to start the jurisdictionally blind safety approach in 2017. Meanwhile, ODOT intends to implement a transition plan for 2013-2016. The transition will be developed to bridge the gap. Funding for local roads will be allocated to primarily focus on a few systemic low cost fixes that can be implemented in the shorter timeframe.³

Potential Additional Funding Sources

Transportation funding options include local taxes, assessments and charges, and state and federal appropriations, grants, and loans. All of these resources can be constrained based on a variety of factors, including the willingness of local leadership and the electorate to burden citizens and businesses; the availability of local funds to be dedicated or diverted to transportation issues from other competing City programs; and the availability of state and federal funds. Nonetheless, it is important for the City to consider all opportunities for providing, or enhancing, funding for the transportation improvements included in the TSP.

The following sources have been used by cities to fund the capital and maintenance aspects of their transportation programs. There may be means to begin to or further utilize these sources, as described below, to address existing or new needs identified in the TSP.

² ODOT has not committed any future funding for projects in Newberg. This estimate is based on assuming that Newberg will receive a reasonable share of the state/federal funding projected to be available over the 20-year planning horizon in Region 2 and based on ODOT sustaining their current revenue structure. It is used to illustrate the degree of financial constraints faced by ODOT as of the writing of this document. Actual funding through state and federal sources may be higher or lower than the range of this estimate. This estimate does not include projects that might be funded through the federal Highway Safety Improvement Program (HSIP).

³ ODOT Jurisdictionally Blind Safety Program

Transportation Utility Fee

A transportation utility fee is a recurring monthly charge that is paid by all residences and businesses within the City. The fee can be based on the number of trips a particular land use generates, or as a flat fee per unit. It can be collected through the City's regular utility billing. Existing law places no express restrictions on the use of transportation utility fee fund, other than the restrictions that normally apply to the use of government funds.⁴ Some cities utilize the revenue for any transportation-related project, including construction, improvements, and repairs. However, many cities choose to place self-imposed restrictions or parameters on the use of the funds.

Assuming a flat fee of \$10.00 per month per residential water meter, the City could collect an additional \$1.5 million for transportation-related expenses through 2035. Additional revenue could be collected from businesses.

Local Fuel Tax

Fourteen cities and two counties in Oregon have adopted local gas taxes ranging from one to five cents per gallon. The taxes are paid to the city monthly by distributors of fuel. Newberg may want to consider implementing a local fuel tax. The process for presenting such a tax to voters would need to be consistent with Oregon State law as well as the laws of the City.

ODOT Statewide Transportation Improvement Program (STIP) Enhance Funding

ODOT has modified the process for selecting projects that receive STIP funding. The new process follows a jurisdictionally blind approach, meaning local agencies can receive funding for projects off the state system. Preferred projects are expected to be those that enhance system connectivity and improve multi-modal travel options. With the updated TSP, the City will be well positioned to apply for STIP funding.

ODOT Highway Safety Improvement Program (HSIP) Funding

With Oregon's funding under HSIP increased significantly and direction from the Federal Highway Administration to address safety challenges on all public roads, ODOT will increase the amount of funding available for safety projects on local roads. Safety funding will be distributed to each ODOT region, which will collaborate with local governments to select projects that can reduce fatalities and serious injuries, regardless of whether they lie on a local road or a state highway.

To maintain commitments in the current Statewide Transportation Improvement Program (STIP) for 2013-2015 and because the development of 2016-2018 STIP is well underway, a reasonable expectation is to start the jurisdictionally blind safety approach in 2017. Meanwhile, ODOT intends to implement a transition plan for

⁴ Implementing Transportation Utility Fees, League of Oregon Cities

2013-2016. The transition will be developed to bridge the gap. Funding for local roads will be allocated to primarily focus on a few systemic low cost fixes that can be implemented in the shorter timeframe.⁵

Local Hotel/Lodging Tax

Many Oregon jurisdictions impose a local hotel tax. State law requires that 70 percent of the hotel tax revenue be used for tourism facilities and promotion and 30 percent go to the general fund. Tourism facilities could potentially include transportation projects such as public parking or pedestrian improvement projects that benefit tourism.

General Fund Revenues

At the discretion of the City Council, the City can allocate General Fund revenues to pay for its Transportation program (General Fund revenues primarily include property taxes, use taxes, and any other miscellaneous taxes and fees imposed by the City). This allocation is completed as a part of the City's annual budget process, but the funding potential of this approach is constrained by competing community priorities set by the City Council. General Fund resources can fund any aspect of the program, from capital improvements to operations, maintenance, and administration. Additional revenues available from this source are only available to the extent that either General Fund revenues are increased or City Council directs and diverts funding from other City programs.

Urban Renewal District

An Urban Renewal District (URD) would be a tax-funded district within the City. The URD would be funded with the incremental increases in property taxes that result from construction of applicable improvements. This type of tax increment financing has been used in Oregon since 1960. Use of the funding includes, but is not limited to, transportation. Improvements are funded by the incremental taxes, rather than fees.

Local Improvement Districts

Local Improvement Districts (LIDs) can be formed to fund capital transportation projects. LIDs provide a means for funding specific improvements that benefit a specific group of property owners. LIDs require owner/voter approval and a specific project definition. Assessments are placed against benefiting properties to pay for improvements. LIDs can be matched against other funds where a project has system wide benefit beyond benefiting the adjacent properties. LIDs are often used for sidewalks and pedestrian amenities that provide local benefit to residents along the subject street.

Debt Financing

While not a direct funding source, debt financing can be used to mitigate the immediate impacts of significant capital improvement projects and spread costs over the useful life of a project. Though interest costs are incurred, the use of debt financing can serve not only as a practical means of funding major improvements, but

⁵ ODOT Jurisdictionally Blind Safety Program

is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future customers who will benefit from the projects. The obvious caution in relying on debt service is that a funding source must still be identified to fulfill annual repayment obligations.

As detailed in the Funding section, the City is expected to have approximately \$18.7 million in City funds to cover the City's public portion of project costs (\$65.9 million) if no additional funding sources are developed.

Therefore, most of the transportation solutions identified for the City are not reasonably likely to be funded through 2035. For this reason, the transportation solutions were divided into two categories:

- **Likely Funded** projects are those projects that the City and ODOT believe are reasonably likely to be funded during the 20-year planning horizon based on the funding threshold established through City and ODOT funding analysis.
- **Aspirational** projects include all identified projects for improving Newberg's transportation system that are not reasonably likely to be funded during the 20-year planning horizon, but do address an identified problem and are supported by the City and ODOT.

Identifying the Investments

Using the five goals identified previously in the TSP, the transportation solutions were evaluated and compared to one another. Greater value was placed on projects stakeholders felt were most important to the community. The investment recommendations attempted to balance projects between different modes, selecting some of the highest rated projects from each mode. Complex and costly capital projects were disfavored compared with low cost projects that can have more immediate impact and can spread investment benefits Citywide.

Additionally, the City will actively monitor key routes through neighborhoods that may be impacted by the Phase 1 Bypass. Future phases of the Newberg-Dundee Bypass are not likely to be built within the funding horizon, and the Phase 1 Bypass will likely alter travel patterns on several routes throughout the City. The City will set aside funds that may be used for improvements and traffic control on routes impacted by the Bypass, and improvements to reduce cut-through traffic through neighborhoods. This approach seeks to actively manage the transportation system after construction of the Phase 1 Bypass.

The Likely Funded Plan

The previous section identified the transportation solutions that are reasonably expected to be funded by 2035 and have the highest priority for implementation. Figure 1 shows the breakdown of different funding sources for the plan. The City is assumed to spend \$19 million on improvements, while ODOT could contribute approximately \$10 to 15 million⁶, and \$31 million worth of investments are assumed to be development-led.

⁶ ODOT has not committed any future funding for projects in Newberg. This estimate is based on assuming that Newberg will receive a reasonable share of the state/federal funding projected to be available over the 20-year planning horizon in

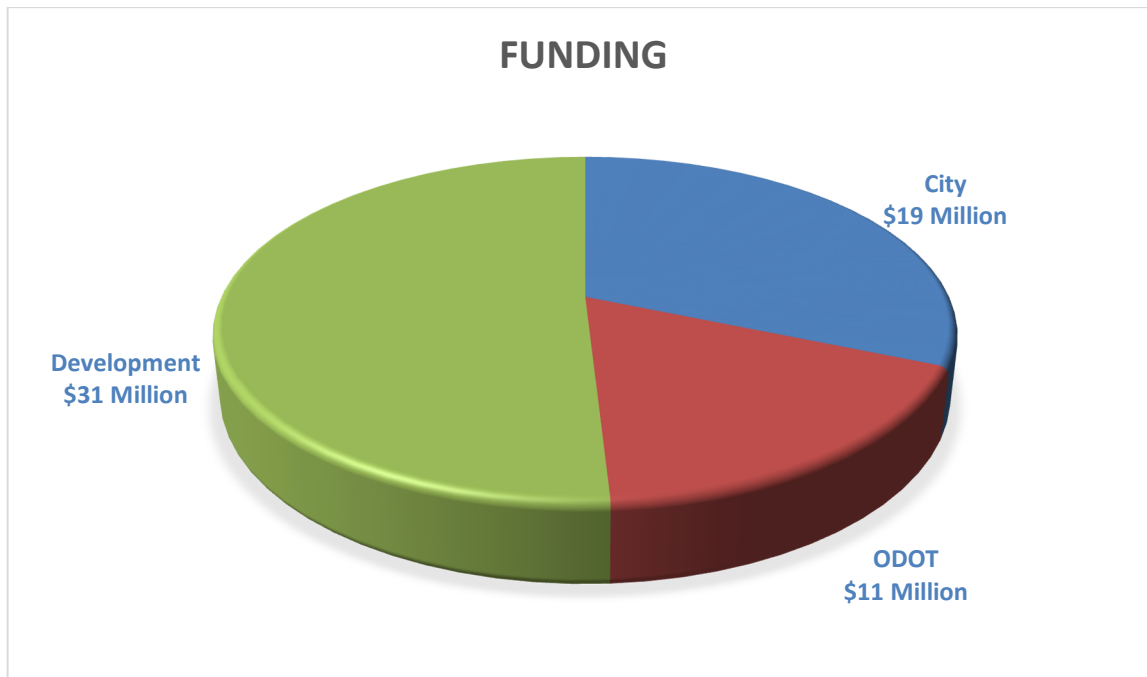


Figure 1: Funding for the Likely Funded Plan

Region 2 and based on ODOT sustaining their current revenue structure. It is used to illustrate the degree of financial constraints faced by ODOT as of the writing of this document. Actual funding through state and federal sources may be higher or lower than the range of this estimate. This estimate does not include projects that might be funded through the federal Highway Safety Improvement Program (HSIP).

Expansion Projects						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
E01	OR 240 Minor Arterial Improvement	Reconstruct OR 240 for approximately 0.36 miles between the west edge of the Urban Reserve Area and Main Street to full, 3-lane minor arterial street standards.	\$0	\$2,160,000	\$0	\$2,160,000
E03	N Main Street (OR240) Arterial Improvement	Reconstruct to full minor arterial standards between Illinois and 1st to include three travel lanes, bike lanes, and sidewalks.	\$0	\$1,350,000	\$0	\$1,350,000
E07	Foothills Dr Extension	Construct Foothills Dr from Aldersgate to Villa Rd.	\$0	\$0	\$135,000	\$135,000
E08	Villa Rd Extension	Construct Villa Rd from Mountainview Dr to Aspen Way and construct to major collector standards with sidewalks and bike lanes.	\$0	\$0	\$2,835,000	\$2,835,000
E09	New Camelia Dr	Construct a new local street connection between Aspen Way and Zimri Dr, as development occurs.	\$0	\$0	\$2,700,000	\$2,700,000
E10	New Kincaid Rd	Construct a new local street connection between Aspen Way and Springbrook Rd, as development occurs.	\$0	\$0	\$3,510,000	\$3,510,000
E12	New North-South Local St	Construct a new local street connection between Bell Rd and New Kincaid Rd extension (#E10), as development occurs.	\$0	\$0	\$1,620,000	\$1,620,000
E13	Putman Rd Extension	Construct approximately 0.42 miles of new Putman Rd between Springbrook St and Putman St to local street standards.	\$0	\$0	\$1,620,000	\$1,620,000
E14	Crestview Dr Extension	Construct Crestview Dr from southern terminus to OR 99W. Construct to major collector standards	\$0	\$0	\$1,830,000	\$1,830,000
E15	Hayes St Extension	Construct Hayes St from its eastern terminus at Deborah St to Springbrook St to minor collector street standards	\$270,000	\$0	\$270,000	\$540,000
E16	Springbrook St Arterial Improvement	Reconstruct to minor arterial standards between OR 99W and 8th St. Include sidewalks and bike lanes.	\$1,566,000	\$0	\$2,349,000	\$3,915,000
E18	OR219 Arterial Improvement	Reconstruct OR219 to arterial standards between 1st Street and the UGB to include sidewalks and bicycle lanes on each side of OR219.	\$0	\$7,965,000	\$0	\$7,965,000
Total			\$1,836,000	\$11,475,000	\$16,869,000	\$30,180,000

Standards and Safety						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
S07	Downtown Road Diet	Remove one lane each from Hancock St and 1st St to use for additional enhancement to pedestrian, bicycle, or other amenities. This may be implemented on a temporary basis pending future capacity needs.	\$1,125,000	\$3,375,000	\$0	\$4,500,000
S10	Blaine St Collector Imp.	Reconstruct Blaine St to major collector street standards between Hancock St and 9th St to include sidewalks and bicycle lanes on each side of Blaine Street.	\$2,025,000	\$0	\$0	\$2,025,000
S11	Chehalem Dr Collector Imp.	Reconstruct Chehalem Dr between OR240 and North Valley Rd to major collector street standards to include bicycle lanes and sidewalks on both sides of the street. Yamhill County and City of Newberg jurisdictions.	\$0	\$0	\$4,428,000	\$4,428,000
S14	Columbia Dr Collector Imp.	Reconstruct Columbia Dr between Chehalem Dr and College St to minor collector street standards to include a travel lane in each direction, and sidewalks and on-street parking on both sides of the street.	\$0	\$0	\$1,512,000	\$1,512,000
S26	Villa Rd Collector Imp.	Reconstruct to major collector street standards between Fulton St and Crestview Dr to include sidewalks and bicycle lanes on each side of Villa Rd.	\$2,376,000	\$0	\$0	\$2,376,000
S29	Aspen Way Collector Imp.	Reconstruct Aspen Way to minor collector standards between Villa Rd and Mountainview Dr to include sidewalks and on-street parking on each side of Aspen Way	\$0	\$0	\$4,995,000	\$4,995,000
S36	OR 99W Arterial Imp.	Reconstruct OR 99W to major arterial street standards between Vittoria Way and Harmony Ln to include sidewalks and bicycle lanes on each side of OR 99W.	\$0	\$270,000	\$0	\$270,000
S38	Zimri Dr Collector Imp.	Improve Zimri Dr within the UGB to major collector standards, providing bicycle lanes and sidewalks on each side of the street	\$0	\$0	\$2,160,000	\$2,160,000
S40	Local System Bypass Monitoring and Enhancements	Monitor traffic use and performance on local system adjacent to bypass (south of OR 99W and east of Springbrook Road) to determine if unintended cut-through traffic between OR 99W and bypass require mitigation. Potential mitigation (placeholder project) may include traffic-calming and/or capacity enhancements, depending on the nature of the impacts	\$1,000,000	\$0	\$0	\$1,000,000
Total			\$5,153,500	\$2,527,500	\$13,095,000	\$20,776,000



Intersection Projects						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
I01	College St/Illinois St Intersection Safety	Bar left turns or add bypass lane to prevent queuing vehicles from going across RR tracks	\$40,000	\$0	\$0	\$40,000
I02	Foothills Dr/College St Intersection	Possible roundabout	\$825,000	\$0	\$0	\$825,000
I03	Mountainview Dr/Villa Rd Intersection Improvement	Add traffic signal and left turn lanes on all approaches.	\$430,000	\$0	\$430,000	\$860,000
I04	Villa/Haworth Intersection Improvements	Add left turn lanes on Villa to improve safety and operations	\$320,000	\$0	\$0	\$320,000
I05	Villa/Fulton Intersection Improvements	Add SB right turn lane and NB left turn lane on Villa Rd. Roundabout may also be an option here.	\$345,000	\$0	\$0	\$345,000
I07	Mountainview Dr/Zimri Dr Intersection Improvements	Add SB left turn lane to Zimri Dr	\$135,000	\$0	\$0	\$135,000
I08	Springbrook Rd/Mountainview Dr Intersection Improvement	Traffic Signal.	\$270,000	\$0	\$0	\$270,000
I09	Springbrook Rd/Haworth Ave Intersection Improvement	Traffic Signal and left turn lanes on Haworth	\$400,000	\$0	\$0	\$400,000
I10	Springbrook Rd/Hayes St Intersection Improvement	Traffic Signal. Add 4th lane on Springbrook.	\$135,000	\$0	\$135,000	\$270,000
I11	Vittoria Way/OR 99W Intersection Improvement	Modify this intersection to restrict turning movements to RIRO	\$0	\$27,000	\$0	\$27,000
I12	Crestview Dr/OR 99W Intersection Improvement	Traffic Signal modification to add north leg to intersection with extension of Crestview Drive	\$0	\$0	\$380,000	\$380,000
I13	Everest Rd/1st St Intersection Improvements	Traffic Signal and left turn lanes on all approaches. Traffic signal may be coordinated with nearby signal at OR 99W / Villa Road.	\$735,000	\$0	\$0	\$735,000
Total			\$3,635,000	\$27,000	\$945,000	\$4,607,000



Walking Projects						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
P02	OR 99W Sidewalks	From UGB to 3rd Street	\$0	\$174,150	\$0	\$174,150
P03	1st St Sidewalks	From UGB to OR 99W	\$74,250	\$0	\$0	\$74,250
P08	9th St Sidewalks	From Blaine St to River St	\$66,150	\$0	\$0	\$66,150
P09	14th St Sidewalks - Partially with BY	From College St to River St	\$0	\$0	\$63,180	\$63,180
P12	11th St Sidewalks	From River St to Wyooski St	\$59,400	\$0	\$0	\$59,400
P13	College St Sidewalks	From 9th St to 14th St	\$171,450	\$0	\$0	\$171,450
P15	Meridian St Sidewalks	From Hancock Street to 2nd Street	\$45,900	\$0	\$0	\$45,900
P23	Meridian St Sidewalks	From Crestview Dr to Fulton St	\$133,650	\$0	\$0	\$133,650
P32	N Springbrook Rd Sidewalks	From S of Benjamin Rd to UGB	\$295,000	\$0	\$0	\$295,000
P33	Crestview Dr Sidewalks	From Emery St to Springbrook St	\$49,950	\$0	\$0	\$49,950
P36	Springbrook Way Sidewalks	From Douglas Ave to 100 ft S of Douglas	\$1,350	\$0	\$0	\$1,350
P38	Springbrook Rd Sidewalks	From Crestview Drive to OR 99W	\$112,050	\$0	\$0	\$112,050
P44	S Elliott Rd Sidewalk Infill	From OR 99W to 2nd St	\$295,000	\$0	\$0	\$295,000
P48	OR 99W Sidewalk Infill	From Brustcher Street to Vittoria Way	\$0	\$86,400	\$0	\$86,400
Total			\$1,304,150	\$260,550	\$63,180	\$1,931,630



Biking Projects						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
B05	9th St Bike Lanes	From Blaine St to River St	\$102,600	\$0	\$0	\$102,600
B08	Meridian St Bike Lanes	From Crestview Dr to 1st St	\$147,150	\$0	\$0	\$147,150
B12	Jaquith Park Path	New pedestrian/bicycle pathway adjacent to Jacquith Park between Main St and College St	\$135,000	\$0	\$0	\$135,000
B19	11th St Bike Lanes	East of River St	\$103,950	\$0	\$0	\$103,950
B20	Hess Creek Path	New pedestrian/bicycle pathway along Hess Creek can serve recreational and school bicyclists and pedestrians.	\$580,500	\$0	\$0	\$580,500
B22	New Willamette River Pedestrian-Bicycle Bridge	Extended from Rogers Landing Drive across to Champoeg Park. This new connection would link the Newberg bicycle-pedestrian system with that of Champoeg Park and Marion County	\$1,215,000	\$0	\$0	\$1,215,000
B25	Springbrook Road Bike Lanes - Partially with E16	South of OR 99W on west side and north of OR 99W between Haworth and Middlebrook	\$60,000	\$0	\$0	\$60,000
B27	Hancock St Bike Lanes	West of Springbrook	\$32,400	\$0	\$0	\$32,400
B30	Aspen Way Bike Lanes	From Mountainview Dr to Springbrook	\$130,950	\$0	\$0	\$130,950
B31	Benjamin Rd Bike Lanes	From the railroad to UGB	\$37,800	\$0	\$0	\$37,800
B33	Wynooski St Bike Lanes	From Willamette St to OR219	\$2,225,000	\$0	\$0	\$2,225,000
Total			\$4,770,350			\$4,856,150

Trail Projects						
Project #	Project Name	Project Description	City Cost	ODOT Cost	Developer Cost	Total Cost
CH01	Central Newberg Trail Segment	Bicycle boulevard connections to the Chehalem Cultural Center, Newberg Library, Newberg City Hall, city center shops, George Fox University, local parks, and other places. Includes Sheridan, Howard, and Meridian Street.	\$2,034,936	\$0	\$0	\$2,034,936
CH03	Dayton Ave	Combination of bicycle boulevards, bike lanes/bike shoulders, and multi-use paths to connect Memorial Park in Newberg to Billick Park in Dundee.	\$80,908	\$0	\$0	\$80,908
CH06	Chehalem Glenn	Multi-use path that connects the Willamette riverfront with Ewing Young Park	\$157,032	\$0	\$0	\$157,032
Total			\$2,272,876			\$2,191,968
Transit Projects						
T01	Bus Stop Improvements	Amenities and improved pedestrian crossings at bus stops along OR 99W	\$70,000	\$0	\$0	\$70,000
T02	Route 5 and 7 Expansion	Expand routes 5 and 7 to new urban growth areas	\$15,000	\$0	\$0	\$15,000
Total			\$85,000			\$85,000
GRAND TOTAL			\$19,056,876	\$14,290,050	\$30,972,180	\$64,627,748



The Aspirational Plan

The projects outlined within the Likely Funded Plan will significantly improve Newberg's transportation system. If the City is able to implement a majority of the Likely Funded Plan, nearly two decades from now Newberg residents will have access to a safer, more balanced multimodal transportation network.

The Aspirational Plan identifies those transportation solutions that are not reasonably expected to be funded by 2035, but will remain very important to the transportation system and have City support if funding does become available.

The Aspirational Plan includes approximately \$118.3 million worth of investments. Planning level cost estimates can be found in the appendix.

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



MEMORANDUM

DATE: July 24, 2015

TO: Newberg TSP Project Management Team

FROM: Carl Springer, Garth Appanaitis, Anastasia Roeszler

SUBJECT: **Newberg TSP Update** | Tech Memo 11 Transportation Standards (Draft) P# 11086-005-005

With Newberg's vision and resulting transportation investment priorities established, this chapter sets out the standards and regulations that will ensure that future land development and redevelopment is consistent with this plan.

Transportation Standards

A transportation system is a hierarchy of streets organized by functional classification and area type. These classifications reflect a scale and design appropriate to the character of the neighborhood, abutting properties, and land uses, and also identify design cross-sections that take into account the needs of all travel modes, including pedestrians, bicyclists, transit riders, and motorists. A sound multi-modal street classification system should also enable the city to vary design elements in a manner that is sensitive to the context, character, and constraints of the surrounding property.

Functional Classification

Traditionally, a roadway is classified based on the type of travel it is intended to serve (local versus through traffic). The roadway functional classification determines the level of mobility for all travel modes, defining its level of access and usage within the City and region. The street functional classification system recognizes that individual streets form a network that works together to serve travel needs on a local and regional level.

From highest to lowest intended usage, the classifications are arterials, collectors, and local streets. Roadways with a higher intended usage generally have a classification and related standards that promote more efficient vehicle movement through the City, while roadways with lower intended usage are classified to provide greater access to local destinations such as businesses or residences.

- **Arterial Streets** in Newberg are classified as either Major or Minor Arterials.
 - **Major Arterials** in Newberg include OR 99W, which is owned by ODOT. OR 99W has the highest traffic volumes in Newberg. It is the roadway that residents use to connect to locations outside the City, and the roadway that visitors use to reach and travel through Newberg.

- **Minor Arterials** in Newberg include ODOT-owned OR 219 and OR 240, City-owned Mountainview Drive and Springbrook Road, and Yamhill County-owned Wilsonville Road. These Minor Arterials also carry some of the higher volumes of any roadway in the City and are used by residents to connect to locations outside the City, as well as provide major connections within the City. The posted speed along arterials in Newberg may vary from 55 miles per hour as you enter the city to as low as 25 miles per hour through the downtown core.
- **Collector Streets** in Newberg connect the neighborhoods and major activity generators to arterial streets. These streets provide greater accessibility to neighborhoods than arterials, and provide efficient through movement for local traffic. The City of Newberg has two classifications for collectors: Major and Minor Collectors. Villa Road and Haworth Avenue are examples of Major Collector streets that provide connections between the commercial areas of town and the neighborhoods.
- **Local Streets** provide direct access to residences in Newberg. These roadways are often lined with residences and are designed to serve lower volumes of traffic with posted speeds of 25 miles per hour.

Figure 1 shows the current functional classifications of streets in Newberg.

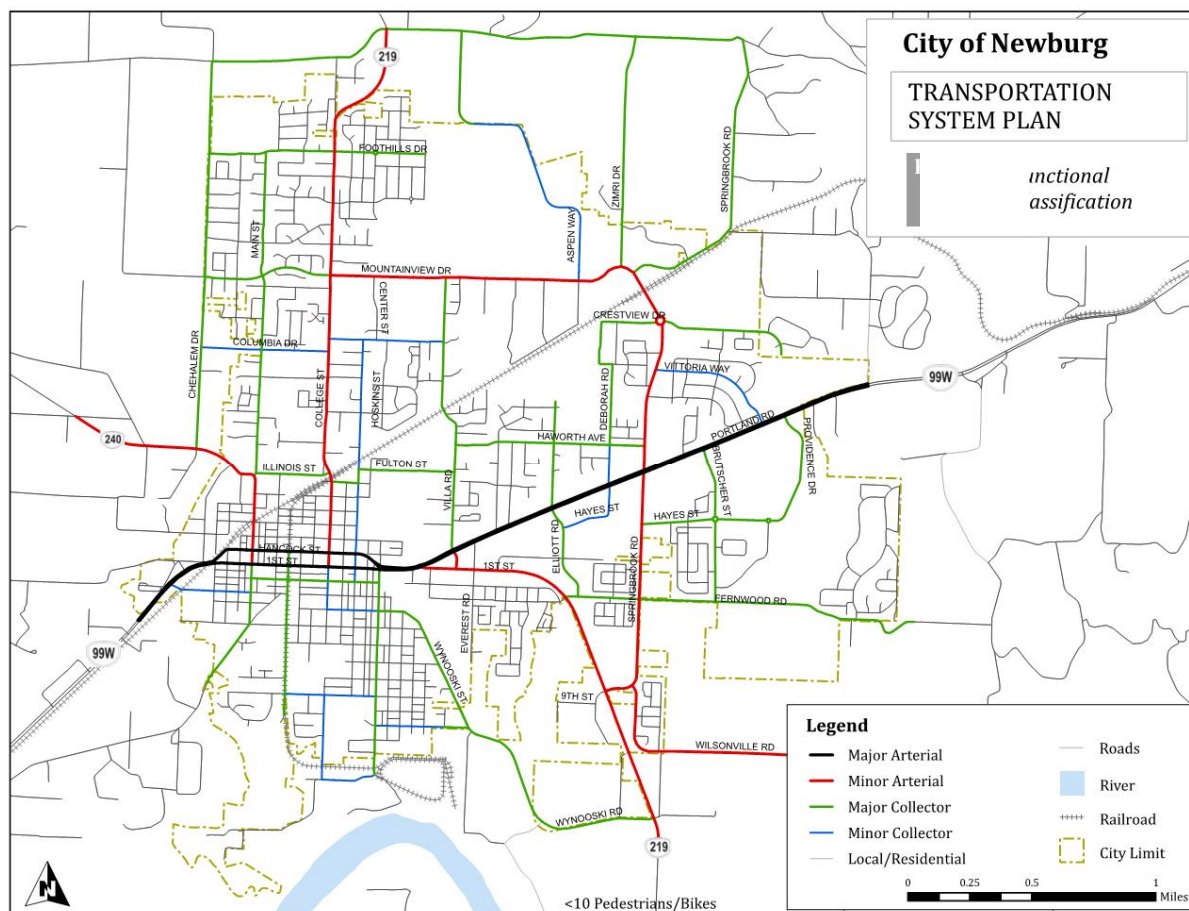


Figure 1: Functional Class Map

Street Type

Newberg can further classify roadways within the City based on the neighborhoods they serve and their intended function for pedestrians, bicyclists, and transit riders. The street type of a roadway defines its cross-section characteristics and determines how users of a roadway interact with the surrounding land use. Since the type and intensity of adjacent land uses and zoning directly influence the level of use by pedestrians, bicyclists, and transit riders, the design of a street (including target speed, intersections, sidewalks, and travel lanes) should reflect its surroundings. The street types attempt to strike a balance between street functional classification, adjacent land use, zoning designation and the competing travel needs by prioritizing various design elements.

- **Mixed-Use Streets** typically have a higher amount of pedestrian activity and are often on a transit route. These streets should emphasize a variety of travel choices such as pedestrian, bicycle and transit use to complement the development along the street. Since Mixed-Use Streets typically serve pedestrian-oriented land uses, walking should receive the highest priority of all the travel modes. They should be designed with features such as wider sidewalks, pedestrian amenities, transit amenities, attractive landscaping, on-street parking, pedestrian crossing enhancements and bicycle lanes.
- **Residential Streets** are generally surrounded by residential uses, although various small shops may be embedded within the neighborhood. These streets often connect neighborhoods to local parks, schools and mixed-use areas. They should be designed to emphasize walking, while still accommodating the needs of bicyclists and motor vehicles. A high priority should be given to design elements such as traffic calming, landscaped buffers, walkways/pathways/trails, on-street parking and pedestrian safety enhancements.
- **Commercial/Industrial Streets** are primarily lined with retail and large employment complexes, and often serve industrial areas. These uses serve customers throughout the City and region and may not have a direct relationship with nearby residential neighborhoods. Therefore, although commercial streets will be somewhat auto oriented, they should still accommodate pedestrians and bicyclists safely and comfortably. Roadway widths are typically wider to accommodate a high volume of large vehicles such as trucks, trailers and other delivery vehicles. Design features should include sidewalks and pedestrian crossing enhancements. Bicycles should be accommodated through shared-lane markings and plentiful bicycle parking. Sidewalks should be constructed in accordance with Newberg's development code.

Multi-Modal Roadway Cross Sections

Design of the streets in Newberg requires attention to many elements of the public right-of-way and considers how the street interacts with the adjoining properties. Four zones comprise the cross-section of streets in Newberg, including the context zone, walking zone, biking/on-street parking zone, and driving zone. The design of these zones varies based on the functional classification and street type.

- **Context Zone:** The context zone is the point at which the sidewalk interacts with the adjacent buildings or private property. The purpose of this zone is to provide a buffer for land use adjacent to the street and to ensure that all street users have safe interactions.
- **Walking Zone:** This is the zone in which pedestrians travel. The walking zone is determined by the street type and should be a high priority in mixed-use and residential areas. It includes a minimum five foot clear throughway for walking, an area for street furnishings or landscaping (e.g. benches, transit stops and/or plantings) and a clearance distance between curbside on-street parking and the street furnishing area or landscape strip (so parking vehicles or opening doors do not interfere with street furnishings and/or landscaping). Streets located along a transit route should incorporate furnishings to support transit ridership, such as transit shelters and benches, into the furnishings/landscape strip adjacent to the biking/on-street parking zone.
- **Biking/On-Street Parking Zone:** This is the zone for biking and on-street parking, and is the location where users will access transit. The biking/on-street parking zone is determined by the street type and should be a high priority in mixed-use and residential areas, which should include on-street parking with a minimum 6 foot striped bike lane or 5 foot bike lane with a 2 foot buffer. Streets in commercial/employment or industrial areas should include minimum 6 foot bike lanes or 5 foot bike lane with a 2 foot buffer, with no on-street parking.
- **Driving Zone:** This is the throughway zone for drivers, including cars, buses and trucks and should be a high priority in commercial/ employment and industrial areas. The functional classification of the street generally determines the number of through lanes, lane widths, and median and left-turn lane requirements. However, the route designations (such as transit street or freight route) take precedence when determining the appropriate lane width in spite of the functional classification. Wider lanes (between 13 to 14 feet) should only be used for short distances as needed to help buses and trucks negotiate right-turns without encroaching into adjacent or opposing travel lanes. Streets that require a raised median should include a minimum 6 foot wide pedestrian refuge at marked crossings. Otherwise, the median can be reduced to a minimum of 4 feet at midblock locations, before widening at intersections for left-turn lanes (where required or needed).

Design and Analysis Guidelines

Design and analysis guidelines allow cities to shape the character and functionality of the transportation system. In Newberg, these guidelines are used to provide standards for access spacing, connectivity, roadway and trail cross sections, intelligent transportation systems coordination, traffic impact analysis, neighborhood traffic management, bicycle facilities, enhanced pedestrian crossings, and on-street parking.

Roadway Access Spacing

Access spacing along Newberg streets is managed through access spacing standards. Access management is a broad set of techniques that balance the need to provide efficient, safe, and timely travel with the ability to allow access to individual destinations. Proper implementation of access management techniques will promote reduced congestion and accident rates, and may lessen the need for additional highway capacity.

Table 1 identifies the minimum private access spacing standards for streets in Newberg. Within developed areas of the City, streets not complying with these standards could be improved with strategies that include shared access points, access restrictions (through the use of a median or channelization islands) or closed access points as feasible. New streets or redeveloping properties must comply with these standards, to the extent practical (as determined by the City Engineer).

Table 1: Access Spacing

Roadway Functional Classification	Minimum Public Street Intersection Spacing (Feet)*	Frontage Required per Additional Driveway**	Driveway Setback from Intersecting Street†
ODOT Statewide Highway			
Speeds 30 & 35 (Urban)	500	NA	NA
Speeds 40 & 45 (Urban)	800		
Major arterial			
Urban (outside CBD)	600	300	150
Central Business District	200	300	100
Minor arterial			
Urban (outside CBD)	300	200	100
Central Business District	100	200	100
Major collector	200	150	100
Minor collector	150	75	75
Local streets	100	75	50

*Street Spacing measured centerline to centerline

**Requirement is the minimum frontage required per additional driveway beyond the first. Where two driveways are constructed, at least one curb parking space shall separate each driveway approach.

†The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.

Roadway Cross Sections

Roadway standards and cross sections depend on functional classification, and are refined further in this section. Table 2 provides a summary of design standards for Newberg streets, which are located in the Newberg Street and Transportation Improvements Design Standards¹. All new and rebuilt streets in Newberg must conform to these design standards. Where a range of values is listed the City will determine the width based on a consideration of the existing constraints and needs for the facility. The required widths of travel lanes, bike lanes, sidewalks, planter strips, and on-street parking can be found in the Newberg Development Code.

¹Newberg Municipal Code Chapter 15.505

Table 2: Functional Classification Design Standards

Street Classification	Minimum ROW (ft)	Street Width (ft)	Travel Lanes	Median Type	Striped Bike Lane	Sidewalk	On-street Parking	Planter Strip
Statewide Expressway	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT
Major Arterial	85-100	74	4	TWLTL or median	Yes	Yes	No	Yes
Minor Arterial	60-80	46	2	TWLTL or none	Yes	Yes	No	Yes
Major Collector	60-80	34	2	None	Yes	Yes	No	Yes
Minor Collector	56-65	34	2	None	No*	Yes	Yes	Yes
Local Residential	54-60	32	2	None	No	Yes	Yes	Yes
Limited Residential	36-50	20-28	2	None	No	Yes	**	No†
Local Commercial/Industrial	56-65	34	2	No	No	Yes	No	Yes

*Minor collectors shall provide designated shared space for bicycles instead of bike lanes. See Bicycle Facility Treatment Guidelines later in this section for details.

**Limited residential streets may have parking on both sides, parking on one side only, or no on-street parking.

†The planter strip may be eliminated on limited residential streets. Curbside sidewalks have additional design requirements.

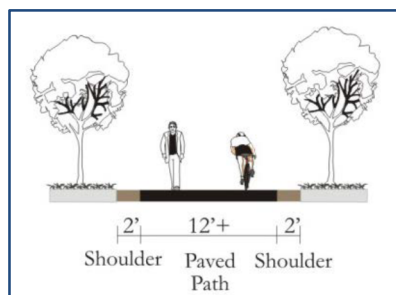
ODOT: Oregon Department of Transportation-owned facility. The design authority ultimately rests with ODOT.

TWLTL: Two-Way Left Turn Lane

NA: Not Applicable

Trail Cross Sections

Shared-use paths provide off-roadway facilities for walking and biking travel. Depending on their location, they can serve both recreational and general travel needs. Widths should provide ample space for both walking and biking and should also be able to accommodate maintenance vehicles. The design criteria for shared-use paths can be seen in Figure 2. The City may reduce the width of the paved shared-use path as necessary in constrained areas located in steep, environmentally sensitive, rural, historic, or development-limited areas of the City. In areas with significant walking or biking demand, the paved shared-use path should be 16 feet. In addition, a variety of amenities can make a path inviting to the user. These could include features such as interpretive signs, water fountains, benches, lighting, maps, art, and shelters.

**Figure 2: Design Criteria for Shared-Use Paths**

ITS Coordination Guidelines

Intelligent Transportation System (ITS) planning and coordination is important for Newberg to consider. The City should follow the Oregon Statewide ITS Plan, including installing conduits for communications systems when building/rebuilding roads along planned ITS corridors.

Traffic Impact Analysis Guidelines

The City Engineer will require a traffic analysis report as determined by the type of development and its potential impact to existing street systems. A traffic analysis will generally be required for a development:

- When it will generate 1,000 vehicle trips per weekday or more, or
- When a development's location, proposed site plan, and traffic characteristics could affect traffic safety, access management, street capacity, or known traffic problems or deficiencies in a development's study area.

Details of the traffic analysis report and requirements are located in the Newberg Public Works Design Standards.

Neighborhood Traffic Management Tool Guidelines

Traffic calming is a form of neighborhood traffic management that can be used to create safe, slow streets (primarily in residential and mixed-use areas) without significantly changing vehicle capacity. Traffic calming can mitigate the impacts of traffic on neighborhoods and business districts where a greater balance between safety and mobility is desired. It seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques include:

- Narrowing the street by providing curb extensions or bulbouts, or mid-block pedestrian refuge islands.
- Deflecting the vehicle path vertically by installing speed humps, speed tables, or raised intersections.
- Deflecting the vehicle path horizontally with chicanes, roundabouts, or mini-roundabouts.

Narrowing travel lanes and providing visual cues such as placing buildings, street trees, on-street parking, and landscaping next to the street also creates a sense of enclosure that prompts drivers to reduce vehicle speeds.

Traffic calming measures must balance the need to manage vehicle speeds and volumes with the need to maintain mobility, circulation, and function for service providers (e.g. emergency response). Table 2 lists common traffic calming applications and suggests which devices may be appropriate along various streets in the City. Any traffic calming project should include coordination with local emergency response agency staff to ensure public safety is not compromised.

Table 3: Traffic Calming Measures by Street Functional Classification

Traffic Calming Measure	Is Measure Appropriate? (per Roadway Classification)**	
	Collector*	Local Street*
Narrowing travel lanes	Yes	Calming measures are generally appropriate on local streets that are infrequent emergency response routes and have more than one way in and out
Placing buildings, street trees, on-street parking, and landscaping next to the street	Yes	
Curb Extensions or Bulbouts	Yes	
Roundabouts	Yes	
Mini-Roundabouts	Yes	
Medians and Pedestrian Islands	Yes	
Pavement Texture	Yes	
Speed Hump or Speed Table	No	
Raised Intersection or Crosswalk	No	
Speed Cushion (provides emergency pass-through with no vertical deflection)	Yes	
Choker	No	
Traffic Circle	No	
Diverter (with emergency vehicle pass through)	Yes	
Chicanes	No	

*Any traffic calming project should include coordination with emergency agency staff to ensure public safety is not compromised.

** Traffic calming may be considered for state highways but would be required to meet ODOT standards, including any ODOT approved design exceptions.

Bicycle Facility Treatment Guidelines

In Newberg all arterial and major collector street must have bike lanes. Minor collector streets must be designated as a shared space for bicycles and motor vehicles with shared-lane markings (SLMs), or “sharrows.” Bike lanes and sharrows are not required on local roads, but local road may be designated as shared facilities if they are part of a designated bike route or critical connection.

A network of family-friendly biking routes is envisioned to connect major destinations and neighborhoods in Newberg. These will include facilities with bike lanes and shared facilities.

Local streets that are part of a designated bicycle route and all minor collector roads will be low-speed shared facilities, like that shown in Photo 1. These routes, sometimes referred to as Bicycle Boulevards, modify existing low volume, low speed streets to prioritize the through movement of bicyclists and pedestrians while maintaining local access for automobiles. Bicycle Boulevards typically include wayfinding signage, sharrows, and traffic calming features that reduce motor vehicle speeds and volumes. Where these facilities cross major roadways it is important to provide safe and comfortable pedestrian and bicycle crossings.



Photo 1: Bicycle Boulevard with Sharrows

Further enhancements may include “green street” features such as bio-swales and street trees, in addition to wider sidewalks and improved pedestrian amenities (e.g., benches and pedestrian-scale lighting). A network of bicycle boulevards helps encourage active transportation by providing comfortable, low-stress routes between neighborhoods and local parks, schools, and shopping areas. The bicycle boulevard network is generally off the main street system and is more attractive to less experienced walkers and bikers. It is generally envisioned to act like a linear park system linking parks, schools, jobs and other destinations in the City through a network of on-street shared-use streets and off-street shared-use paths.

Enhanced Pedestrian Crossing Treatment Guidelines

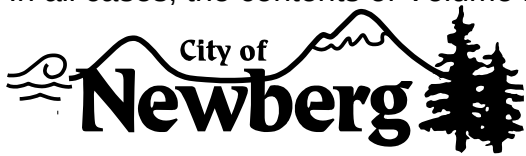
Enhanced street crossings are generally required on roadways with high traffic volumes and/or speeds in areas with nearby transit stops, residential uses, schools, parks, shopping, and employment destinations. These crossings should include treatments such as marked crosswalks, beacons or signalization, and curb extensions to improve the safety and convenience of street crossings. Crossings should be provided consistent with the connectivity standards.

On-Street Parking Dimensions

On-street parking should be a high priority along Mixed-Use or Residential streets. On-street parking is generally discouraged along Commercial/Industrial streets, although it may be allowed if the adjacent land use would benefit from it and adequate right-of-way is available. In Newberg, on-street parking is provided along all minor collector and local streets, although parking can be removed or reduced to one side if providing parking on both sides is not feasible, and where there is a strong likelihood that the no parking area will be self-enforcing.

The width of on-street parking should typically be eight feet, but can be reduced to seven feet where circumstances warrant with City approval.

NOTE: The contents of Volume 2 represent an iterative process in the development of the TSP. Refinements to various plan elements occurred throughout the process as new information was obtained. In all cases, the contents of Volume 1 supersede those in Volume 2.



Community Development Department

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MEMORANDUM

DATE: August 19, 2016
TO: Newberg TSP Project Management Team
FROM: Jessica Pelz, AICP, Associate Planner
SUBJECT: **Newberg TSP Update | Tech Memo 12: Code Amendments**

The purpose of this memorandum is to identify the draft amendments to the Newberg Development Code and Newberg Comprehensive Plan that are necessary to implement the updated Transportation System Plan. The TSP Project Management Team presented the draft amendments to the Citizen Advisory Committee twice – once at a joint meeting with the Newberg City Council in 2015, and again at a workshop on 7/14/16. The attached draft amendments are the final version reflecting all comments from the workshops.

There are proposed Development Code amendments to Chapters 15.05, 15.440, 15.505, and 15.510 as part of the TSP update process. Note that Chapter 15.510 of the Development Code would be deleted in its entirety, with its content rolled into the updated Chapter 15.505. The proposed amendments do the following things: streamline and modernize the existing code for clarity and usability; help implement the provisions of the state Transportation Planning Rule; and make the public utility section of the code more robust and usable.

Attachments (note: exhibit lettering corresponds with the 9/8/16 Planning Commission packet):

Exhibit "B": Draft Development Code Amendments – Clean Version

Exhibit "C": Draft Development Code Amendments – Track Changes Version

Exhibit "E": Draft Comprehensive Plan Amendments – Track Changes Version

Exhibit “B”

DRAFT Development Code Amendments – Clean Version
CPTA4-11-001 – Transportation System Plan Update

Adoption of the updated Transportation System Plan (TSP) includes corresponding Development Code and Comprehensive Plan amendments. There are proposed Development Code amendments to Chapters 15.05, 15.440, 15.505, and 15.510 as part of the TSP update process. Note that Chapter 15.510 of the Development Code would be deleted in its entirety, with its content rolled into the updated Chapter 15.505. The proposed amendments do the following things: streamline and modernize the existing code for clarity and usability; help implement the provisions of the state Transportation Planning Rule; and make the public utility section of the code more robust and usable.

15.05.030 Definitions.

“Director” means the Newberg community development director or designee.

15.440.010 Required off-street parking.

A. Off-street parking shall be provided on the development site for all R-1, C-1, M-1, M-2 and M-3 zones. In all other zones, the required parking shall be on the development site or within 400 feet of the development site which the parking is required to serve. All required parking must be under the same ownership as the development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the development site.

B. Off-street parking is not required in the C-3 district, except for:

1. Dwelling units meeting the requirements noted in NMC 15.305.020.
2. New development which is either immediately adjacent to a residential district or separated by nothing but an alley.

C. Within the C-4 district, the minimum number of required off-street parking spaces shall be 50 percent of the number required by NMC 15.440.030, except that no reduction is permitted for residential uses.

D. All commercial, office, or industrial developments that have more than 20 off-street parking spaces and that have designated employee parking must provide at least one preferential carpool/vanpool parking space. The preferential carpool/vanpool parking space(s) must be located close to a building entrance.

15.440.060 Parking area and service drive improvements.

All public or private parking areas, outdoor vehicle sales areas, and service drives shall be improved according to the following:

A. All parking areas and service drives shall have surfacing of asphaltic concrete or portland cement concrete or other hard surfacing such as brick or concrete pavers. Other durable and dust-free surfacing materials may be

Exhibit "B" – TSP DCA-Clean

approved by the director for infrequently used parking areas. All parking areas and service drives shall be graded so as not to drain stormwater over the public sidewalk or onto any abutting public or private property.

B. All parking areas shall be designed not to encroach on public streets, alleys, and other rights-of-way. Parking areas shall not be placed in the area between the curb and sidewalk or, if there is no sidewalk, in the public right-of-way between the curb and the property line. The director may issue a permit for exceptions for unusual circumstances where the design maintains safety and aesthetics.

C. All parking areas, except those required in conjunction with a single-family or two-family dwelling, shall provide a substantial bumper which will prevent cars from encroachment on abutting private and public property.

D. All parking areas, including service drives, except those required in conjunction with single-family or two-family dwellings, shall be screened in accordance with NMC 15.420.010(B).

E. Any lights provided to illuminate any public or private parking area or vehicle sales area shall be so arranged as to reflect the light away from any abutting or adjacent residential district.

F. All service drives and parking spaces shall be substantially marked and comply with NMC 15.440.070.

G. Parking areas for residential uses shall not be located in a required front yard, except as follows:

1. Attached or detached single-family or two-family: parking is authorized in a front yard on a service drive which provides access to an improved parking area outside the front yard.
2. Three- or four-family: parking is authorized in a front yard on a service drive which is adjacent to a door at least seven feet wide intended and used for entrance of a vehicle (see Appendix A, Figure 12).

H. A reduction in size of the parking stall may be allowed for up to a maximum of 30 percent of the total number of spaces to allow for compact cars. For high turnover uses, such as convenience stores or fast-food restaurants, at the discretion of the director, all stalls will be required to be full-sized.

I. Affordable housing projects may use a tandem parking design, subject to approval of the community development director.

J. Portions of off-street parking areas may be developed or redeveloped for transit-related facilities and uses such as transit shelters or park-and-ride lots, subject to meeting all other applicable standards, including retaining the required minimum number of parking spaces.

Chapter 15.505 Public Improvements Standards (New)

Sections:

15.505.010	Purpose
15.505.020	Applicability
15.505.030	Street Standards
15.505.040	Public Utility Standards
15.505.050	Stormwater System Standards

15.505.010 Purpose

This chapter provides standards for public infrastructure and utilities installed with new development, consistent with the policies of the City of Newberg Comprehensive Plan and adopted city master plans. The standards are intended to minimize disturbance to natural features, promote energy conservation and efficiency, minimize and maintain development impacts on surrounding properties and neighborhoods, and ensure timely completion of adequate public facilities to serve new development.

15.505.020 Applicability

The provision and utilization of public facilities and services within the city of Newberg shall apply to all land developments in accordance with this chapter. No development shall be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with section 15.505.030.E. of this chapter.

- A. Public Works Design and Construction Standards. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall comply with the requirements of the most recently adopted Newberg Public Works Design and Construction Standards.
- B. Street Improvements. All projects subject to a Type II design review, partition, or subdivision approval must construct street improvements necessary to serve the development.
- C. Water. All developments, lots, and parcels within the city of Newberg shall be served by the municipal water system as specified in NMC 13.15.
- D. Wastewater. All developments, lots, and parcels within the city of Newberg shall be served by the municipal wastewater system as specified in NMC 13.10.
- E. Stormwater. All developments, lots, and parcels within the city of Newberg shall manage stormwater runoff as specified in NMC 13.20 and 13.25.
- F. Utility Easements. Utility easements shall be provided as necessary and required by the review body to provide needed facilities for present or future development of the area.
- G. City Approval of Public Improvements Required. No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the provisions of this code and the Newberg Public Works Design and Construction Standards.

15.505.030 Street Standards

A. Purpose. The purpose of this section is to:

1. Provide for safe, efficient, and convenient multi-modal transportation within the city of Newberg.
2. Provide adequate access to all proposed and anticipated developments in the city of Newberg. For purposes of this section, "adequate access" means direct routes of travel between destinations; such destinations may include residential neighborhoods, parks, schools, shopping areas, and employment centers.
3. Provide adequate area in all public rights-of-way for sidewalks, wastewater and water lines, stormwater facilities, natural gas lines, power lines, and other utilities commonly and appropriately placed in such rights-of-way. For purposes of this section, "adequate area" means space sufficient to provide all required public services to standards defined in this code and in the Newberg Public Works Design and Construction Standards.

B. Applicability. The provisions of this section apply to:

1. The creation, dedication, and/or construction of all public streets, bike facilities, or pedestrian facilities in all subdivisions, partitions, or other developments in the city of Newberg.
2. The extension or widening of existing public street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.
3. The construction or modification of any utilities, pedestrian facilities, or bike facilities in public rights-of-way or easements.
4. The designation of planter strips. Street trees are required subject to NMC 15.420.
5. Developments outside the city that tie into or take access from city streets.

C. Layout of streets, alleys, bikeways, and walkways. Streets, alleys, bikeways, and walkways shall be laid out and constructed as shown in the Newberg Transportation System Plan. In areas where the transportation system plan or future street plans do not show specific transportation improvements, roads and streets shall be laid out so as to conform to previously approved subdivisions, partitions, and other developments for adjoining properties, unless it is found in the public interest to modify these patterns. Transportation improvements shall conform to the standards within the Newberg Municipal Code, the Newberg Public Works Design and Construction Standards, the Newberg Transportation System Plan, and other adopted city plans.

D. Construction of new streets. Where new streets are necessary to serve a new development, subdivision, or partition, right-of-way dedication and full street improvements shall be required. Three-quarter streets may be

approved in lieu of full street improvements when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed; in such cases, three-quarter street improvements may be allowed by the city only where all of the following criteria are met:

1. The land abutting the opposite side of the new street is undeveloped and not part of the new development; and
2. The adjoining land abutting the opposite side of the street is within the city limits and the urban growth boundary.

E. Improvements to existing streets.

1. All projects subject to partition, subdivision, or Type II design review approval shall dedicate right-of-way sufficient to improve the street to the width specified in NMC 15.505.G.
2. All projects subject to partition, subdivision, or Type II design review approval must construct a minimum of a three-quarter street improvement to all existing streets adjacent to, within, or necessary to serve the development. The director may waive or modify this requirement where the applicant demonstrates that the condition of existing streets to serve the development meets city standards and is in satisfactory condition to handle the projected traffic loads from the development. Where a development has frontage on both sides of an existing street, full street improvements are required.
3. In lieu of the street improvement requirements outlined in 15.505.040.B., the review authority may elect to accept from the applicant monies to be placed in a fund dedicated to the future reconstruction of the subject street(s). The amount of money deposited with the city shall be 100 percent of the estimated cost of the required street improvements (including any associated utility improvements), and 10% of the estimated cost for inflation. Cost estimates used for this purpose shall be based on preliminary design of the constructed street provided by the applicant's engineer and shall be approved by the director.

F. Improvements relating to impacts. Improvements required as a condition of development approval shall be roughly proportional to the impact of the development on public facilities and services. The review body must make findings in the development approval that indicate how the required improvements are roughly proportional to the impact. Development may not occur until required transportation facilities are in place or guaranteed, in conformance with the provisions of this code. If required transportation facilities cannot be put in place or be guaranteed, then the review body shall deny the requested land use application.

G. Street width and design standards.

1. Design Standards. All streets shall conform with the standards contained in Table 15.505.G.. Where a range of values is listed, the director shall determine the width based on a consideration of the total street section width needed, existing street widths, and existing development patterns. Preference shall be given to the higher value. Where values may be modified by the director, the overall width shall be determined using the standards under subsections (2) through (10) of this section.

Table 15.505.030.G Street Design Standards

Type of Street	Right-of-Way Width	Curb-to-Curb Pavement Width	Motor Vehicle Travel Lanes	Median Type	Striped Bike Lane (Both Sides)	On-Street Parking
Arterial Streets						
Expressway**	ODOT	ODOT	ODOT	ODOT	ODOT	ODOT
Major arterial	95 – 100 feet	74 feet	4 lanes	TWLTL or median*	Yes	No*
Minor arterial	69 – 80 feet	48 feet	2 lanes	TWLTL or median*	Yes	No*
Collectors						
Major	57 – 80 feet	36 feet	2 lanes	None*	Yes	No*
Minor	61 – 65 feet	40 feet	2 lanes	None*	Yes*	Yes*
Local Streets						
Local residential	54 – 60 feet	32 feet	2 lanes	None	No	Yes
Limited residential, parking both sides	44 – 50 feet	28 feet	2 lanes	None	No	Yes
Limited residential, parking one side	40 – 46 feet	26 feet	2 lanes	None	No	One side
Local commercial/industrial	55 – 65 feet	34 feet	2 lanes	None*	No*	Yes*
*May be modified with approval of the director. Modification will change overall curb-to-curb and right-of-way width. Where a center turn lane is not required, a landscaped median shall be provided instead, with turning pockets as necessary to preserve roadway functions.						
**All standards shall be per ODOT expressway standards.						

2. Motor Vehicle Travel Lanes. Collector and arterial streets shall have a minimum width of 12 feet.
3. Bike Lanes. Striped bike lanes shall be a minimum of six feet wide. Bike lanes shall be provided where shown in the Newberg transportation system plan.
4. Parking Lanes. Where on-street parking is allowed on collector and arterial streets, the parking lane shall be a minimum of eight feet wide.
5. Center Turn Lanes. Where a center turn lane is provided, it shall be a minimum of 12 feet wide.

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6. Limited Residential Streets. Limited residential streets shall be allowed only at the discretion of the review authority, and only in consideration of the following factors:
 - a. The requirements of the fire chief shall be followed.
 - b. The estimated traffic volume on the street is low, and in no case more than 600 average daily trips.
 - c. Use for through streets or looped streets is preferred over cul-de-sac streets.
 - d. Use for short blocks (under 400 feet) is preferred over longer blocks.
 - e. The total number of residences or other uses accessing the street in that block is small, and in no case more than 30 residences.
 - f. On-street parking usage is limited, such as by providing ample off-street parking, or by staggering driveways so there are few areas where parking is allowable on both sides.
7. Sidewalks. Sidewalks shall be provided on both sides of all public streets. Minimum width is five feet.
8. Planter Strips. Except where infeasible, a planter strip shall be provided between the sidewalk and the curb line, with a minimum width of five feet. This strip shall be landscaped in accordance with the standards in NMC 15.420.020. Curb-side sidewalks may be allowed on limited residential streets. Where curb-side sidewalks are allowed, the following shall be provided:
 - a. Additional reinforcement is done to the sidewalk section at corners.
 - b. Sidewalk width is six feet.
9. Slope Easements. Slope easements shall be provided adjacent to the street where required to maintain the stability of the street.
10. Intersections and street design. The street design standards in the Newberg Public Works Design and Construction Standards shall apply to all public streets, alleys, bike facilities, and sidewalks in the city.
11. The planning commission may approve modifications to street standards for the purpose of ingress or egress to a minimum of three and a maximum of six lots through a conditional use permit.

H. Modification of Street Right-of-Way and Improvement Width. The director, pursuant to the Type II review procedures of NMC [15.220](#), may allow modification to the public street standards of subsection G of this section, when the criteria in both subsections H.1 and H.2 of this section are satisfied:

1. The modification is necessary to provide design flexibility in instances where:
 - a. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 - b. Lot shape or configuration precludes accessing a proposed development with a street which meets the full standards of this section; or
 - c. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or
 - d. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.
2. Modification of the standards of this section shall only be approved if the director finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes

I. Temporary Turnarounds.

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1. Temporary Turnarounds. Where a street will be extended as part of a future phase of a development, or as part of development of an abutting property, the street may be terminated with a temporary turnaround in lieu of a standard street connection or circular cul-de-sac bulb. The director and fire chief shall approve the temporary turnaround. It shall have an all-weather surface, and may include a hammerhead-type turnaround meeting fire apparatus access road standards, a paved or graveled circular turnaround, or a paved or graveled temporary access road. For streets extending less than 150 feet and/or with no significant access, the director may approve the street without a temporary turnaround. Easements or right-of-way may be required as necessary to preserve access to the turnaround.

J. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of this code.

K. Future extension of streets. All new streets required for a subdivision, partition, or a project requiring site design review shall be constructed to be "to and through": through the development and to the edges of the project site to serve adjacent properties for future development.

L. Cul-de-sacs.

1. Cul-de-sacs shall only be permitted when one or more of the circumstances listed in this section exist. When cul-de-sacs are justified, public walkway connections shall be provided wherever possible to connect with another street, walkway, school, or similar destination.
 - a. Physical or topographic conditions make a street connection impracticable. These conditions include but are not limited to controlled access streets, railroads, steep slopes, wetlands, or water bodies where a connection could not be reasonably made.
 - b. Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering the potential for redevelopment.
 - c. Where streets or accessways would violate provisions of leases, easements, or similar restrictions.
 - d. Where the streets or accessways abut the urban growth boundary and rural resource land in farm or forest use, except where the adjoining land is designated as an urban reserve area.
2. Cul-de-sacs shall be no more than 400 feet long (measured from the centerline of the intersection to the radius point of the bulb).
3. Cul-de-sacs shall not serve more than 18 single-family dwellings.

Each cul-de-sac shall have a circular end with a minimum diameter of 96 feet, curb-to-curb, within a 109-foot minimum diameter right-of-way. For residential uses, a 35-foot radius may be allowed if the street has not parking, a mountable curb, curbside sidewalks, and sprinkler systems in every building along the street.

M. Street names and street signs. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for new streets not in alignment with existing streets are subject to approval by the director and the fire chief and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the city. It shall be the responsibility of the land divider to provide street signs.

N. Platting standards for alleys.

1. An alley may be required to be dedicated and constructed to provide adequate access for a development, as deemed necessary by the Director.
2. The right-of-way width and paving design for alleys shall be not less than 20 feet wide. Slope easements shall be dedicated in accordance with specifications adopted by the city council under NMC 15.510.010 et seq.
3. Where two alleys intersect, 10-foot corner cut-offs shall be provided.
4. Unless otherwise approved by the City Engineer where topographical conditions will not reasonably permit, grades shall not exceed 12 percent on alleys, and centerline radii on curves shall be not less than 100 feet.
5. All provisions and requirements with respect to streets identified in this code shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

O. Platting standards for blocks.

Purpose. Streets and walkways can provide convenient travel within a neighborhood and can serve to connect people and land uses. Large, uninterrupted blocks can serve as a barrier to travel, especially walking and biking. Large blocks also can divide rather than unite neighborhoods. To promote connected neighborhoods and to shorten travel distances, the following minimum standards for block lengths are established.

1. Maximum Block Length and Perimeter. The maximum length and perimeters of blocks in the zones listed below shall be according to the following table. The review body for a subdivision, partition, conditional use permit, or a Type II design review may require installation of streets or walkways as necessary to meet the standards below.

Zone(s)	Maximum Block Length	Maximum Block Perimeter
R-1	800 feet	2,000 feet
R-2, R-3, RP, I	1,200 feet	3,000 feet

2. Exceptions.

- a. If a public walkway is installed mid-block, the maximum block length and perimeter may be increased by 25 percent.
- b. Where a proposed street divides a block, one of the resulting blocks may exceed the maximum block length and perimeter standards provided the average block length and perimeter of the two resulting blocks do not exceed these standards.
- c. Blocks in excess of the above standards are allowed where access controlled streets, street access spacing standards, railroads, steep slopes, wetlands, water bodies, preexisting development, ownership patterns or similar circumstances restrict street and walkway location and design. In these cases, block length and perimeter shall be as small as practical. Where a street cannot be provided because of these circumstances but a public walkway is still feasible, a public walkway shall be provided.

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- d. Institutional campuses located in an R-1 zone may apply the standards for the institutional zone.
- e. Where a block is in more than one zone, the standards of the majority of land in the proposed block shall apply.
- f. Where a local street plan, concept master site development plan, or specific plan has been approved for an area, the block standards shall follow those approved in the plan. In approving such a plan, the review body shall follow the block standards listed above to the extent appropriate for the plan area.

P. Private streets.

New private streets, as defined in NMC 15.05.030, shall not be created.

Q. Traffic calming.

- 1. The following roadway design features may be required in new street construction where traffic calming needs are anticipated:
 - a. Serpentine alignment.
 - b. Curb extensions.
 - c. Traffic diverters/circles.
 - d. Raised medians and landscaping.
 - e. Other methods shown effective through engineering studies.
- 2. Traffic-calming measures such as speed humps should be applied to mitigate traffic operations and/or safety problems on existing streets. They should not be applied with new street constructions.

R. Vehicular access standards.

- 1. Purpose. The purpose of these standards is to manage vehicle access to maintain traffic flow, safety, roadway capacity, and efficiency. They help to maintain an adequate level of service consistent with the functional classification of the street. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access is limited and managed on these roads to promote efficient through movement. Local streets and alleys provide access to individual properties. Access is managed on these roads to maintain safe maneuvering of vehicles in and out of properties and to allow safe through movements. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.
- 2. Access Spacing Standards. Public street intersection and driveway spacing shall follow the standards in Table 15.505.R below. The Oregon Department of Transportation (ODOT) has jurisdiction of some roadways within the Newberg city limits, and ODOT access standards will apply on those roadways.

Table 15.505.R. Access Spacing Standards

Roadway Functional Classification	Area ¹	Minimum Public Street Intersection Spacing (Feet) ²		Driveway Setback from Intersecting Street ⁴		
Expressway	All	Refer to ODOT Access Spacing Standards		NA		
Major arterial	Urban CBD	Refer to ODOT Access Spacing Standards				
Minor arterial	Urban CBD	500 200		150 100		
Major collector	All	400		150		
Minor collector	All	300		100		

¹ "Urban" refers to intersections inside the city urban growth boundary outside the central business district (C-3 zone).

"CBD" refers to intersections within the central business district (C-3 zone).

"All" refers to all intersections within the Newberg urban growth boundary.

² Measured centerline to centerline.

⁴ The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.

3. Properties with Multiple Frontages. Where a property has frontage on more than one street, access shall be limited to the street with the lesser classification.

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4. Driveways. More than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 40 feet of lot frontage separating each driveway approach. More than one driveway is permitted on a lot accessed from a major collector as long as there is at least 100 feet of lot frontage separating each driveway approach.
5. Alley Access. Where a property has frontage on an alley and the only other frontages are on collector or arterial streets, access shall be taken from the alley only. The review body may allow creation of an alley for access to lots that do not otherwise have frontage on a public street provided all of the following are met:
 - a. The review body finds that creating a public street frontage is not feasible.
 - b. The alley access is for no more than six dwellings and no more than six lots.
 - c. The alley has through access to streets on both ends.
 - d. One additional parking space over those otherwise required is provided for each dwelling.
Where feasible, this shall be provided as a public use parking space adjacent to the alley.
6. Closure of Existing Accesses. Existing accesses that are not used as part of development or redevelopment of a property shall be closed and replaced with curbing, sidewalks, and landscaping, as appropriate.
7. Shared Driveways.
 - a. The number of driveways onto arterial streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes. Where there is an abutting developable property, a shared driveway shall be provided as appropriate. When shared driveways are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway temporarily ends at the property line, but may be accessed or extended in the future as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).
 - b. Access easements (i.e., for the benefit of affected properties) and maintenance agreements shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
 - c. No more than four lots may access one shared driveway.
 - d. Shared driveways shall be posted as no parking fire lanes where required by the fire marshal.
 - e. Where three lots or three dwellings share one driveway, one additional parking space over those otherwise required shall be provided for each dwelling. Where feasible, this shall be provided as a common use parking space adjacent to the driveway.
8. Frontage Streets and Alleys. The review body for a partition, subdivision, or design review may require construction of a frontage street to provide access to properties fronting an arterial or collector street.
9. ODOT or Yamhill County right-of-way. Where a property abuts an ODOT or Yamhill County right-of-way, the applicant for any development project shall obtain an access permit from ODOT or Yamhill County.
10. Exceptions. The director may allow exceptions to the access standards above in any of the following circumstances:

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- a. Where existing and planned future development patterns or physical constraints, such as topography, parcel configuration, and similar conditions, prevent access in accordance with the above standards.
 - b. Where the proposal is to relocate an existing access for existing development, where the relocated access is closer to conformance with the standards above and does not increase the type or volume of access.
 - c. Where the proposed access results in safer access, less congestion, a better level of service, and more functional circulation, both on street and on site, than access otherwise allowed under these standards.
11. Where an exception is approved, the access shall be as safe and functional as practical in the particular circumstance. The director may require that the applicant submit a traffic study by a registered engineer to show the proposed access meets these criteria.

S. Public walkways.

1. Projects subject to Type II design review, partition, or subdivision approval may be required to provide public walkways where necessary for public safety and convenience, or where necessary to meet the standards of this code. Public walkways are meant to connect cul-de-sacs to adjacent areas, to pass through oddly shaped or unusually long blocks, to provide for networks of public paths according to adopted plans, or to provide access to schools, parks or other community destinations or public areas. Where possible, public walkway easements and locations may also be used to accommodate public utilities.
2. Public walkways shall be located within a public access easement that is a minimum of 15 feet in width.
3. A walk strip, not less than ten feet in width, shall be paved in the center of all public walkway easements. Such paving shall conform to specifications in the Newberg Public Works Design and Construction Standards.
4. Public walkways shall be designed to meet the Americans with Disabilities Act requirements.
5. Public walkways connecting one right-of-way to another shall be designed to provide as short and straight of a route as practical.
6. The developer of the public walkway may be required to provide a homeowners' association or similar entity to maintain the public walkway and associated improvements.
7. Lighting may be required for public walkways in excess of 250 feet in length.
8. The review body may modify these requirements where it finds that topographic, preexisting development, or similar constraints exist.

T. Street trees.

Street trees shall be provided for all projects subject to Type II design review, partition, or subdivision. Street trees shall be installed in accordance with the provisions of NMC 15.420.010(B)(4).

U. Street Lights. All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the Newberg Public Works Design and Construction Standards. The developer shall install all such facilities and make the necessary arrangements with

the serving electric utility as approved by the city. Upon the city's acceptance of the public improvements associated with the development, the street lighting system, exclusive of utility-owned service lines, shall be and become property of the city unless otherwise designated by the city through agreement with a private utility.

V. Transit improvements. Development proposals for sites that include or are adjacent to existing or planned transit facilities, as shown in the Newberg Transportation System Plan or adopted local or regional transit plan, shall be required to provide any of the following, as applicable and required by the review authority:

1. Reasonably direct pedestrian connections between the transit facility and building entrances of the site. For the purpose of this section, "reasonably direct" means a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.
2. A transit passenger landing pad accessible to disabled persons.
3. An easement of dedication for a passenger shelter or bench if such facility is in an adopted plan.
4. Lighting at the transit facility.

15.505.040 Public Utility Standards

A. Purpose. The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.

B. Applicability. This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.

C. General Standards.

1. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall conform to the Newberg Public Works Design and Construction Standards and require a public improvements permit.
2. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site. Installation of all proposed public and private utilities shall be coordinated by the developer and be approved by the city to ensure the orderly extension of such utilities within public right-of-way and easements.

D. Standards for Water Improvements. All development that has a need for water service shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities

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shall be coordinated with the extension or improvement of necessary wastewater and stormwater facilities, as applicable.

1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping stations which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.
2. Specific location, size and capacity of such facilities will be subject to the approval of the director with reference to the applicable water master plan. All water facilities shall conform with city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. Installation costs shall remain entirely the developer's responsibility.
3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties, which, in the judgment of the city, cannot be feasibly served otherwise.
4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city.

E. Standards for Wastewater Improvements. All development that has a need for wastewater services shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary water services and stormwater facilities, as applicable.

1. All septic tank systems and on-site sewage systems are prohibited. Existing septic systems must be abandoned or removed in accordance with Yamhill County standards.
2. All properties shall be provided with gravity service to the city wastewater system, except for lots that have unique topographic or other natural features that make gravity wastewater extension impractical as determined by the director. Where gravity service is impractical, the developer shall provide all necessary pumps/lift stations and other improvements, as determined by the director.
3. All developments shall be required to be linked to existing wastewater collection facilities adequately sized to serve their intended area by the construction of wastewater lines which connect to existing

adequately sized wastewater facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

4. Specific location, size and capacity of wastewater facilities will be subject to the approval of the director with reference to the applicable wastewater master plan. All wastewater facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. Installation costs shall remain entirely the developer's responsibility.

5. Temporary wastewater service facilities, including pumping stations, will be permitted only if the director approves the temporary facilities, and the developer provides for all facilities that are necessary for transition to permanent facilities.

6. The design of the wastewater facilities shall take into account provisions for the future extension beyond the development to serve upstream properties, which, in the judgment of the city, cannot be feasibly served otherwise.

7. Design, construction and material standards shall be as specified by the director for the construction of such wastewater facilities in the city.

F. Easements. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as provided in the Newberg Public Works Design and Construction Standards.

15.505.050 Stormwater System Standards

A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.

B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.

C. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the state of Oregon prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.
2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.
3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the state of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design & construction standards for the city.

E. Development Standards. Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg Public Works Design and Construction Standards.

Exhibit "B" – TSP DCA-Clean

Exhibit “C”

DRAFT Development Code Amendments – Track Changes Version
CPTA4-11-001 – Transportation System Plan Update

Adoption of the updated Transportation System Plan (TSP) includes corresponding Development Code and Comprehensive Plan amendments. There are proposed Development Code amendments to Chapters 15.05, 15.440, 15.505, and 15.510 as part of the TSP update process. Note that Chapter 15.510 of the Development Code would be deleted in its entirety, with its content rolled into the updated Chapter 15.505. The proposed amendments do the following things: streamline and modernize the existing code for clarity and usability; help implement the provisions of the state Transportation Planning Rule; and make the public utility section of the code more robust and usable.

15.05.030 Definitions.

“Director” means the Newberg ~~planning and building~~community development director or designee.

15.440.010 Required off-street parking.

A. Off-street parking shall be provided on the development site for all R-1, C-1, M-1, M-2 and M-3 zones. In all other zones, the required parking shall be on the development site or within 400 feet of the development site which the parking is required to serve. All required parking must be under the same ownership as the development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the development site.

B. Off-street parking is not required in the C-3 district, except for:

1. Dwelling units meeting the requirements noted in NMC 15.305.020.
2. New development which is either immediately adjacent to a residential district or separated by nothing but an alley.

C. Within the C-4 district, the minimum number of required off-street parking spaces shall be 50 percent of the number required by NMC 15.440.030, except that no reduction is permitted for residential uses.

D. All commercial, office, or industrial developments that have more than 20 off-street parking spaces and that have designated employee parking must provide at least one preferential carpool/vanpool parking space. The preferential carpool/vanpool parking space(s) must be located close to a building entrance.

15.440.060 Parking area and service drive improvements.

All public or private parking areas, outdoor vehicle sales areas, and service drives shall be improved according to the following:

A. All parking areas and service drives shall have surfacing of asphaltic concrete or portland cement concrete or other hard surfacing such as brick or concrete pavers. Other durable and dust-free surfacing materials may be approved by the director for infrequently used parking areas. All parking areas and service drives shall be graded

so as not to drain ~~storm water~~stormwater over the public sidewalk or onto any abutting public or private property.

B. All parking areas shall be designed not to encroach on public streets, alleys, and other rights-of-way. Parking areas shall not be placed in the area between the curb and sidewalk or, if there is no sidewalk, in the public right-of-way between the curb and the property line. The director may issue a permit for exceptions for unusual circumstances where the design maintains safety and aesthetics.

C. All parking areas, except those required in conjunction with a single-family or two-family dwelling, shall provide a substantial bumper which will prevent cars from encroachment on abutting private and public property.

D. All parking areas, including service drives, except those required in conjunction with single-family or two-family dwellings, shall be screened in accordance with NMC 15.420.010(B).

E. Any lights provided to illuminate any public or private parking area or vehicle sales area shall be so arranged as to reflect the light away from any abutting or adjacent residential district.

F. All service drives and parking spaces shall be substantially marked and comply with NMC 15.440.070.

G. Parking areas for residential uses shall not be located in a required front yard, except as follows:

1. Attached or detached single-family or two-family: parking is authorized in a front yard on a service drive which provides access to an improved parking area outside the front yard.
2. Three- or four-family: parking is authorized in a front yard on a service drive which is adjacent to a door at least seven feet wide intended and used for entrance of a vehicle (see Appendix A, Figure 12).

H. A reduction in size of the parking stall may be allowed for up to a maximum of 30 percent of the total number of spaces to allow for compact cars. For high turnover uses, such as convenience stores or fast-food restaurants, at the discretion of the ~~Director~~director, all stalls will be required to be full-sized.

I. Affordable housing projects may use a tandem parking design, subject to approval of the ~~planning and building~~community development director.

J. Portions of off-street parking areas may be developed or redeveloped for transit-related facilities and uses such as transit shelters or park-and-ride lots, subject to meeting all other applicable standards, including retaining the required minimum number of parking spaces.

Chapter 15.505 Public Improvements Standards (New)

Sections:

15.505.010 Purpose

15.505.020 Applicability

15.505.030 Street Standards

15.505.040 Public Utility Standards

15.505.050 Stormwater System Standards

15.505.010 Purpose

~~The purpose of this chapter is to provide planning and design standards for streets and other transportation facilities. Streets are the most common public spaces, touching virtually every parcel of land. One of the primary purposes of this chapter is to provide standards for attractive and safe streets that can accommodate vehicle traffic from planned growth, and provide a range of transportation options, including options for driving, walking and bicycling. This chapter is also intended to implement the Newberg transportation system plan. [Ord. 2619, 5-16-05. Code 2001 § 151.680.]~~

This chapter provides standards for public infrastructure and utilities installed with new development, consistent with the policies of the City of Newberg Comprehensive Plan and adopted city master plans. The standards are intended to minimize disturbance to natural features, promote energy conservation and efficiency, minimize and maintain development impacts on surrounding properties and neighborhoods, and ensure timely completion of adequate public facilities to serve new development.

15.505.020 Applicability

The provision and utilization of public facilities and services within the city of Newberg shall apply to all land developments in accordance with this chapter. No development shall be approved unless the following improvements are provided for prior to occupancy or operation, unless future provision is assured in accordance with section 15.505.030.E. of this chapter.

- A. Public Works Design and Construction Standards. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall comply with the requirements of the most recently adopted Newberg Public Works Design and Construction Standards.
- B. Street Improvements. All projects subject to a Type II design review, partition, or subdivision approval must construct street improvements necessary to serve the development.
- C. Water. All developments, lots, and parcels within the city of Newberg shall be served by the municipal water system as specified in NMC 13.15.
- D. Wastewater. All developments, lots, and parcels within the city of Newberg shall be served by the municipal wastewater system as specified in NMC 13.10.
- E. Stormwater. All developments, lots, and parcels within the city of Newberg shall manage stormwater runoff as specified in NMC 13.20 and 13.25.

- F. Utility Easements. Utility easements shall be provided as necessary and required by the review body to provide needed facilities for present or future development of the area.
- G. City Approval of Public Improvements Required. No building permit may be issued until all required public facility improvements are in place and approved by the director, or are otherwise bonded for in a manner approved by the review authority, in conformance with the provisions of this code and the Newberg Public Works Design and Construction Standards.

15.505.030 Street Standards

A. Purpose. The purpose of this section is to:

- 1. Provide for safe, efficient, and convenient multi-modal transportation within the city of Newberg.
- 2. Provide adequate access to all proposed and anticipated developments in the city of Newberg. For purposes of this section, "adequate access" means direct routes of travel between destinations; such destinations may include residential neighborhoods, parks, schools, shopping areas, and employment centers.
- 3. Provide adequate area in all public rights-of-way for sidewalks, wastewater and water lines, stormwater facilities, natural gas lines, power lines, and other utilities commonly and appropriately placed in such rights-of-way. For purposes of this section, "adequate area" means space sufficient to provide all required public services to standards defined in this code and in the Newberg Public Works Design and Construction Standards.

B. Applicability. The provisions of this section apply to:

- 1. The creation, dedication, and/or construction of all public streets, bike facilities, or pedestrian facilities in all subdivisions, partitions, or other developments in the city of Newberg.
- 2. The extension or widening of existing public street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.
- 3. The construction or modification of any utilities, pedestrian facilities, or bike facilities in public rights-of-way or easements.
- 4. The designation of planter strips. Street trees are required subject to NMC 15.420.
- 5. Developments outside the city that tie into or take access from city streets.

~~15.505.020~~ **C. Layout of streets, alleys, bikeways, and walkways.**

~~A.~~ Streets, alleys, bikeways, and walkways shall be laid out and constructed as shown in the Newberg ~~transportation-Transportation system-System pPlan or in adopted future street plans.~~

~~B.~~ In areas where the transportation system plan or future street plans do not show specific transportation improvements, roads and streets shall be laid out so as to conform to previously approved subdivisions, partitions, and other developments ~~previously approved~~ for adjoining ~~property properties, as to width, general direction and in other aspects,~~ unless it is found in the public interest to modify these patterns. ~~In addition, t~~Transportation improvements shall conform to the standards within ~~this code.~~the Newberg Municipal Code, the Newberg Public Works Design and Construction Standards, the Newberg Transportation System Plan, and other adopted city plans. [Ord. 2619, 5-16-05; Code 2001 § 151.681.]

~~15.505.030 Construction of new streets and alleys.~~

~~D. Construction of new streets. The land divider or developer shall grade and pave all streets and alleys in the subdivision, partition or development to the width specified in NMC 15.505.060, and provide for drainage of all such streets and alleys, construct curbs and gutters within the subdivision, partition or development in accordance with specifications adopted by the city council under NMC 15.510.030. Such improvements shall be constructed to specifications of the city under the supervision and direction of the director. It shall be the responsibility of the land divider or developer to provide street signs. [Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.682.] Where new streets are necessary to serve a new development, subdivision, or partition, right-of-way dedication and full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed; in such cases, three-quarter street improvements may be allowed by the city only where all of the following criteria are met:~~

- ~~1. The land abutting the opposite side of the new street is undeveloped and not part of the new development; and~~
- ~~1.2. The adjoining land abutting the opposite side of the street is within the city limits and the urban growth boundary.~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.040E. Improvements to existing streets.~~

- ~~1. A subdivision, partition or development requiring a Type II design review abutting or adjacent to an existing road of inadequate width shall dedicate additional right-of-way to and improve the street to the width specified in NMC 15.505.060. All projects subject to partition, subdivision, or Type II design review approval shall dedicate right-of-way sufficient to improve the street to the width specified in NMC 15.505.G.~~
- ~~2. All projects subject to partition, subdivision, or Type II design review approval must construct a minimum of a three-quarter street improvement to all existing streets adjacent to, within, or necessary to serve the development. The director may waive or modify this requirement where the applicant demonstrates that the condition of existing streets to serve the development meets city standards and is in satisfactory condition to handle the projected traffic loads from the development. Where a development has frontage on both sides of an existing street, full street improvements are required.~~

3. In lieu of the street improvement requirements outlined in 15.505.040.B., the review authority may elect to accept from the applicant monies to be placed in a fund dedicated to the future reconstruction of the subject street(s). The amount of money deposited with the city shall be 100 percent of the estimated cost of the required street improvements (including any associated utility improvements), and 10% of the estimated cost for inflation. Cost estimates used for this purpose shall be based on preliminary design of the constructed street provided by the applicant's engineer and shall be approved by the director.

~~{Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.683.}~~

~~Penalty: See NMC 15.05.120.~~

15.505.050 F. Improvements relating to impacts.

Improvements required as a condition of development approval shall be roughly proportional to the impact of the development on public facilities and services. The review body must make findings in the development approval that indicate how the required improvements are roughly proportional to the impact. Development may not occur until required transportation facilities are in place or guaranteed, in conformance with the provisions of this code. If required transportation facilities cannot be put in place or be guaranteed, then the review body shall deny the requested land use application. ~~{Ord. 2619, 5-16-05. Code 2001 § 151.684.}~~

15.505.060 G. Street width and design standards.

1. ~~A.~~ Design Standards. All streets shall conform with the standards contained in Table 15.505.~~G.060~~. Where a range of values is listed, the director shall determine the width based on a consideration of the total street section width needed, existing street widths, and existing development patterns. Preference shall be given to the higher value. Where values may be modified by the director, the overall width shall be determined using the standards under subsections (~~B2~~) through (~~10~~) of this section.

Table 15.505.~~030.G.060~~

Street Design Standards

Type of Street	Right-of-Way Width	Curb-to-Curb Pavement Width	Motor Vehicle Travel Lanes	Center-Turn Lane Median Type	Striped Bike Lane (Both Sides)	On-Street Parking
Arterial Streets						
Expressway**	** <u>ODOT</u>	** <u>ODOT</u>	** <u>ODOT</u>	** <u>ODOT</u>	** <u>ODOT</u>	** <u>ODOT</u>
Major arterial	85-95 – 100 feet	74 feet	4 lanes	Yes <u>TWLT</u> L or median*	Yes	No*

Table 15.505.030.G.060

Street Design Standards

Type of Street	Right-of-Way Width	Curb-to-Curb Pavement Width	Motor Vehicle Travel Lanes	Center Turn Lane Median Type	Striped Bike Lane (Both Sides)	On-Street Parking
Minor arterial	69 60 – 80 feet	46 48 feet	2 lanes	Yes TWLT or median*	Yes	No*
Collectors						
Major	60 57 – 80 feet	34 36 feet	2 lanes	No None*	Yes	No*
Minor	56 61 – 65 feet	34 40 feet	2 lanes	No None*	No Yes*	Yes*
Local Streets						
Local residential	54 – 60 feet	32 feet	2 lanes	No None	No*	Yes
Limited residential, parking both sides	44 – 50 feet	28 feet	2 lanes	No None	No	Yes
Limited residential, parking one side	40 – 46 feet	24 26 feet	2 lanes	No None	No	One side
Limited residential, no parking	36 42 feet	20 feet	2 lanes	No	No	No
Local commercial/industrial	56 55 – 65 feet	34 feet	2 lanes	No None*	No*	No Yes*
*—May be modified with approval of the director. Modification will change overall curb-to-curb and right-of-way width. <u>Where a center turn lane is not required, a landscaped median shall be provided instead, with turning pockets as necessary to preserve roadway functions.</u>						
**—All standards shall be per ODOT expressway standards.						

- ~~B.~~ Motor Vehicle Travel Lanes. Collector and arterial streets shall have a minimum width of 12 feet. Where circumstances warrant, the director may allow a reduction of this width to 11 feet.
- ~~C.~~ Bike Lanes. Striped bike lanes shall be a minimum of five-six feet wide. Where circumstances warrant, the director may allow a reduction of this width to four feet. Bike lanes shall be provided where shown in the Newberg transportation system plan.

4. ~~D.~~ Parking Lanes. Where on-street parking is allowed on collector and arterial streets, the parking lane shall be a minimum of eight feet wide. ~~Where circumstances warrant, the director may allow a reduction of this width to seven feet.~~
5. ~~E.~~ Center Turn Lanes. Where a center turn lane is provided, it shall be a minimum of 12 feet wide.
6. ~~F.~~ Limited Residential Streets. Limited residential streets shall be allowed only at the discretion of the review ~~body~~ authority, and only in consideration of the following factors:
 - a. ~~1.~~ The requirements of the fire ~~marshal~~ chief shall be followed.
 - b. ~~2.~~ The estimated traffic volume on the street is low, and in no case more than 600 average daily trips.
 - c. ~~3.~~ Use for through streets or looped streets is preferred over cul-de-sac streets.
 - d. ~~4.~~ Use for short blocks (under 400 feet) is preferred over longer blocks.
 - e. ~~5.~~ The total number of residences or other uses accessing the street in that block is small, and in no case more than 30 residences.
 - f. ~~6.~~ On-street parking usage is limited, such as by providing ample off-street parking, or by staggering driveways so there are few areas where parking is allowable on both sides.
 - ~~7. Streets with no on-street parking or parking on one side will be allowed only where providing parking both sides is not feasible, and where there is a strong likelihood the no parking area will be self-enforcing, such as where the street abuts the back sides of houses that access a different street. For parking one side streets, the plans shall designate which side of the street is designated no parking.~~
- ~~8.7.~~ G. Sidewalks. Sidewalks shall be provided on both sides of all public streets. Minimum width is five feet.
- ~~9.8.~~ H. Planter Strips. Except where infeasible, a planter strip shall be provided between the sidewalk and the curb line, with a minimum width of five feet. This strip shall be landscaped in accordance with the standards in NMC 15.420.020. Curb-side sidewalks may be allowed on limited residential streets. Where curb-side sidewalks are allowed, the following shall be provided ~~where possible~~:
 - a. ~~1.~~ Additional reinforcement is done to the sidewalk section at corners.
 - b. ~~2.~~ Sidewalk width is six feet.
9. ~~I.~~ Slope Easements. Slope easements s shall be provided adjacent to the street where required to maintain the stability of the street.
10. Intersections and street design. The street design standards in the Newberg Public Works Design and Construction Standards shall apply to all public streets, alleys, bike facilities, and sidewalks in the city.
11. ~~J.~~ The planning commission may approve modifications to ~~public~~ street standards for the purpose of ingress or egress to a minimum of three and a maximum of six lots through a conditional use permit. ~~{Ord. 2763 § 1 (Exh. A § 19), 9-16-13; Ord. 2736 § 1 (Exh. A § 1), 3-21-11; Ord. 2619, 5-16-05; Ord. 2507, 3-1-99; Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 § 151.685.}~~

Penalty: See NMC 15.05.120.

H. Modification of Street Right-of-Way and Improvement Width. The director, pursuant to the Type II review procedures of NMC 15.220, may allow modification to the public street standards of subsection G of this section, when the criteria in both subsections H.1 and H.2 of this section are satisfied:

1. The modification is necessary to provide design flexibility in instances where:
 - a. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 - b. Lot shape or configuration precludes accessing a proposed development with a street which meets the full standards of this section; or
 - c. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or
 - d. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.
2. Modification of the standards of this section shall only be approved if the director finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes

15.505.070 Interim street improvements. I. Temporary Turnarounds.

1. ~~A. Temporary Street Improvements. Three-quarter-width streets may be provided temporarily to access lots where a full street will eventually be provided when all abutting lots are developed, unless otherwise approved as a half street by the director and fire chief.~~ Temporary Turnarounds. Where a street will be extended as part of a future phase of a development, or as part of development of an abutting property, the street may be terminated with a temporary turnaround in lieu of a standard street connection or circular cul-de-sac bulb. The director and fire chief shall approve the temporary turnaround. It shall have an all-weather surface, and may include a hammerhead-type turnaround meeting fire apparatus access road standards, a paved or graveled circular turnaround, or a paved or graveled temporary access road. For streets extending less than 150 feet and/or with no significant access, the director may approve the street without a temporary turnaround. Easements or right-of-way may be required as necessary to preserve access to the turnaround. [Ord. 2619, 5-16-05; Ord. 2507, 3-1-99; Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 § 151.686.]

—Penalty: See NMC 15.05.120.

15.505.080 Reserve block.

~~The director may require the land divider to create a reserve block controlling the access to a street, said block to be placed under the jurisdiction of the city if the director determines that a block is necessary.~~

~~A. To prevent access to abutting land at the end of a street in order to assure the proper extension of the street pattern and the orderly development of land lying beyond the street.~~

~~B. To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards provided in this code.~~

~~C. To prevent access to land abutting a street of the partition or subdivision, but not within the partition or subdivision itself.~~

~~D. To prevent access to land unsuitable for building development.~~

Exhibit "C" – TSP DCA-TC

~~Local Street Width~~

Local Street Standard	Intended Land Use Type		Maximum Amount of Development with Street Access*	Maximum Block Length*	Comments
32' parking both sides 54' to 65' right-of-way	Single-family	Y	No maximum	500 feet	34' in commercial areas if substantial on-street truck parking is anticipated
	Multifamily dwelling	Y	No maximum		
	Commercial	Y	40,000 sq. ft. floor area		
	Industrial	N	NA		
44' parking both sides 65' right-of-way	Single-family	N	NA	500 feet	Intended for community commercial (C-2 zone) and industrial areas with significant large truck traffic
	Multifamily dwelling	N	NA		
	Commercial	Y	No maximum		
	Industrial	Y	No maximum		
45' radius cul-de-sac	Single-family	Y	18 units	400 feet	35' radius may be allowed if the street has no parking, a mountable curb, attached sidewalks and sprinkler systems in every building along the street
	Multifamily dwelling	Y	No maximum		
	Commercial	N	NA		
	Industrial	N	NA		
* With direct driveway access and/or indirect access via a common parking area or driveway to the street					
** Block length is the distance between public streets that have a minimum clear width of 20 feet					

[Ord. 2513, 8-2-99; Code 2001 § 151.687.]

~~15.505.090 Intersections of streets.~~

~~A. Angles. Streets shall intersect one another at an angle as near to the right angle as is practicable considering topography of the area and previous adjacent layout; where not so practicable, the right of-~~

Exhibit "C" – TSP DCA-TC

~~way and street paving within the acute angle shall have a minimum of 30 feet centerline radius where such angle is not less than 75 degrees. In the case of streets intersecting at an angle of less than 75 degrees, then of such minimum as the director may determine in accordance with the purpose of this code.~~

~~B. Offsets. Intersections shall be so designed that no offset dangerous to the traveling public is created as a result of staggering of intersections, and in no case shall there be an offset of less than 100 feet centerline to centerline.~~

~~C. New or improved intersection construction shall incorporate the minimum intersection curb return radii requirements shown in the following table:~~

Minimum Curb Return Radii (Feet) Edge of Pavement/Curb	
Lowest Street Classification of Two Intersection Streets	Minimum Curb Return Radius*
Major arterial	30 feet
Minor arterial	30 feet
Major collector	25 feet
Minor collector	25 feet
Local residential street	15 feet
Local commercial/ industrial street	30 feet

Minimum Curb Return Radii (Feet) Edge of Pavement/Curb	
Lowest Street Classification of Two Intersection Streets	Minimum Curb Return Radius*
* If bicycle lane or on-street parking exists, the turning radii may be reduced by five feet	

~~[Ord. 2513, 8-2-99; Ord. 2451, 12-2-96. Code 2001 § 151.688.]~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.100 Topography. J. Topography.~~

~~The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of this code. [Ord. 2451, 12-2-96. Code 2001 § 151.689.]~~

15.505.110-K. Future extension of streets.

All new streets required for a subdivision, partition, or a project requiring site design review shall be constructed to be "to and through": through the development and to the edges of the project site to serve adjacent properties for future development.

~~Where the subdivision or partition is adjacent to land likely to be divided in the future, streets shall continue through to the boundary lines of the area under the same ownership of which the subdivision or partition is a part, where the director determines that such continuation is necessary to provide for the orderly division of such adjacent land or the transportation and access needs of the community. [Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 § 151.690.]~~
15.505.120-L. Cul-de-sacs.

1. ~~A.~~ Cul-de-sacs shall only be permitted when one or more of the circumstances listed in this section exist. When cul-de-sacs are justified, public walkway connections shall be provided wherever possible to connect with another street, greenwaywalkway, school, or similar destination ~~unless one or more of the circumstances listed in this section exist.~~
 - a. ~~1.~~ Physical or topographic conditions make a street ~~or walkway~~ connection impracticable. These conditions include but are not limited to controlled access streets, railroads, steep slopes, wetlands, or water bodies where a connection could not be reasonably made.
 - b. ~~2.~~ Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering the potential for redevelopment.
 - c. ~~3.~~ Where streets or accessways would violate provisions of leases, easements, or similar restrictions.
 - d. ~~4.~~ Where the streets or accessways abut the urban growth boundary and rural resource land in farm or forest use, except where the adjoining land is designated as an urban reserve area.

~~2. B.~~ There shall be no cul-de-sacs ~~Cul-de-sacs shall be no~~ more than 400 feet long (measured from the centerline of the intersection to the radius point of the bulb).

~~2.3.~~ Cul-de-sacs shall not or serving more than 18 single-family dwellings.

Each cul-de-sac shall have a circular end with a minimum diameter of 90-96 feet, curb-to-curb, within a ~~103~~109-foot minimum diameter right-of-way. For residential uses, a 35-foot radius may be allowed if the street has not parking, a mountable curb, curbside attached sidewalks, and sprinkler systems in every building along the street.

M. Street names and street signs.

Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for new streets that are not in alignment with existing streets are subject to approval by the director and the fire chief and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the city. It shall be the responsibility of the land divider to provide street signs. [Ord. 2451, 12-2-96. Code 2001 § 151.692.]

Penalty: See NMC 15.05.120.

15.505.140 Grades and curves.

~~Unless otherwise approved by the director because topographical conditions will not reasonably permit, grades shall not exceed six percent on arterials, 10 percent on collector streets, or 12 percent on all other streets. Centerline radii on curves shall not be less than 300 feet on arterials, or 230 feet on all other streets. [Ord. 2451, 12-2-96. Code 2001 § 151.693.]~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.150~~ N. Platting standards for alleys.

1. ~~A. Dedication.~~ An alley may be required to be dedicated and constructed to provide adequate access for a development, as deemed necessary by the Director. The director may require adequate and proper alleys to be dedicated to the public by the land divider of such design and in such location as necessary to provide for the access needs of the subdivision or partition in accordance with the purpose of this code.
2. ~~B. Width.~~ The right-of-way Width of right-of-way and paving design for alleys shall be not less than 20 feet wide., except that for an alley abutting land not in the subdivision or partition, a lesser width may be allowed at the discretion of the director where the land divider presents a satisfactory plan whereby such alley will be expanded to the width otherwise required. Slope easements shall be dedicated in accordance with specifications adopted by the city council under NMC 15.510.010 et seq.
3. ~~C. Corner Cut-Offs.~~ Where two alleys intersect, 10-foot corner cut-offs shall be provided.
4. ~~D. Grades and Curves.~~ Unless otherwise approved by the ~~director~~ City Engineer where topographical conditions will not reasonably permit, grades shall not exceed 12 percent on alleys, and centerline radii on curves shall be not less than 100 feet.
5. ~~E. Other Requirements.~~ All provisions and requirements with respect to streets identified in this code shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively. ~~[Ord. 2451, 12-2-96. Code 2001 § 151.694.]~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.160~~ O. Platting standards for blocks.

~~A.~~

Purpose. Streets and walkways can provide convenient travel within a neighborhood and can serve to connect people and land uses. Large, uninterrupted blocks can serve as a barrier to travel, especially walking and biking. Large blocks also can divide rather than unite neighborhoods. To promote connected neighborhoods and to shorten travel distances, ~~these~~ the following minimum standards for block lengths are established.

1. ~~B.~~ Maximum Block Length and Perimeter. The maximum length and perimeters of blocks in the zones listed below shall be according to the following table. The review body for a subdivision, partition, conditional use permit, or a Type II design review may require installation of streets or walkways as necessary to meet the standards below.

Exhibit "C" – TSP DCA-TC

Zone(s)	Maximum_Block Length	Maximum_Block Perimeter
R-1	800 feet	2,000 feet
R-2, R-3, RP, I	1,200 feet	3,000 feet

2. ~~C~~-Exceptions.

- a. ~~1~~-If a public walkway is installed mid-block, the maximum block length and perimeter may be increased by 25 percent.
- b. ~~2~~-Where a proposed street divides a block, one of the resulting blocks may exceed the maximum block length and perimeter standards provided the average block length and perimeter of the two resulting blocks do not exceed these standards.
- c. ~~3~~-Blocks in excess of the above standards are allowed where access controlled streets, street access spacing standards, railroads, steep slopes, wetlands, water bodies, preexisting development, ownership patterns or similar circumstances restrict street and walkway location and design. In these cases, block length and perimeter shall be as small as practical. Where a street cannot be provided because of these circumstances but a public walkway is still feasible, a public walkway shall be provided.
- d. ~~4~~-Institutional campuses located in an R-1 zone may apply the standards for the institutional zone.
- e. ~~5~~-Where a block is in more than one zone, the standards of the majority of land in the proposed block shall apply.
- f. ~~6~~-Where a local street plan, concept master site development plan, or specific plan has been approved for an area, the block standards shall follow those approved in the plan. In approving such a plan, the review body shall follow the block standards listed above to the extent appropriate for the plan area. [~~Ord. 2736 § 1 (Exh. A § 4), 3-21-11; Ord. 2619, 5-16-05; Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 § 151.695.~~]

~~Penalty: See NMC 15.05.120.~~

~~**15.505.170 Guidelines for locating major street alignments.**~~

~~A. The director shall determine the location of major streets, including collectors, minor arterials, and arterials, which do not have a set alignment, by applying the guidelines defined in this section. A major street location shall be prepared which addresses each of these guidelines. The director shall use a Type II process as outlined in this development code to establish the street alignment after the director determines that the guidelines have been adequately addressed by the applicant.~~

~~B. Guidelines for locating major streets which do not have a set alignment are as follows:~~

~~1. Availability or Existence of Right of Way. An evaluation of the cost of purchase versus dedicating the right of way.~~

~~2. Efficiency of the identified route versus other routes as defined by the following:~~

~~a. Commercial and Industrial Access and Circulation.~~

~~i. Route does not traverse local streets.~~

~~ii. Route minimizes out-of-direction travel.~~

~~iii. Route reduces or maintains travel time and trip length.~~

~~b. Residential Circulation.~~

~~i. Route does not traverse local streets.~~

~~ii. Route minimizes out-of-direction travel.~~

~~c. Number of stops and starts.~~

~~d. Route minimizes traffic conflict and access points.~~

~~3. Safety enhancements provided by the proposed route.~~

~~4. Reduction in number or improvement to rail crossings.~~

~~a. Route minimizes the number of railroad tracks to be crossed.~~

~~b. Route minimizes interference with railroad operations.~~

~~c. Route improves crossing angle and/or visibility at crossing.~~

~~5. Neighborhood Compatibility.~~

~~a. Route provides a buffer between adjacent neighborhoods and traffic.~~

~~b. Route is used to separate different land uses.~~

~~6. Compatibility with city plans.~~

~~7. Alternative mode enhancements. Route improves bicycle and pedestrian access.~~

~~8. Stream corridor impacts are minimized and in compliance with this development code.~~

~~9. Cost of the Route. Cost factors are evaluated including right-of-way acquisition, design and construction costs based on the length and efficiency of the route. [Ord. 2494, 4-6-98. Code 2001 § 151.700.]**15.505.180-P.**~~

Private streets.

New private streets, as defined in NMC 15.05.030, shall not be created. ~~{Ord. 2507, 3-1-99. Code 2001 § 151.701.}~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.190~~ **Q. Traffic calming.**

1. ~~A.~~ The following roadway design features may be required in new street construction where traffic calming needs are anticipated:
 - a. ~~1.~~ Serpentine alignment.
 - b. ~~2.~~ Curb extensions.
 - c. ~~3.~~ Traffic diverters/circles.
 - d. ~~4.~~ Raised medians and landscaping.
 - e. ~~5.~~ Other methods shown effective through engineering studies.
2. ~~B.~~ Traffic-calming measures such as speed humps ~~and additional stop signs~~ should be applied to mitigate traffic operations and/or safety problems on existing streets. They should not be applied with new street constructions. ~~{Ord. 2513, 8-2-99. Code 2001 § 151.702.}~~

~~15.505.200~~ ~~Vehicular~~ **R. Vehicular access standards.**

1. ~~A.~~ Purpose. The purpose of these standards is to manage vehicle access to maintain traffic flow, safety, roadway capacity, and efficiency. They help to maintain an adequate level of service consistent with the functional classification of the street. Major roadways, including arterials, and collectors, serve as the primary system for moving people and goods within and through the city. Access is limited and managed on these roads to promote efficient through movement. Local streets and alleys provide access to individual properties. Access is managed on these roads to maintain safe maneuvering of vehicles in and out of properties and to allow safe through movements. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.
2. ~~B.~~ Access Spacing Standards. Public street intersection and driveway spacing shall follow the standards in table Table 15.505.R below. The Oregon Department of Transportation (ODOT) has jurisdiction of some roadways within the Newberg city limits, and ODOT access standards will apply on those roadways.

Table 15.505.R. Access Spacing Standards

Roadway Functional Classification	Area ¹	Minimum Public Street Intersection Spacing (Feet) ²	Frontage Required per Additional Driveway ³	Driveway Setback from Intersecting Street ⁴	Typical Median Treatment	Minimum Spacing of Median Openings
Expressway	All	As shown in the Newberg transportation system plan Refer to ODOT Access Spacing Standards	NA	NA	Recessed swale and/or crash barrier	NA
Major arterial	Urban CBD	600 Refer to ODOT Access Spacing Standards	300 300	150 100	Raised median or center-left-turn lane	600 NA
Minor arterial	Urban CBD	300 500 100 200	200 200	100 150 100	Raised median or center-left-turn lane	300 NA
Major collector	All	200 400	150	100 150	Center-left-turn lane	NA
Minor collector	All	150 300	75	75 100	None	NA
Local streets	All	100	75	50	None	NA

¹ "Urban" refers to intersections inside the city urban growth boundary outside the central business district (C-3 zone).

"CBD" refers to intersections within the central business district (C-3 zone).

"All" refers to all intersections within the Newberg urban growth boundary.

² Measured centerline to centerline.

~~³ Requirement is the minimum frontage required per additional driveway beyond the first. Where two driveways are constructed, at least one curb parking space shall separate each driveway approach.~~

Table 15.505.R. Access Spacing Standards

Roadway Functional Classification	Area ¹	Minimum Public Street Intersection Spacing (Feet) ²	Frontage Required per Additional Driveway ³	Driveway Setback from Intersecting Street ⁴	Typical Median Treatment	Minimum Spacing of Median Openings
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⁴ The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.

3. ~~C.~~ Properties with Multiple Frontages. Where a property has frontage on more than one street, access shall be limited to the street with the lesser classification.

4. ~~D.~~ Driveways. More than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 40 feet of lot frontage separating each driveway approach. More than one driveway is permitted on a lot accessed from a major collector as long as there is at least 100 feet of lot frontage separating each driveway approach.

~~4.5.~~ Alley Access. Where a property has frontage on an alley and the only other frontages are on collector or arterial streets, access shall be taken from the alley only. The review body may allow creation of an alley for access to lots that do not otherwise have frontage on a public street provided all of the following are met:

- ~~1.~~ The review body finds that creating a public street frontage is not feasible.
- ~~2.~~ The alley access is for no more than six dwellings and no more than six lots.
- ~~3.~~ The alley has through access to streets on both ends.
- ~~4.~~ One additional parking space over those otherwise required is provided for each dwelling.

Where feasible, this shall be provided as a public use parking space adjacent to the alley.

~~5.6.~~ ~~E.~~ Closure of Existing Accesses. Existing accesses that are not used as part of development or redevelopment of a property shall be closed and replaced with curbing, sidewalks, and landscaping, as appropriate.

~~6.7.~~ ~~F.~~ Shared Driveways.

- ~~1.~~ The number of driveways onto arterial streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes. Where there is an abutting developable property, a shared driveway shall be provided as appropriate. When shared driveways are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway temporarily ends at the property line, but may be accessed or extended in the

future as the adjacent parcel develops. "Developable" means that a ~~parcel is~~ parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

- b. ~~2-~~ Access easements (i.e., for the benefit of affected properties) and maintenance agreements shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.
- c. ~~3-~~ No more than ~~three~~ four lots may access one shared driveway.
- d. ~~4-~~ Shared driveways shall be posted as no parking fire lanes where required by the fire marshal.
- e. ~~5-~~ Where three lots or three dwellings share one driveway, one additional parking space over those otherwise required shall be provided for each dwelling. Where feasible, this shall be provided as a common use parking space adjacent to the driveway.

~~8. G-~~ Frontage Streets and Alleys. The review body for a ~~design review or subdivision~~ partition, subdivision, or design review may require construction of a frontage street to provide access to properties fronting an arterial or collector street.

~~7-9.~~ ODOT or Yamhill County right-of-way. Where a property abuts an ODOT or Yamhill County right-of-way, the applicant for any development project shall obtain an access permit from ODOT or Yamhill County.

~~8-10.~~ H- Exceptions. The director may allow exceptions to the access standards above in any of the following circumstances:

- a. ~~1-~~ Where existing and planned future development patterns or physical constraints, such as topography, parcel configuration, and similar conditions, prevent access in accordance with the above standards.
- b. ~~2-~~ Where the proposal is to relocate an existing access for existing development, where the relocated access is closer to conformance with the standards above and does not increase the type or volume of access.
- c. ~~3-~~ Where the proposed access results in safer access, less congestion, a better level of service, and more functional circulation, both on street and on site, than access otherwise allowed under these standards.

~~9-11.~~ Where an exception is approved, the access shall be as safe and functional as practical in the particular circumstance. The director may require that the applicant submit a traffic study by a registered engineer to show the proposed access meets these criteria. {Ord. 2736 § 1 (Exh. A § 3), 3-21-11; Ord. 2619, 5-16-05; Ord. 2513, 8-2-99. Code 2001 § 151.703.}

~~15.505.210 Sidewalks.~~

~~Sidewalks shall be located and constructed in accordance with the provisions of NMC 15.510.030. Minimum width is five feet. {Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.704.}~~

~~Penalty: See NMC 15.05.120.~~

~~15.505.220 S.~~ **Public walkways.**

1. Projects subject to Type II design review, partition, or subdivision approval may be required to provide public walkways where necessary for public safety and convenience, or where necessary to meet the standards of this code. A- The review body for a design review or land division may

~~require easements for and construction of public walkways where such walkway is needed for the public safety and convenience or where the walkway is necessary to meet the standards of this code or a walkway plan.~~ Public walkways are meant to connect ~~to~~ cul-de-sacs to adjacent areas, to pass through oddly shaped or unusually long blocks, to provide for networks of public paths according to adopted plans, or to provide access to schools, parks or other community destinations or public areas ~~of such design, width, and location as reasonably required to facilitate public use.~~ Where possible, ~~said dedications public walkway easements and locations~~ may also be ~~employed~~ used to accommodate public utilities.

2. ~~B.~~ Public walkways shall be located within a public access easement that is a minimum of 15 feet in width.
3. ~~C.~~ A walk strip, not less than five-ten feet in width, shall be paved in the center of all public walkway easements. Such paving shall conform to specifications ~~adopted by the city council under NMC 15.510.030 in the Newberg Public Works Design and Construction Standards.~~
4. ~~D.~~ Public walkways shall be designed, ~~as far as practical,~~ to meet the Americans with Disabilities Act requirements.
5. ~~E.~~ Public walkways connecting one right-of-way to another shall be designed to provide as short and straight of a route as practical.
6. ~~F.~~ The developer of the public walkway ~~shall~~ may be required to provide a homeowners' association or similar entity to maintain the public walkway and associated improvements.
7. ~~G.~~ Lighting may be required for public walkways in excess of 250 feet in length.
8. ~~H.~~ The review body may modify these requirements where it finds that topographic, preexisting development, or similar constraints exist. ~~[Ord. 2619, 5-16-05; Ord. 2451, 12-2-96. Code 2001 § 151.705.]~~

T. Street trees.

Street trees shall be provided for all projects subject to Type II design review, partition, or subdivision. Street trees shall be installed in accordance with the provisions of NMC 15.420.010(B)(4).

U. Street Lights. All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the Newberg Public Works Design and Construction Standards. The developer shall install all such facilities and make the necessary arrangements with the serving electric utility as approved by the city. Upon the city's acceptance of the public improvements associated with the development, the street lighting system, exclusive of utility-owned service lines, shall be and become property of the city unless otherwise designated by the city through agreement with a private utility.

V. Transit improvements. Development proposals for sites that include or are adjacent to existing or planned transit facilities, as shown in the Newberg Transportation System Plan or adopted local or regional transit plan, shall be required to provide any of the following, as applicable and required by the review authority:

1. Reasonably direct pedestrian connections between the transit facility and building entrances of the site. For the purpose of this section, "reasonably direct" means a route that does not deviate unnecessarily

from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.

2. A transit passenger landing pad accessible to disabled persons.
3. An easement of dedication for a passenger shelter or bench if such facility is in an adopted plan.
4. Lighting at the transit facility.

15.505.040 Public Utility Standards

A. Purpose. The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.

B. Applicability. This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.

C. General Standards.

1. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall conform to the Newberg Public Works Design and Construction Standards and require a public improvements permit.
2. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site. Installation of all proposed public and private utilities shall be coordinated by the developer and be approved by the city to ensure the orderly extension of such utilities within public right-of-way and easements.

D. Standards for Water Improvements. All development that has a need for water service shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary wastewater and stormwater facilities, as applicable.

1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping stations which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

2. Specific location, size and capacity of such facilities will be subject to the approval of the director with reference to the applicable water master plan. All water facilities shall conform with city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. Installation costs shall remain entirely the developer's responsibility.

3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties, which, in the judgment of the city, cannot be feasibly served otherwise.

4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city.

E. Standards for Wastewater Improvements. All development that has a need for wastewater services shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary water services and stormwater facilities, as applicable.

1. All septic tank systems and on-site sewage systems are prohibited. Existing septic systems must be abandoned or removed in accordance with Yamhill County standards.

2. All properties shall be provided with gravity service to the city wastewater system, except for lots that have unique topographic or other natural features that make gravity wastewater extension impractical as determined by the director. Where gravity service is impractical, the developer shall provide all necessary pumps/lift stations and other improvements, as determined by the director.

3. All developments shall be required to be linked to existing wastewater collection facilities adequately sized to serve their intended area by the construction of wastewater lines which connect to existing adequately sized wastewater facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

4. Specific location, size and capacity of wastewater facilities will be subject to the approval of the director with reference to the applicable wastewater master plan. All wastewater facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. Installation costs shall remain entirely the developer's responsibility.

5. Temporary wastewater service facilities, including pumping stations, will be permitted only if the director approves the temporary facilities, and the developer provides for all facilities that are necessary for transition to permanent facilities.

6. The design of the wastewater facilities shall take into account provisions for the future extension beyond the development to serve upstream properties, which, in the judgment of the city, cannot be feasibly served otherwise.

7. Design, construction and material standards shall be as specified by the director for the construction of such wastewater facilities in the city.

F. Easements. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as provided in the Newberg Public Works Design and Construction Standards.

15.505.050 Stormwater System Standards

A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.

B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.

C. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the state of Oregon prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

Exhibit "C" – TSP DCA-TC

1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.

2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.

3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the state of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design & construction standards for the city.

E. Development Standards. Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg Public Works Design and Construction Standards.

~~Chapter 15.510~~
IMPROVEMENTS AND SPECIFICATIONS

~~15.510.010 Submitting specifications.~~

~~The director shall prepare and submit to the city council specifications and amendments for construction of streets and alleys, construction of curbs and gutters, dedication of slope easements for streets and alleys, construction of drainage facilities, and construction of pedestrian ways in subdivisions and partitions. Such specifications shall conform to proper relevant engineering standards, and be so devised as to facilitate provision for the health, safety and welfare needs of the city and area affected, in accordance with this code. [Ord. 2451, 12-2-96. Code 2001 § 151.715.]~~

~~15.510.020 Procedure.~~

~~The procedure of preparing, submitting, and adopting all such specifications and amendments thereto, including notice and hearing, shall conform to that required by law for the enactment of resolutions. [Ord. 2451, 12-2-96. Code 2001 § 151.716.]~~

~~15.510.030 Adoption of specifications.~~

~~Upon adoption by the city council of any such specifications and amendments thereto, as from time to time may be submitted by the director, a copy of the specifications shall be filed with the city recorder and a copy shall be kept in the office of the director, for the use and information of the general public. [Ord. 2451, 12-2-96. Code 2001 § 151.717.]~~

~~15.510.040 Water supply.~~

~~All lots and parcels within subdivisions and partitions shall be served by the water system of the city. [Ord. 2451, 12-2-96. Code 2001 § 151.718.]~~

~~15.510.050 Wastewater.~~

~~All lots and parcels within subdivisions and partitions shall, where practicable, as determined by the director, in accordance with the provisions of this code, be served by the wastewater system of the city. [Ord. 2451, 12-2-96. Code 2001 § 151.719.]~~

~~15.510.060 Land surface drainage.~~

~~Such grading shall be done and such drainage facilities shall be constructed by the land divider as are adequate for the purpose of proper drainage of the partition or subdivision, of areas affected thereby, and for the preservation of healthful and convenient surroundings and conditions for residents of the subdivision or partition, and for the general public, in accordance with specifications adopted by the city council under NMC 15.510.030. [Ord. 2451, 12-2-96. Code 2001 § 151.720.]~~

~~Penalty: See NMC 15.05.120.~~

~~15.510.070 Street trees.~~

Exhibit "C" – TSP DCA-TC

~~Street trees shall be provided adjacent to all public rights-of-way abutting or within a subdivision or partition, or as required as part of a design review or other development. Street trees shall be installed in accordance with the provisions of NMC 15.420.010(B)(4). [Ord. 2451, 12-2-96. Code 2001 § 151.725.]~~

~~Penalty: See NMC 15.05.120.~~

~~**15.510.080 Easements for utilities.**~~

~~Dedication of easements for stormwater systems, and for access thereto for maintenance, in order to safeguard the public against flood damage and the accumulation of surface water and maintenance, and dedication of easements for other public utilities, may be required of the land divider at sufficient widths for their intended uses, by the director along lot or parcel rear lines or side lines, or elsewhere as necessary to provide needed facilities for present or future development of the area in accordance with the purpose of this code. [Ord. 2733 Att. A, 2-7-11; Ord. 2619, 5-16-05; Ord. 2494, 4-6-98; Ord. 2451, 12-2-96. Code 2001 § 151.726.]~~

~~Penalty: See NMC 15.05.120.~~

Exhibit “E”

DRAFT Comprehensive Plan Amendments – Track Changes Version
CPTA4-11-001 – Transportation System Plan Update

J. URBAN DESIGN

GOAL 1: To maintain and improve the natural beauty and visual character of the City.

1. General Policies

- a. Design review should be performed at the staff level.
- b. Design review should be provided for all new developments more intensive than duplex residential use.
- c. Non-residential uses abutting residential areas should be subject to special development standards in terms of setbacks, landscaping, sign regulations, building heights and designs.
- d. The City should impose a design overlay zone on those areas adjacent to major and minor arterial streets.
- e. Developments should respect the natural ground cover of their sites to the extent possible and plans should be made to preserve existing mature, non-hazardous trees in healthy condition.
- ~~f. The planting of street trees should be required in conjunction with a list of City-approved trees.~~
- g. Community appearance should continue to be a major concern and subject of a major effort in the area. Street tree planting, landscaping, sign regulations and building improvements contribute to community appearance and should continue to be a major design concern and improvement effort.
- ~~h. Landscaping shall~~ should be required along street frontage strips within the street right-of-way in order to soften the appearance of commercial and industrial developments. Street trees should be planted along street frontages in accordance with a list of City-approved trees.
- ~~i. The City shall encourage tree planting for aesthetic purposes.~~
- h. Curbs, gutters, and sidewalks ~~are to~~ should be required in all new developments.
- ki. Curb ramps ~~will~~ should be required at intersections and pedestrian crosswalks wherever new curbs are installed. These ramps improve access for the elderly and handicapped, as well as for strollers, bicycles and other wheeled vehicles.
- lj. The City ~~shall~~ should encourage compatible architectural design of new structures in the community.

- ~~mk.~~ The City ~~shall~~should encourage the use of planned unit developments.
- ~~nl.~~ The City ~~shall~~should encourage innovative design and ensure that developments consider site characteristics and the impact on surrounding areas.
- ~~om.~~ The City ~~shall~~should encourage flexibility in design review and interpretation of policies and regulations by ensuring that functional design and community benefit remain as the principal review criteria. Consider variance procedures where interpretation of regulations impede fulfillment of these criteria.
- ~~pn.~~ Public and private properties located along entrances should be attractively landscaped in order to reinforce the sense of gateway into Newberg.
- ~~qo.~~ The City ~~shall~~should develop and adopt a design review manual.
- ~~rp.~~ Developments of medium or high density ~~shall~~should be of a quality and design which will effectively offset the greater density.
- ~~sg.~~ The City ~~shall~~should ensure that City review processes do not unnecessarily delay development of projects.
- ~~tr.~~ The City ~~shall~~should encourage residential-professional uses as a buffer between intensive commercial uses and less intensive residential uses.

2. Industrial Areas Policies

- a. Industrial development should be encouraged to locate in industrial parks offering good access, buffering and landscaping.
- b. Industrial developments should be well landscaped and maintained and existing trees should be preserved where possible.
- c. Where industrial uses abut residential zones or uses, special development standards relating to setbacks, screening, signs, building height and architectural review should be established.

3. Commercial Areas Policies

- a. Where commercial development is permitted, such development should be subject to design requirements for ingress and egress, landscaping and sign control.
- b. Existing development ~~shall~~should be encouraged to follow the same general design standards as new commercial development.
- c. The City shall maintain sign regulations to help create a business environment that is attractive to customers and citizens. The City and appointed committees ~~shall~~should seek to eliminate signs that detract from the aesthetics of commercial areas and that violate adopted sign design regulations. (Ordinance 98-2499, November 2, 1998).
- d. Residents of the City should have access to neighborhood commercial facilities, and these uses should conform to the character of the area in which they are located. The

Neighborhood Commercial designation and the corresponding C-1 Zone should be allowed only on property with the following characteristics:

- A distance, measured along public streets, of at least 1/4 mile from any other properties designated for commercial use; and
- A location at an intersection of a local street and either a collector or arterial street.

- e. Off-street parking should be provided in adequate amounts. (Ordinance 99 -2513, August 2, 1999).

4. Residential Areas Policies

- a. The City will require buffering and landscaping to minimize impacts between housing and potentially conflicting uses.
- b. The City will evaluate and encourage various innovative and alternative approaches to zoning, including but not limited to the following: zero lot lines, cluster and density zoning, planned unit developments, performance standards and condominiums.
- c. Solar rights of residences should be protected where possible. Lot designs should provide for maximum design flexibility in landscaping and building.
- d. Special development and design standards ~~shall~~should be adopted in the Development Code to ensure that multi-family, attached single-family and manufactured home park/subdivision projects are aesthetically-pleasing and compatible with nearby lower-density residential development.

5. Downtown Policies

- a. The City ~~shall~~should encourage improvement of the central business district as the economic, cultural, business and governmental center of the Newberg area.
- b. The City ~~shall~~should encourage federal, state and local government to maintain or locate their offices and related facilities in the central business district. Encourage retention of the post office within the downtown.
- c. The City ~~shall~~should encourage a variety of commercial and service activities to locate in the central business district, including mixed-use commercial/residential buildings and mixed-use commercial/craft industrial buildings to create a vital downtown core with a strong retail sector.-
- d. The City ~~shall~~should discourage the use of the central business district for non-intensive land uses or uses which have a low floor area to site size ratio.
- e. The City ~~shall~~should encourage a higher utilization of downtown space, encouraging intensive use of all building levels.
- f. A concerted effort should be made to revitalize the central business district through rehabilitation or redevelopment of existing areas.

- g. The City ~~shall~~should consider:
- ~~-Reconstruction of First Street and both sidewalks to accommodate a two-way flow of traffic with diagonal and parallel parking-~~
 - ~~—Creation of a major attraction in the downtown retail core to showcase Yamhill County's agriculture, industry, arts, culture and history-~~
 - ~~—Retention of a post office within the downtown and continued occupancy of the existing post office building-~~
 - ~~-Adequate off-street parking to serve retail and institutional needs.~~
- ~~-Construction of a new one-way eastbound couplet to encourage downtown core development-~~
- - Adoption of a downtown design ordinance improvement plan, instituted to review and control all private and public improvements, which should include design standards for all new private and public improvements.
 - -Various options to make the downtown area more pedestrian friendly, particularly as traffic volumes change with the opening of the Phase 1 Bypass.
- h. Benches, street trees, and other pedestrian-scaled amenities ~~shall~~should be planned for and encouraged in the downtown area.

6. Riverfront District Policies

- a. The City will encourage a mix of employment, housing, and retail uses serving the neighborhood and the surrounding community to enhance the Riverfront's identity as a vital and attractive City asset and to ensure an active, pedestrian friendly and thriving Riverfront area.
- b. Development and land uses will be encouraged that promote the Riverfront area as a convenient and attractive environment for residents of Newberg as well as for visitors from other cities and the region as a whole.
- c. The development of storefront scale commercial uses will be encouraged in the Riverfront area along 14th, College, and River Streets.
- d. The City will encourage the use of a common language of design elements for new and/or improved development in the Riverfront District in order to create a sense of identity that is unique to this area of Newberg.
- e. The City will permit land uses with design features along River Street Between 12th and 14th Streets that are compatible with or provide a buffer to SP Newsprint.
- f. The City will encourage new commercial and mixed use development in the Riverfront District to step down in scale in the western and northern portions of the planning area in order to relate to the scale and character of the adjacent established neighborhoods.
- g. The City will encourage commercial structures within the Riverfront District that are small in scale and suitable for river-oriented businesses.
- h. On-street parking will be encouraged on streets with commercial or mixed use development to provide a buffer between pedestrians on the sidewalk and auto traffic.

- i. Businesses and other property owners will be encouraged to minimize the number of off-street parking spaces and to share off-street parking facilities.
- j. The City ~~shall~~should re-evaluate the inclusion of the old municipal sewage treatment plant (tax lot 3219-2700) within the stream corridor overlay. (Ordinance 2002-2564, April 15, 2002)

7. Specific Plans

- a. The City ~~shall~~should encourage the use of specific plans to coordinate development and create neighborhood identity. Specific plans are intended to serve as master plans for land development or redevelopment and may be applied to one parcel or multiple parcels. Specific Plans ~~will be~~are used to promote coordinated planning concepts and pedestrian oriented mixed use development. (Ordinance 2379, April 19, 1994).
- b. The Zoning Ordinance shall set forth the process and procedure for adoption of and amendments to specific plans. Approval of new specific plans will require Comprehensive Plan Map amendments to apply the SP (Specific Plan) plan district overlay to the affected property. (Ordinance 2379, April 19, 1994).

GOAL: 2 **To develop and maintain the physical context needed to support the livability and unique character of Newberg.**

POLICIES:

- a. Maintain Newberg's individuality as a community with a proud agricultural heritage.
- b. Provide for a sense of small, local neighborhoods, while also providing for commerce and industry.
- c. Neighborhoods should be designed to promote safety and interaction with neighbors, with items such as walking paths and neighborhood parks.
- d. Community commercial centers are preferred to a large, regional shopping center.
- e. Measures should be taken to prevent having areas east and southeast of the proposed bypass isolated from the rest of the City. Substantial development of complete neighborhoods should occur on both sides of the proposed bypass. (Ordinance 2006-2634, January 3, 2006)

K. TRANSPORTATION

GOAL 1: **Establish cooperative agreements to address transportation based planning, development, operation and maintenance.**

POLICIES:

- a. The City ~~shall~~should coordinate with the ~~State~~Oregon Department of Transportation to manage access to the state highway system and to implement the State Highway Improvement Program.

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- b. The City ~~shall~~should work to ensure that the transportation system is developed in a manner consistent with state and federal standards for the protection of air, land and water quality, including the State Implementation Plan for complying with the Clean Air Act and the Clean Water Act. (Ordinance 2005-2619, May 16, 2005)
- c. The City ~~shall~~should coordinate its Transportation System Plan with the planning process of other jurisdictions to assure adequate connections to streets and transportation systems outside City boundaries.
- d. The City ~~shall~~should participate in the planning efforts to bring rail transit to Newberg. The City will should work with public and private entities to plan and, if feasible, establish commuter rail service between the Portland Metro area and communities in Yamhill County. (Ordinance 2005-2619, May 16, 2005)
- e. The City ~~shall~~should promote transportation improvements which would result in less through automobile and truck traffic on First Street and maintain the option of future development of rail transit to serve the downtown core area. (Ordinance 2005-2619, May 16, 2005)
- f. The City shall coordinate with Yamhill County and the State on the development of the Newberg-Dundee Bypass.
- ~~g. The City will work with public and private entities to plan and, if feasible, establish commuter rail service between the Portland Metro area and communities in Yamhill County. (Ordinance 2005-2619, May 16, 2005)~~

GOAL 2: Establish consistent policies which require concurrent consideration of transportation/land use system impacts.

POLICIES:

- a. Transportation improvements ~~shall~~should be used to guide urban development and ~~shall~~should be designed to serve anticipated future needs.
- b. The City ~~shall~~should adopt zoning and development overlay regulations to manage land uses and access in the vicinity of Newberg-Dundee Bypass interchanges that are consistent with the primary function of the bypass to serve through traffic and that are consistent with the Oregon Highway Plan. Highway oriented development and retail commercial ~~shall~~should be precluded at proposed access points.
- c. As necessary to implement the Transportation System Plan, the City in conjunction with ODOT, ~~shall~~should maintain intersection/interchange management plans and/or corridor plans to establish a framework for managing land uses along major transportation facilities, such as the Newberg- Dundee Bypass.
- d. The City ~~shall~~should maintain development regulations that provide adequate off-street parking and truck loading areas for commercial and industrial uses, especially in areas adjacent to arterial and collector routes, to promote efficient traffic movement through the city. (Ordinance 2005-2619, May 16, 2005)

- e. The City will encourage the development of retail development within the downtown area. (Ordinance 2005-2619, May 16, 2005)

GOAL 3: Promote reliance on multiple modes of transportation and reduce reliance on the automobile.

POLICIES:

- a. Design the transportation system and related facilities to accommodate multiple modes of transportation where appropriate and encourage their integrated use. (Ordinance 2005-2619, May 16, 2005)
 - 1) The City ~~shall~~should plan for a network of transportation facilities and services including but not limited to air, water, rail, auto, pedestrian, bicycle, and public transit.
 - 2) The City ~~shall~~should encourage the continued operation of the existing public transit system.
 - 3) All local and commuter transit services must implement the accessible transportation requirements established by the Americans with Disabilities Act of 1990.
 - 4) The City should work with local and regional partners to conduct a market assessment to determine the demand and needs for commuter transit service from Newberg and McMinnville to the Portland area. The City should evaluate the market assessment and if it is financially feasible, support the development of commuter transit service to the Portland area.
 - ~~5) — The City should evaluate the market assessment and if it is financially feasible, support the development of commuter transit service to the Portland area.~~
 - ~~6)5~~ The City will work to help establish a regional transit service district in Yamhill County to address transportation needs of disadvantaged residents.
 - ~~7)6~~ The City will support efforts to develop a long term funding base for local and commuter transit service within the region to include federal and state funding sources for capital and operating expenses.
 - ~~8)7~~ The City will work to establish appropriate cooperation agreements between local transit service providers and Tri-Met for improving commuter service connections within the Tri-Met service district.
 - ~~9)8~~ The City ~~shall~~should encourage more efficient use of existing transportation systems by implementing programs that reduce single occupancy vehicle use, including carpooling, park and ride stations and commuter bus or rail service.
- b. Modifications should be made to the City's land use plan and development ordinances that will decrease trip length and encourage non-auto oriented development.
 - 1) The City ~~shall~~should encourage neighborhood medium density and mixed use commercial development nodes.
 - 2) The City ~~shall~~should encourage higher density development in residential areas near transit corridors, commercial areas and employment centers, including the downtown.
- c. The City ~~shall~~should develop and implement a transportation demand management strategy that provides incentives for the use, such as: flex time, carpooling, staggered shifting and

telecommuting by public and private employers, if and when overall operating conditions in the city fall below acceptable levels and depending on the availability of state funding to support these programs. The City will encourage the use of demand management strategies by public and private employers in certain locations when operating conditions warrant their consideration.

GOAL 4: Minimize the impact of regional traffic on the local transportation system.

POLICIES:

- a. Enhance the efficiency of the existing collector/arterial street system to move local traffic off the regional system. (Ordinance 2005-2619, May 16, 2005)
- b. Provide for alternate routes for regional traffic. (Ordinance 2004-2602, September 20, 2004)
- ~~c. Identify and analyze options for the re-routing of 219 in conjunction with ODOT, with the goal of minimizing through traffic, including truck traffic, in downtown. (Ordinance 2004-2602, September 20, 2004)~~
- ~~d. Before choosing the 219 re-route to be included in the City's Capital Improvement program, hold public hearings to determine which re-route alternative is most satisfactory to the public. (Ordinance 2004-2602, September 20, 2004)~~
- ~~e. Include re-route alternative most favorable to the public in the City's Capital Improvement Plan, Transportation Section. (Ordinance 2005-2619, May 16, 2005)~~
- fc. A special design study ~~shall~~should be conducted prior to improving College Street from Hancock Street to the railroad. The purpose of this study will be to maintain and enhance the aesthetic and historic character of this area. Alternatives bike lane, street width and other configurations will be considered to preserve significant street trees, and additional street trees, and preserve and enhance historic features. (Ordinance 2005-2619, May 16, 2005)
- gd. Minimize the use of local and minor collector streets for regional traffic through application of traffic calming measures as traffic operations and/or safety problems occur. (Ordinance 99-2513, August 2, 1999).
- he. The City actively supports the development of the Bypass in the southern location corridor described in the Tier 2 Environmental Impact Statement (EIS) process. (Ordinance 2005-2619, May 16, 2005, Ordinance 2008-2708, December 1, 2008, Ordinance 2011-2734, March 7, 2011).
- if. The City supports the designation of the Bypass as a moderate to high-speed statewide expressway and freight route as defined in the Oregon Highway Plan. The Bypass and interchanges will be fully access controlled and no direct access will be allowed from private properties onto the Bypass. The primary function of the Bypass is to provide for moderate to high-speed statewide and regional trips and to relieve congestion through the downtown Newberg and Dundee. (Ordinance 2004-2602, September 20, 2004, Ordinance 2011-2734, March 7, 2011)
- ig. The functions of the Bypass are to accommodate and divert longer-distance statewide through trips around the Newberg-Dundee urban area and to serve regional trips going to and from Newberg or Dundee (ie. Those trips with either an origin or destination outside of the Newberg- Dundee

urban area). The function of the planned intermediate interchanges is to provide access between Newberg or Dundee and other regions (e.g. McMinnville, Portland or the coast). It is not the function of the interchanges to provide for or attract regional commercial or highway commercial development in the vicinity of the interchanges. In general, needs for commercial development should be accommodated in areas planned for commercial development within Newberg. Plan amendments and zone changes shall be consistent with the function of the bypass and interchanges as set forth in this policy. (Ordinance 2004-2602, September 20, 2004, Ordinance 2011-2734, March 7, 2011)

- kh.** For the purposes of compliance with the Transportation Planning Rule, OAR 660-12-0060 and in order to support the goal exception that Yamhill County took to advance construction of the Bypass, the City of Newberg acknowledges that reliance upon the **full** Bypass as a planned improvement to support comprehensive plan amendments or zone changes is premature. (Ordinance 2008-2708, December 1, 2008, Ordinance 2011-2734, March 7, 2011)

~~The Phase 1 Bypass is considered a planned improvement for the 20-year planning horizon and may be relied upon for planning purposes. The City of Newberg will continue to work with ODOT on improvements to the local transportation system in accordance with post-Phase 1 Bypass impacts. In accordance with OAR 660-012-0060, the Bypass will be considered a planned improvement that is reasonably likely to be constructed during the 20-year planning horizon when the OTP includes all or a specific phase of the Bypass in the construction section of the Statewide Transportation Improvement Program (STIP), or when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period. ODOT expects to provide such a letter upon receiving a record of decision for the design level EIS if it results in a record of decision authorizing a full Bypass or a specific Bypass phase that can be funded within the 20-year planning horizon. During the period before the Bypass can be considered a planned improvement, the City of Newberg will work with ODOT to pursue interim measures to comply with OAR 660-12-0060.~~ This may include adopting alternative mobility standards for Oregon 99W and Oregon 219. For purposes of the Newberg TSP, alternative mobility standards are consistent with the planned function of Oregon 99W through Newberg as a lower speed local arterial intended to provide access to businesses and residences and a more pedestrian friendly environment. Alternative mobility standards may continue to be necessary on Oregon 99W and Oregon 219 until the full Bypass can be completed. (Ordinance 2008-2708, December 1, 2008, Ordinance 2011-2734, March 7, 2011)

- hi.** The City will coordinate with ODOT, Yamhill County and affected property owners to develop an Interchange Area Management Plan (IAMP) for the East Newberg and Oregon 219 Interchanges as a means to help protect the function and capacity of the interchanges for at least a 20 to 25-year planning period. The IAMP must be adopted by the Oregon Transportation Commission (OTC) before construction of the respective interchange, consistent with the requirements of the 1999 Oregon Highway Plan and OAR 734-051-0155(7). (Ordinance 2008-2708, December 1, 2008, Ordinance 2011-2734, March 7, 2011))

- mj.** To protect the function of the Bypass to serve primarily longer-distance statewide and regional through trips, the City of Newberg will apply an Interchange Overlay District to lands that are within the Newberg city limits and within approximately ½ mile of the East Newberg and Oregon 219 interchange ramps. (Ordinance 2004-2602, September 20, 2004, Ordinance 2011-2734, March 7, 2011)

- ~~rk~~. ____ Permitted and conditional uses that are authorized under existing base city zones will generally be allowed within the Interchange Overlay, with certain limitations on commercial uses in the industrial zones. (Ordinance 2008-2708, December 1, 2008)
- ~~rl~~. ____ The Bypass location corridor was selected to avoid displacement of the Sportsman Airpark. The City supports the continued operation of the airport. The airport is located within the Newberg UGB, is within % mile of the Oregon 219 interchange and is currently under Yamhill County jurisdiction. If the airport property is annexed, the City intends to apply an Airport Zone that maintains the ongoing use of the facility as an airport. The City will not support conversion of the airport property to commercial zoning or uses. The Bypass itself should be designed to avoid conflicts with existing air transportation corridors.
- ~~rm~~. ____ The City of Newberg will coordinate with ODOT on any development proposal within the Bypass location corridor and Interchange Overlay District through the City's established Site Design Review process. Development planning should consider and complement the intended function of the bypass. Land use decisions should consider the planned corridor location and avoid conflicts where feasible. (Ordinance 2008-2708, December 1, 2008)
- ~~rn~~. ____ The City recognizes that the Oregon Highway Plan seeks to avoid UGB expansions along Statewide Highways and around interchanges unless ODOT and the appropriate local governments agree to an Interchange Area Management Plan to protect interchange operation or an access management plan for segments along the highways. [OHP Action 1B.8]. Thus, the City will work with ODOT, property owners, and citizens finalize the East Newberg and Oregon 219 IAMPs prior to construction of the full Bypass or a phase of the Bypass, as appropriate. Each IAMP must be consistent with the local comprehensive plan and adopted by the Oregon Transportation Commission. (Ordinance 2008-2708, December 1, 2008, Ordinance 2011-2734, March 7, 2011)
- ~~ro~~. ____ Special planning and efforts ~~shall~~should be made to replace affordable housing displaced by construction of the bypass within the community. ODOT ~~shall~~should be encouraged to provide relocation assistance to the maximum extent allowed under Federal law. (Ordinance 2004-2602, September 20, 2004)
- ~~rp~~. ____ Special planning and efforts ~~shall~~should be made to retain and create livable and desirable neighborhoods near the bypass. This ~~shall~~should include retaining or creating street connections, pedestrian paths, recreational areas, landscaping, noise attenuation, physical barriers to the bypass, and other community features.
- ~~rq~~. ____ The Newberg Transportation System Plan shall be amended to show the changes to local circulation and access that are included in the Tier 2 EIS and are necessary to support mitigation for local roads and access that are severed or disrupted by the Bypass. This action shall be documented with both a TSP figure and text. (Ordinance 2011-2734, March 7, 2011)

GOAL 5: Maximize pedestrian, bicycle and other non-motorized travel throughout the City.

POLICIES:

- a. The City ~~shall~~should provide safe, convenient and well-maintained bicycle and pedestrian

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transportation systems that connect neighborhoods with identified community destinations, such as schools, parks, neighborhood commercial centers, and employment centers. (Ordinance 2005-2619, May 16, 2005)

- b. Bicycle parking facilities ~~shall~~should be required for all new and improved commercial, institutional, office, industrial, and multi-family development.
- c. All new and improved commercial, office, institutional, and multi-family development ~~shall~~should be conveniently and directly accessible from the public right-of-way by bicycle and on foot.
- d. Public sidewalks ~~shall~~should be provided along all public street frontages. Pedestrian traffic ~~shall~~should be separated from automobile traffic whenever possible.
 - 1) Sidewalks should be provided whenever there is development of abutting properties.
 - 2) Sidewalks should be constructed when any new road is constructed
 - 3) When existing roads are widened or improved, sidewalks should be provided.
- e. The City will develop a capital improvement program for filling existing gaps in the pedestrian system. Priority ~~shall~~should go to:
 - 1) Areas near schools or other pedestrian traffic generators.
 - 2) Areas frequently used by pedestrians or disabled persons.
 - 3) Areas where modest improvements are needed to create continuous pedestrian systems.
 - 4) Roads with high traffic volumes and/or narrow shoulders.(Ordinance 2005-2619, May 16, 2005)
- f. All sidewalks, corner ramps, and other transportation improvements shall meet ~~applicable~~ the standards of the Americans with Disabilities Act. (Ordinance 2005-2619, May 16, 2005)
- g. The City ~~shall~~should encourage pedestrian access throughout commercially zoned areas.
- h. On-street bike lanes or parallel bikeways will be provided on all designated major collector and arterial roadways, and on certain ~~neighborhood~~ minor collectors if warranted from a bicycle system connectivity standpoint.
- i. A bicycle path ~~shall~~should be provided along or near the bypass.
- j. The City will develop a capital improvement program for providing bicycle paths planned in the transportation plan. Priority ~~shall~~should go to:
 - 1) Areas near schools, parks, commercial areas, or other bicycle traffic generators.
 - 2) Paths that go between facilities used by bicyclists, such as schools, parks, and libraries.
 - 3) Areas frequently used by bicyclists.
 - 4) Areas where small gaps need to be filled to provide continuous bicycle paths.
 - 5) Areas where modest improvements are needed to provide planned bicycle paths, such as roads where additional pavement with is not needed to stripe bike lanes.
 - 6) Roads with high traffic volumes and/or narrow shoulders.(Ordinance 2005-2619, May 16, 2005)

GOAL 6: Provide effective levels of non-auto oriented support facilities (e.g. bus shelters, bicycle racks, etc.).

POLICIES:

- a. The City ~~shall~~should develop land use, density, and design standards to encourage development patterns that accommodate pedestrian, bicycle and transit uses.
- b. New development ~~shall~~should be designed to accommodate integrated multiple modes of transportation. (Ordinance 2005-2619, May 16, 2005)
- c. The City, in cooperation with public transit agencies and commuter service providers, ~~shall~~should develop park and ride facilities at the locations specified in the Transportation System Plan or other adopted master plans. (Ordinance 2005-2619, May 16, 2005)
- d. The City ~~shall~~should provide a transportation system (traffic, bicycle, pedestrian and transit) with facilities that are accessible to all people, complying in the process with applicable provisions of the Americans with Disabilities Act (ADA). (Ordinance 2005-2619, May 16, 2005)

GOAL 7: Minimize the capital improvement and community costs to implement the transportation plan.

POLICIES:

- a. The Transportation System Plan shall identify ~~short and long term needed~~ improvements to the collector/arterial street system, the public transit system, the pedestrian/bicycle system and the air, rail, water, and pipeline systems. Improvements should be identified as likely funded or aspirational projects for the 20-year planning horizon.
- b. The list of improvement projects in the Transportation System Plan shall guide development of the city's capital improvement plan for transportation projects.
- c. The City will prioritize the list of transportation-related capital improvements to be included in the City's Capital Improvement Plan (CIP) including phasing for major transportation system improvements.
- d. For those priority transportation projects included in the City's (CIP), provide updated cost estimates each time the project list is revised.
- e. Adverse economic, social, environmental, and energy impacts from transportation system improvements on adjacent properties ~~shall~~should be minimized as far as practical.
- f. Future public rights-of-way should be identified in undeveloped areas through a Future Street Plan or a specific area plan, to facilitate right-of-way acquisition and dedication with minimal disruption and cost. A Future Street Plan is usually prepared by a private party to show street and bike/pedestrian connectivity for development projects when transportation connectivity is needed through adjoining private properties and neighborhoods. A Specific Area Plan is usually prepared by the City in collaboration with affected property owners to show street and bike/pedestrian connectivity for planned land uses in undeveloped or partially developed areas.

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Corridor plans are a type of specific area plan.

- g. The City may require preparation of a Future Streets Plan for all commercial and industrial developments and residential development projects greater than 1 acre to serve as a guide in the decision-making process on new development requests.
- h. Transportation facilities will be designed to minimize impacts on:
 - 1) Present and Planned Land Use patterns;
 - 2) Natural and Scenic Resources;
 - 3) Air Resource Quality, including noise;
 - 4) Water and Land Resource Quality; and
 - 5) Existing and Planned Transportation Facilities.
- i. New development and existing development undergoing expansion or modification ~~shall~~should be designed to accommodate planned long-term transportation improvement projects in the vicinity of the development.
(Ordinance 2005-2619, May 16, 2005)

GOAL 8: Maintain and enhance the City's image, character and quality of life.

POLICIES:

- a. ~~Adopt~~The City should adopt transportation and land use design standards that emphasize visual and aesthetic quality.
- b. New office park and commercial developments ~~shall~~should provide for pedestrian circulation by clustering buildings, constructing pedestrian pathways, making use of walkways and skywalks, and other similar techniques that make walking convenient for people accessing and working within the development.
- c. The City ~~shall~~should work cooperatively with the business community to ensure there is an adequate supply of on-street and off-street parking in the downtown. The City ~~shall~~should prepare and periodically update a public parking management plan for the central business district.
- d. The City will encourage development that protects the integrity of existing neighborhoods, commercial, and industrial areas using the following design techniques.
 - 1) New development and new transportation facilities shall be designed to meet the street classification, design, and access standards identified in the Transportation System Plan.
 - 2) City arterials should include sound walls and/or landscaping buffers between residential areas and the street.
 - 3) Make use of on-street parking and buildings that abut the street frontage in the central business district and designated neighborhood commercial areas to create pedestrian friendly retail and commercial service environments.
(Ordinance 2005-2619, May 16, 2005)

GOAL 9: Create effective circulation and access for the local transportation system.

POLICIES:

~~a. Analyze Alternative routes for the re-routing of 219 to facilitate both local and regional traffic.~~

~~b.a.~~ Enhance existing routes and add alternative routes for local travel.

- ~~1)~~ The City development code ~~shall~~should encourage the development of a continuous interconnected street pattern that connects adjacent developments and minimizes the use of cul-de-sacs.
- ~~2)~~ The City ~~shall~~should implement standards for cul-de-sac design.
- ~~3)~~ The City ~~shall~~should coordinate the development of an integrated bike and pedestrian system that provides for connections between and through adjacent development and that provides convenient links to community destinations.
- ~~4)~~ The City will actively pursue development of park and ride lots for the convenience of area residents making use of carpooling, van pooling, and commuter transit.
- ~~5)~~ The City will support efforts to increase public transit options for area residents.
(Ordinance 2005-2619, May 16, 2005)

~~e.b.~~ Develop a system of roads that provide for efficient movement of traffic, ~~considering the general design guidelines below. Specific design guidelines for the different classifications of roadways is found in the Transportation System Plan and the Newberg Public Works Design and Construction Standards. The functional classifications of roadways in the City of Newberg includes the following:~~

Expressway. Expressways ~~shall~~should be designed to expedite the movement of regional traffic through the urban area; they function as freeways with limited access points and no private development access points. ~~Intersections shall be grade separated and access shall be provided only at grade separated interchanges. General design criteria are summarized as follows:~~

- ~~—100 to 120 feet of right of way~~
- ~~—80 feet curb to curb cross-section~~
- ~~—No direct access from adjoining private property~~
- ~~—Limited access points, preferably at grade separated interchanges~~
- ~~—Separated pedestrian and bicycle facility on one side of the facility~~
- ~~—No parking; emergency shoulder for disabled vehicle use only~~
- ~~—Sound buffering provided to protect existing and future residential property as necessary~~
- ~~—Roadway designed for travel speeds exceeding 55 m.p.h.~~

Within the City of Newberg, the **Highway 99W Bypass Corridor** is intended to be an expressway, which is generally aligned east/west along the southern alignment route depicted in the Newberg/Dundee Bypass Location Environmental Impact Statement. The length of the Highway 99W Bypass within the City is approximately 3 miles. Expressways shall be designed to ODOT guidelines.

~~Highway 219 (Hillsboro-Silverton Highway) from First Street to the southern urban boundary is also a major arterial that is generally aligned north/south. The length of Highway 219 within Newberg (south of Villa Road) is approximately 3.0 miles.~~

Major Arterials. Major Arterials expedite the movement of traffic to and from major trip

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generators and between communities, collect and distribute traffic from principal arterials to collector streets, or directly to traffic generators. The functional emphasis is on the movement of people, goods, and services through the city, therefore consolidating access points, minimizing parking, and managing traffic flow to promote through-travel is the desired condition. Exceptions may occur in the central business district and in designated neighborhood commercial areas. Within the City of Newberg, **Highway 99W** is a major arterial that is generally aligned east/west. The length of Highway 99W within the City is approximately 3.3 miles.

~~General design criteria are summarized as follows:~~

- ~~• — 85 to 100 feet of right-of-way.~~
- ~~• — 70 feet curb to curb cross section.~~
- ~~• — Direct access is minimized (no residential access).~~
- ~~• — Signalization at intersections with arterials, and collectors as warranted.~~
- ~~• — Bicycle lanes shall be provided on both sides of street. Bicycle lanes should be four to six feet wide. Alternatively, a parallel bikeway may be provided on one side of the street when bike lanes are not feasible.~~
- ~~• — Seven foot sidewalks and curbs are required on both sides of the street.~~
- ~~• — Parking is generally not allowed except in special designated areas, such as the downtown; no parking allowed within twenty feet of curb return.~~
- ~~• — Sound buffering or landscape buffers may be required to protect existing and future residential property where deemed necessary.~~

~~General street design criteria shall be as follows:~~

- ~~• — 60 to 80 feet of right-of-way.~~
- ~~• — 46 feet curb to curb.~~
- ~~• — Signalization at intersections with major arterials and collector streets as warranted.~~
- ~~• — A 5-foot bicycle lane in each direction adjacent to the curb.~~
- ~~• — Seven foot curb sidewalks. In commercial areas sidewalks preferred from curb to property line. Sidewalks and curbs required on both sides of street. Five foot sidewalks in non-commercial areas.~~
- ~~• — On street parking is generally not allowed except in the downtown and other~~

~~areas where special circumstances warrant. No parking will be allowed within 20 feet of curb return.~~

Minor Arterial. Minor Arterials collect and distribute traffic from major arterials to collector and local streets; ~~and, and~~ facilitate traffic movement between neighborhoods. Highway 219 (Hillsboro-Silverton Highway) from First Street to the southern urban boundary is also a major minor arterial that is generally aligned north/south. The length of Highway 219 within Newberg (south of Villa Road) is approximately 3.0 miles. Springbrook Road and Mountainview Drive are other examples of minor arterials.

~~5)~~ Major Collectors. Major collectors serve multi-neighborhood areas. They are intended to channel traffic from local streets and/or minor collectors to the arterial street system. A major collector can also provide access to abutting properties. Villa Road, Haworth Avenue, and Wynooski Road are all examples of major collectors.

~~6) — 60 to 80 feet of right of way with ten foot public utility easements.~~

~~7) — 34 to 46 feet curb to curb cross section.~~

~~8) — Five foot bike lanes on both sides of the street.~~

~~9) — On street parking is generally not allowed except in the downtown and other areas where special circumstances warrant. No parking will be allowed within 20 feet of curb return.~~

~~10) — A minimum six foot planter strip and six foot sidewalk on both sides of the street.~~

~~4) Villa Road, Haworth Avenue, and Wynooski Road are all examples of major collectors.~~

~~11)~~ Minor Collectors. A minor collector provides access to abutting properties and serves the local access needs of neighborhoods by channeling traffic to the major collector and arterial street system. A minor collector is not intended to serve through traffic. Meridian Street, Columbia Drive, and Vittoria Way are all examples of minor collectors.

~~12) 56 to 65 feet of right of way with 10 foot public utility easements.~~

~~13) 34 to 42 feet curb to curb.~~

~~14) — Parking on both sides of the street, replaced by bike lanes where needed.~~

~~15) — A minimum four and one half (4 1/2) foot planter strip and five foot sidewalk on both sides of the street.~~

~~5) Meridian Street, Columbia Drive, and Vittoria Way are all examples of minor collectors.~~

Local Streets. Local streets provide direct access to adjoining properties and connect to collector streets. Most neighborhood residential streets are local streets. The system design criteria for local streets include:

~~• — 54-65 feet of right of way with 10 foot public utility easements.~~

Exhibit "E" – TSP CPA - TC

- ~~•— For standard residential streets, standard 32-foot curb to curb with parking on both sides.~~
- ~~•— A minimum four and one half foot wide planting strip and five foot wide sidewalk on both sides of the street.~~
- ~~•— Where approved, limited residential streets may have narrower dimensions (Ordinance 2011-2736, March 21, 2011)~~

- ~~6) — Most neighborhood residential streets are local streets.~~
- ~~16) — New private streets shall not be allowed.~~

~~ec.~~ ____ The City shall apply appropriate access spacing criteria as part of its ~~Engineering Design~~Public Works Design and Construction Standards to enhance traffic operation and safety on City streets. The access spacing standards apply to traffic signals, public street intersections, private driveways, and non-traversable median openings. The standards shall be applied to new street construction, reconstruction of existing streets, and new street access associated with development. (Ordinance 99-2513, August 2, 1999).

d. New private streets shall should not be allowed.

GOAL 10: Maintain the viability of existing rail, water and air transportation systems.

POLICIES:

- Encourage and support compatible transportation and land use development.
- Evaluate and mitigate potential losses whenever possible.
 - The City ~~shall~~should maintain the viability of existing rail, water, and air transportation systems.
 - The City ~~shall~~should maintain an airport overlay zone as long as there is an operating airport in or near the City.
 - Adequate open space and landscaping ~~shall~~should be provided by all new development around the airport to reduce the noise impact of airport operations on surrounding residential areas.
 - The City ~~shall~~should encourage the use of properties adjacent to the airport for industrial parks, related commercial activities and community facilities in order to maximize airport services and provide a buffer for surrounding residences.

GOAL 11: Establish fair and equitable distribution of transportation improvement costs.

POLICIES:

- Define appropriate phasing and funding which relates to the benefits received.
- The City shall utilize the Transportation Improvement Funding policies outlined in the Transportation System Plan for determining responsibilities and costs for funding improvements.

~~(Ordinance 94-2384, August 1, 1994, Ordinance 1998-2494, April 6, 1998. Ordinance 94-2384, August 1, 1994 — also adopted the Newberg Transportation System — Plan, a technical supplement to the Comprehensive Plan).~~

GOAL 12: Minimize the negative impact of a Highway 99 bypass on the Newberg community.

- a. The bypass should be located within the study area as far from the Willamette River as practical.
- b. Pedestrian/bike trails, streets, and rail lines should have access across the bypass route. The bypass should not block access to the Willamette Greenway or the Chehalem Creek corridor and Ewing Young Park. Trails connecting across the bypass should be welcoming and pedestrian-friendly amenities, such as benches, decorative lighting, decorative walkway paving materials, and special landscaping.
- c. The bypass route should be located as far north as practical within the study area to consolidate the Riverfront District residential and commercial land on the south side of the bypass.
- ~~d. The bypass should be below grade through the riverfront area.~~
- ed. Significant landscaping should be located along the bypass, including trees.
- ~~fe.~~ Measures should be taken to minimize noise in adjacent residential, tourist commercial and recreational areas.
- gf. Impacts to Scott Leavitt Park ~~shall~~should be mitigated to significantly enhance the function of the park after construction of the bypass.
- hg. Safe pedestrian and bicycle connections ~~shall~~should be maintained between the riverfront area and downtown.