City of Sherwood Oregon

Home of the Tualatin River National Wildlife Refuge

Planning Commission Work Session Packet

FOR

May 13, 2014
At 7 PM

Sherwood City Hall
22560 SW Pine Street
Sherwood, Oregon

City of Sherwood
PLANNING COMMISSION
Sherwood City Hall
22560 SW Pine Street
Sherwood, OR 97140
May 13, 2014

Work Session Agenda 7:00 PM

1. Transportation System Plan Update Overview

Meeting documents may be found on the City of Sherwood website or by contacting the Planning Staff at 503-925-2308.

City of Sherwood
Oregon

Home of the Tualatin River National Wildlife Refuge

MEMORANDUM

City of Sherwood
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Mayor
Bill Middleton

Council President
Linda Henderson

Councilors
Dave Grant
Robyn Folsom
Bill Butterfield
Matt Langer
Krisanna Clark

City Manager
Joseph Gall, ICMA-CM

Assistant City Manager
Tom Pessemier, P.E.

2009 Top Ten Selection

2007 18th Best Place to Live

To: Sherwood Planning Commission

From: Bob Galati, PE – City Engineer
Brad Kilby, AICP

RE: Transportation System Plan (TSP) – Work Session Materials

Date: May 6, 2014

The focus of the upcoming Planning Commission work session is to continue our discussion of the on-going TSP Update process and consultant recommended amendments to the Comprehensive Plan Goals and Policies and the Sherwood Zoning and Community Development Code.

BACKGROUND:
The City's Transportation System Plan (TSP) is a long term guide for the City's transportation system. The TSP incorporates the vision of the community onto the existing transportation system with the intent of protecting and enhancing the quality of life in Sherwood. The TSP reflects transportation planning to the year 2035, which corresponds to Metro's Regional Transportation Plan (RTP) planning year. Our last comprehensive update to the document was 2005.

The current information provided for review by the Planning Commission includes:

1. Proposed Development Code Amendments
2. Proposed Transportation Goals and Policies Amendments

These are the items that you will be considering in your upcoming hearings, and this is an opportunity for you to gather information, prepare yourself for the discussions and make a formal recommendation to the City Council for their consideration. Since this is our second work session on the matter, these materials have been amended to reflect public comments, agency comments, and comments that we heard from the Citizens Advisory Committee, the Technical Advisory Committee, and comments received from our first work session with the Planning Commission and public.

As you already know, the proposed Code Amendments are intended to provide consistency between the TSP, the Development Code, and other State and regional transportation agency planning goals, policies, and regulations. These amendments are intended to correct existing inconsistencies and provide clarity of the related Code section, and to amend the associated Comprehensive Plan goals and policies. Please come prepared and ask lots of questions. If you have any questions, please do not hesitate to contact Bob Galati at (503)925-2303.

Angelo planning group LAND USE PLANNING • TRANSPORTATION PLANNING • PROJECT MANAGEMENT

Memorandum

Date:	May 6, 2014
To:	Brad Kilby, AICP, City of Sherwood
From:	Darci Rudzinski and Shayna Rehberg, Angelo Planning Group
cc:	Bob Galati, PE, City of Sherwood; Garth Appanaitis, DKS Associates
Re:	Draft Proposed Implementation Language (Task 5.2)

This memorandum presents draft proposed amendments to the City of Sherwood Zoning and Community Development Code ("development code"), pursuant to Task 5.2.

Proposed policy and code amendments will be reviewed and considered for adoption in conjunction with the updated TSP, as they include amendments that implement recommendations from the updated City of Sherwood Transportation System Plan (TSP), create consistency between the TSP and other adopted local documents, and comply with state and regional transportation planning regulations. Proposed policy amendments are presented in a separate memorandum and proposed code amendments are presented below.

Proposed Development Code Amendments

Draft code amendments presented in this memorandum were developed according to findings of compliance with the Transportation Planning Rule (TPR) and Regional Transportation Functional Plan (RTFP).[1] Recommendations for potential code amendments to better address compliance with TPR and RTFP requirements were summarized in Table 6 of the Needs, Opportunities, Constraints and Tools Technical Report (Task 3.2). These recommendations were discussed with City staff in order to determine which issues would be pursued and developed into draft code amendments.

For reference, that summary table is included in this memorandum as Table A-1 in Attachment A, and includes commentary indicating which recommendations have been developed into proposed code amendments.

[1] Detailed and updated findings of compliance will be included in the City's staff report (Task 5.6).

Proposed code amendment text is presented in adoption-ready format in this memorandum. New language that is proposed to be added is underlined and proposed deletions are ~~struck through~~. The draft amendments are numbered consistent with the structure of the City development code, and are presented in the order of issues included in Table A-1.

Note: In addition to the amendments proposed in this memorandum, the entire development code should be checked to amend all references to the updated TSP, as needed.

DRAFT

Consistency of transportation facility standards (Recommendation DC-2 in Table A-1)

CHAPTER 16.106 TRANSPORTATION FACILITIES

16.106.010 Generally

A. Creation

Public streets shall be created in accordance with provisions of this Chapter. Except as otherwise provided, all street improvements and rights-of-way shall conform to standards for the City's functional street classification, as shown on the TSP Map (Figure 15) ~~and in Figure 1, of Chapter 6 of the Community Development Plan,~~ and other applicable City standards. The following table depicts the guidelines for the street characteristics.

[…]

16.106.040 Design

Standard cross sections showing street design and pavement dimensions are located in the ~~City of Sherwood Transportation System Plan, and~~ City of Sherwood's Engineering Design Manual.

Definitions of access way and shared-use path (Recommendation DC-3 in Table A-1)

CHAPTER 16.10 DEFINITIONS

16.10.020 SPECIFICALLY

[…]

Access: The way or means by which pedestrians and vehicles enter and leave property.

Access way: A pathway providing a connection for pedestrians and bicyclists between two streets, between two lots, or between a development and a public right-of-way. An access way is intended to provide access between a development and adjacent residential uses, commercial uses, public use such as schools, parks, and adjacent collector and arterial streets where transit stops or bike lanes are provided or designated. An access way may be a pathway for pedestrians and bicyclists (with no vehicle access), a pathway on public or private property (i.e., with a public access easement), and/or a facility designed to accommodate emergency vehicles.

Accessory Building/Use: A subordinate building or use which is customarily incidental to that of the principal use or building located on the same property.

[…]

Setback: The minimum horizontal distance between a public street right-of-way line, or side and rear property lines, to the front, side and rear lines of a building or structure located on a lot.

Shared-use path: A facility for non-motorized access conforming to City standards and separated from the roadway, either in the roadway right-of-way, independent public right-of-way, or a public access easement. It is designed and constructed to allow for safe walking, biking, and other human-powered travel modes.

Sidewalk: A pedestrian walkway with hard surfacing.

[…]

Traffic Impact Analysis (TIA) and rough proportionality requirements (Recommendation DC-4 in Table A-1)

CHAPTER 16.90 SITE PLANNING

16.90.030 Site Plan Modifications and Revocation

[…]

D. Required Findings

No site plan approval shall be granted unless each of the following is found:

[…]

6. ~~For developments that are likely to generate more than 400 average daily trips (ADTs)~~Pursuant to Section 16.106.080, or at the discretion of the City Engineer, the applicant shall provide adequate information, such as a traffic impact analysis (TIA) or traffic counts, to demonstrate the level of impact to the surrounding ~~street~~ transportation system. The developer shall be required to mitigate for impacts attributable to the project, pursuant to TIA requirements in Section 16.106.080 and rough proportionality requirements in Section 16.106.090. The determination of impact or effect and the scope of the impact study shall be coordinated with the provider of the affected transportation facility.

[…]

CHAPTER 16.106 TRANSPORTATION FACILITIES

16.106.020 Required Improvements

[…]

D. Extent of Improvements

1. Streets required pursuant to this Chapter shall be dedicated and improved consistent with Chapter 6 of the Community Development Plan, the TSP and applicable City specifications included in the City of Sherwood Construction Standards. Streets shall include curbs, sidewalks, catch basins, street lights, and street trees. Improvements shall also include any bikeways designated on the Transportation System Plan map. Applicant may be required to dedicate land for required public improvements only when the exaction is directly related to and roughly proportional to the impact of the development, pursuant to Section 16.106.090.

[…]

16.106.040 Design

[…]

K. Traffic Controls

1. ~~An application for a proposed residential development that will generate more than an estimated 200 average daily vehicle trips (ADT) must include a traffic impact analysis to determine the number and types of traffic controls necessary to accommodate anticipated traffic flow.~~

2. ~~For all other proposed developments including commercial, industrial or institutional uses with over an estimated 400 ADT~~Pursuant to Section 16.106.080, or as otherwise required by the City Engineer, ~~the~~ an application must include a traffic impact analysis to determine the number and types of traffic controls necessary to accommodate anticipated traffic flow.

[…]

16.106.080 Traffic Impact Analysis (TIA)

A. Purpose. The purpose of this section is to implement Sections 660-012-0045(2)(b) and -0045(2)(e) of the State Transportation Planning Rule (TPR), which require the City to adopt performance standards and a process to apply conditions to land use proposals in order to minimize impacts on and protect transportation facilities. This section establishes requirements for when a traffic impact analysis (TIA) must be prepared and submitted; the analysis methods and content involved in a TIA; criteria used to review the TIA; and authority to attach conditions of approval to minimize the impacts of the proposal on transportation facilities.

This section refers to the TSP for performance standards for transportation facilities as well as for projects that may need to be constructed as mitigation measures for a proposal's projected impacts. This section also relies on the City of Sherwood's Engineering Design Manual to provide street design standards and construction specifications for improvements and projects that may be constructed as part of the proposal and/or mitigation measures approved for the proposal.

B. Applicability. A traffic impact analysis (TIA) shall be required to be submitted to the City with a land use application at the request of the City Engineer or if the proposal is expected to involve one or more of the following:

1. An amendment to the Sherwood Comprehensive Plan or zoning map.

2. A new direct property approach road to Highway 99W is proposed.

3. The proposed development generates 50 or more PM peak-hour trips on Highway 99W, or 100 PM peak-hour trips on the local transportation system.

4. An increase in use of any adjacent street or direct property approach road to Highway 99W by 10 vehicles or more per day that exceed the 20,000 pound gross vehicle weight.

5. The location of an existing or proposed access driveway does not meet minimum spacing or sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles are likely to queue or hesitate at an approach or access connection, thereby creating a safety hazard.

6. A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or traffic crashes in the approach area.

C. Requirements. The following are typical requirements that may be modified in coordination with Engineering Staff based on the specific application.

1. Pre-application Conference. The applicant shall meet with the City Engineer prior to submitting an application that requires a TIA. This meeting will be coordinated with Washington County and ODOT when an approach road to a County road or Highway 99W serves the property, so that the TIA will meet the requirements of all relevant agencies.

2. Preparation. The TIA shall be prepared by an Oregon Registered Professional Engineer qualified to perform traffic engineering analysis and will be paid for by the applicant.

3. Typical Average Daily Trips and Peak Hour Trips. The latest edition of the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE), shall be used to gauge PM peak hour vehicle trips, unless a specific trip generation study that is approved by the City Engineer indicates an alternative trip generation rate is appropriate. *[Note: Alternative, stricter*

trip generation study provisions: A trip generation study can be used as a reference to determine trip generation for a specific land use which is not well represented in the ITE Trip Generation Manual and for which similar facilities are available to count.]

4. Intersection-level Analysis. Intersection-level analysis shall occur at every intersection where the analysis shows that 50 or more peak hour vehicle trips can be expected to result from the development.

5. Transportation Planning Rule Compliance. The requirements of OAR 660-012-0060 shall apply to those land use actions that significantly affect the transportation system, as defined by the Transportation Planning Rule.

D. Study Area. The following facilities shall be included in the study area for all TIAs:

1. All site-access points and intersections (signalized and unsignalized) adjacent to the proposed development site. If the site fronts an arterial or collector street, the analysis shall address all intersections and driveways along the site frontage and within the access spacing distances extending out from the boundary of the site frontage.

2. Roads and streets through and adjacent to the site.

3. All intersections needed for signal progression analysis.

4. In addition to these requirements, the City Engineer may require analysis of any additional intersections or roadway links that may be adversely affected as a result of the proposed development.

E. Analysis Periods. To adequately assess the impacts of a proposed land use action, the following study periods, or horizon years, should be addressed in the transportation impact analysis where applicable:

1. Existing Year.

2. Background Conditions in Project Completion Year. The conditions in the year in which the proposed land use action will be completed and occupied, but without the expected traffic from the proposed land use action. This analysis should account for all City-approved developments that are expected to be fully built out in the proposed land use action horizon year, as well as all planned transportation system improvements.

3. Full Buildout Conditions in Project Completion Year. The background condition plus traffic from the proposed land use action assuming full build-out and occupancy.

4. Phased Years of Completion. If the project involves construction or occupancy in phases, the applicant shall assess the expected roadway and intersection conditions resulting from major development phases. Phased years of analysis will be determined in coordination with City staff.

5. 20-Year or TSP Horizon Year. For planned unit developments, comprehensive plan amendments or zoning map amendments, the applicant shall assess the expected future roadway, intersection, and land use conditions as compared to approved comprehensive planning documents.

F. Approval Criteria. When a TIA is required, a proposal is subject to the following criteria, in addition to all criteria otherwise applicable to the underlying land use proposal:

1. The analysis complies with the requirements of 16.106.080.C;

2. The analysis demonstrates that adequate transportation facilities exist to serve the proposed development or identifies mitigation measures that resolve identified traffic safety problems in a manner that is satisfactory to the City Engineer and, when County or State highway facilities are affected, to Washington County and ODOT;

3. For affected non-highway facilities, the TIA demonstrates that mobility and/or other applicable performance standards established in the adopted City TSP have been met; and

4. Proposed public improvements are designed and will be constructed to the street standards specified in Section 16.106.010 and the Engineering Design Manual, and to the access standards in Section 16.106.040.

5. Proposed public improvements and mitigation measures will provide safe connections across adjacent right-of-way (e.g., protected crossings) when pedestrian and/or bicycle facilities are present or planned on the far side of the right-of-way.

G. Conditions of Approval. The City may deny, approve, or approve a development proposal with conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to ensure consistency with the future planned transportation system. Improvements required as a condition of development approval, when not voluntarily provided by the applicant, shall be roughly proportional to the impact of the development on transportation facilities, pursuant to Section 16.106.090. Findings in the development approval shall indicate how the required improvements are directly related to and are roughly proportional to the impact of development.

16.106.090 Rough Proportionality

The purpose of this section is to ensure that required transportation facility improvements are roughly proportional to the potential impacts of the proposed development. The rough proportionality requirements of this section apply to both frontage and non-frontage improvements. A proportionality analysis will be conducted by the City Engineer for any proposed development that triggers transportation facility improvements pursuant to this chapter. The City Engineer will take into consideration any benefits that are estimated to accrue to the development property as a result of any required transportation facility improvements. A proportionality determination can be appealed pursuant to Section_____. The following general provisions apply whenever a proportionality analysis is conducted.

A. Mitigation of impacts due to increased demand for transportation facilities associated with the proposed development shall be provided in rough proportion to the transportation impacts of the proposed development. When applicable, anticipated impacts will be determined by the TIA in accordance with Section 16.106.080. When no TIA is required, anticipated impacts will be determined by the City Engineer.

B. The following shall be considered when determining proportional improvements:

1. Condition and capacity of existing facilities within the impact area in relation to City standards. The impact area is generally defined as the area within a one-half (1/2) mile radius of the proposed development. If a TIA is required, the impact area is the TIA study area.

2. Existing vehicle, bicycle, pedestrian, and transit use within the impact area.

3. The effect of increased demand on transportation facilities and other approved, but not yet constructed, development projects within the impact area that is associated with the proposed development.

4. Applicable TSP goals, policies, and plans.

5. Whether any route affected by increased transportation demand within the impact area is listed in any City program including school trip safety; neighborhood traffic management; capital improvement; system development improvement, or others.

6. Accident history within the impact area.

7. Potential increased safety risks to transportation facility users, including pedestrians and cyclists.

8. Potential benefit the development property will receive as a result of the construction of any required transportation facility improvements.

9. Other considerations as may be identified in the review process pursuant to Chapter 16.72.

Preferential carpool and vanpool parking (Recommendation DC-6 in Table A-1)

CHAPTER 16.94 OFF-STREET PARKING AND LOADING

16.94.010 General Requirements

[…]

E. Location

3. Vehicle parking is allowed only on improved parking shoulders that meet City standards for public streets, within garages, carports and other structures, or on driveways or parking lots that have been developed in conformance with this code. Specific locations and types of spaces (car pool, compact, etc.) for parking shall be indicated on submitted plans and located to the side or rear of buildings where feasible.

a. All new development with twenty (20) employees or more shall include preferential spaces for ~~either~~ car-pool and vanpool designation. Carpool and vanpool parking spaces shall be located closer to the main employee entrance than all other parking spaces with the exception of ADA parking spaces. Carpool/vanpool spaces shall be clearly marked as reserved for carpool/vanpool only.

Exemptions for structured parking and on-street parking (Recommendation DC-8 in Table A-1)

16.94.010 General Requirements

[…]

K. Structured parking and on-street parking are exempt from the parking space maximums in Section 16.94.020.A.

"Housekeeping" amendments, parking standards table footnotes (Recommendation DC-9 in Table A-1)

Section 16.94.020, Parking Standards Table

[1] Parking Zone A reflects the maximum number of permitted vehicle parking spaces allowed for each listed land use. Parking Zone A areas include those parcels that are located within one-quarter (¼) mile walking distance of bus transit stops, one-half (½) mile walking distance of light rail station platforms, or both, or that have a greater than 20 minute peak hour transit service.

[2] Parking Zone B. Parking Zone B reflects the maximum number of permitted vehicle parking spaces allowed for each listed land use. ~~Parking Zone B areas include those parcels that are located within one-quarter ¼ mile walking distance of bus transit stops, one-half ½ mile walking distance of light rail station platforms, or both, or that have a greater than 20 minute peak hour transit service.~~ Parking Zone B areas ~~also~~ include those parcels that are located at a distance greater than one-quarter (¼) mile walking distance of bus transit stops, one-half (½) mile walking distance of light rail station platforms, or both.

Transportation Planning Rule consistency requirements (Recommendation DC-11 in Table A-1)

CHAPTER 16.80 PLAN AMENDMENTS

16.80.030 Review Criteria

[…]

C. Transportation Planning Rule Consistency

1. The applicant shall demonstrate consistency with the Transportation Planning Rule, specifically by addressing whether the proposed amendment creates a significant effect on the transportation system pursuant to OAR 660-012-0060. If required, a Traffic Impact Analysis (TIA) shall be prepared pursuant to Section 16.106.080.

   ~~Review of plan and text amendment applications for effect on transportation facilities. Proposals shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with OAR 660-12-0060 (the TPR). Review is required when a development application includes a proposed amendment to the Comprehensive Plan or changes to land use regulations.~~

~~2. "Significant" means that the transportation facility would change the functional classification of an existing or planned transportation facility, change the standards implementing a functional classification, allow types of land use, allow types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility, or would reduce the level of service of the facility below the minimum level identified on the Transportation System Plan.~~

~~3. Per OAR 660-12-0060, Amendments to the Comprehensive Plan or changes to land use regulations which significantly affect a transportation facility shall assure that allowed land uses~~

~~are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:~~

~~a. Limiting allowed uses to be consistent with the planned function of the transportation facility.~~

~~b. Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses.~~

~~c. Altering land use designations, densities or design requirements to reduce demand for automobile travel and meet travel needs through other modes.~~

Major driveway connectivity requirements (Recommendation DC-13 in Table A-1)

[Note: The City Engineering Design Manual allows residential driveway widths up to 24 feet for lots with frontage up to 60 feet, and wider driveway widths for lots with frontage more than 60 feet. Thus, 24 feet was used as a threshold for the proposed amendments below.]

CHAPTER 16.90 SITE PLANNING

16.90.030 Site Plan Modifications and Revocation

[…]

D. Required Findings

No site plan approval shall be granted unless each of the following is found:

[…]

9. Driveways that are more than 24 feet in width shall align with existing streets or planned streets as shown in the Local Street Connectivity Map in the adopted Transportation System Plan (Figure 17), except where prevented by topography, rail lines, freeways, pre-existing development, or leases, easements, or covenants.

CHAPTER 16.106 TRANSPORTATION FACILTIIES

16.106.030 Location

[…]

B. Street Connectivity and Future Street Systems

[…]

2. Connectivity Map Required. New residential, commercial, and mixed use development involving the construction of new streets shall be submitted with a site plan that implements, responds to and expands on the Local Street Connectivity map contained in the TSP.

[…]

d. Driveways that are more than 24 feet in width shall align with existing streets or planned streets as shown in the Local Street Connectivity Map in the adopted Transportation System Plan (Figure 17), except where prevented by topography, rail lines, freeways, pre-existing development, or leases, easements, or covenants.

On-street loading (Recommendation DC-14 in Table A-1)

CHAPTER 16.94 OFF-STREET PARKING AND LOADING

16.94.030 Off-Street Loading Standards

[…]

C. Exceptions and Adjustments. The review authority, through Site Plan Review, may approve loading areas within a street right-of-way in the Old Town Overlay District when all of the following conditions are met:

1. Short in duration (i.e., less than one hour);

2. Infrequent (less than three operations occur daily between 5:00 a.m. and 12:00 a.m. or all operations occur between 12:00 a.m. and 5:00 a.m. at a location that is not adjacent to a residential zone);

3. Does not unreasonably obstruct traffic; [or] Does not obstruct traffic during peak traffic hours;

4. Does not obstruct a primary emergency response route; and

5. Is acceptable to the applicable roadway authority.

Bicycle parking (Recommendation DC-15 in Table A-1)

[Note: The language proposed in this section is modeled after bicycle parking provisions that have been adopted by other similarly-sized communities and includes existing City of Sherwood provisions as noted.]

CHAPTER 16.94 OFF-STREET PARKING AND LOADING

16.94.020 Off-Street Parking Standards

[…]

C. Bicycle Parking Facilities

~~1. Location and Design~~

~~a. Bicycle parking shall be conveniently located with respect to both the street right-of-way and at least one (1) building entrance (e.g., no farther away than the closest parking space). Bike parking may be located inside the main building or near the main entrance.~~

~~b. Bicycle parking in the Old Town Overlay District can be located on the sidewalk within the right- of-way. A standard inverted "U shaped" design is appropriate. Alternative, creative designs are strongly encouraged.~~

~~2. Visibility and Security. Bicycle parking shall be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.~~

~~3. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.~~

~~4. Lighting. Bicycle parking shall be at least as well lit as vehicle parking for security.~~

~~5. Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.~~

~~6. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards.~~

1. General Provisions

a. Applicability. Bicycle parking spaces shall be provided for new development, changes of use, and major renovations, defined as construction valued at 25% or more of the assessed value of the existing structure.

b. Types of Spaces. Bicycle parking facilities shall be provided in terms of short-term bicycle parking and long-term bicycle parking. Short-term bicycle parking is intended to encourage customers and other visitors to use bicycles by providing a convenient and readily accessible place to park bicycles. Long-term bicycle parking provides employees, students, residents, commuters, and others who generally stay at a site for at least several hours a weather-protected place to park bicycles.

c. Minimum Number of Spaces. The required total minimum number of bicycle parking spaces for each use category is shown in Table 4, Minimum Required Bicycle Parking Spaces. *[Note: Tables in Chapter 16.94 are not currently numbered, so it is recommended that the previous tables in the chapter be numbered Tables 1, 2, and 3.]*

d. Minimum Number of Long-term Spaces. At least 50% of the required bicycle parking spaces in Table 4 shall be provided as long-term bicycle parking, with a minimum of one long-term bicycle parking space.

e. Multiple Uses. When there are two or more primary uses on a site, the required bicycle parking for the site is the sum of the required bicycle parking for the individual primary uses.

2. Location and Design.

a. General Provisions

(1) Each space must be at least 2 feet by 6 feet in area, be accessible without moving another bicycle, and provide enough space between the rack and any obstructions to use the space properly.

(2) There must be an aisle at least 5 feet wide behind all required bicycle parking to allow room for bicycle maneuvering. Where the bicycle parking is adjacent to a sidewalk, the maneuvering area may extend into the right-of-way.

(3) Lighting. Bicycle parking shall be at least as well lit as vehicle parking for security. *[Note: existing code language]*

(4) Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only. *[Note: existing code language]*

(5) Bicycle parking in the Old Town Overlay District can be located on the sidewalk within the right- of-way. A standard inverted "U shaped" or staple design is appropriate. Alternative, creative designs are strongly encouraged. *[Note: existing code language]*

(6) Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards. *[Note: existing code language]*

b. Short-term Bicycle Parking

(1) Provide lockers or racks that meet the standards of this section.

(2) Locate inside or outside the building within 30 feet of the main entrance to the building or at least as close as the nearest vehicle parking space, whichever is closer. *[Note: partly existing code language]*

c. Long-term Bicycle Parking

(1) Provide racks, storage rooms, or lockers in areas that are secure or monitored (e.g., visible to employees or customers or monitored by security guards).

(2) Locate the space within 100 feet of the entrance that will be accessed by the intended users.

(3) All of the spaces shall be covered.

d. Covered Parking (Weather Protection)

(1) When required, covered bicycle parking shall be provided in one of the following ways: inside buildings, under roof overhangs or awnings, in bicycle lockers, or within or under other structures.

(2) Where required covered bicycle parking is not within a building or locker, the cover must be permanent and designed to protect the bicycle from rainfall and provide seven (7) foot minimum overhead clearance.

(3) Where required bicycle parking is provided in lockers, the lockers shall be securely anchored.

Table 4: Minimum Required Bicycle Parking Spaces

[Note: existing code language]

Use Categories	Minimum Required Spaces
Residential Categories	
Household living	Multi-dwelling — 2 or 1 per 10 auto spaces. All other residential structure types — None
Group living	1 per 20 auto spaces
Commercial Categories	
Retail sales/service office	2 or 1 per 20 auto spaces, whichever is greater
Drive-up vehicle servicing	None
Vehicle repair	None
Commercial parking facilities, commercial, outdoor recreation, major event entertainment	4 or 1 per 20 auto spaces, whichever is greater
Self-service storage	None
Industrial Categories/Service Categories	
Basic utilities	2 or 1 per 40 spaces, whichever is greater
Park and ride facilities	2 or 1 per 20 auto spaces
Community service essential service providers parks and open areas	2 or 1 per 20 auto spaces, whichever is greater
Schools	High schools — 4 per classroom
	Middle schools — 2 per classroom
	Grade schools — 2 per 4th & 5th grade classroom
Colleges, medical centers, religious institutions, daycare uses	2 or 1 per 20 auto spaces whichever is greater

Map references (Recommendation DC-17 in Table A-1)

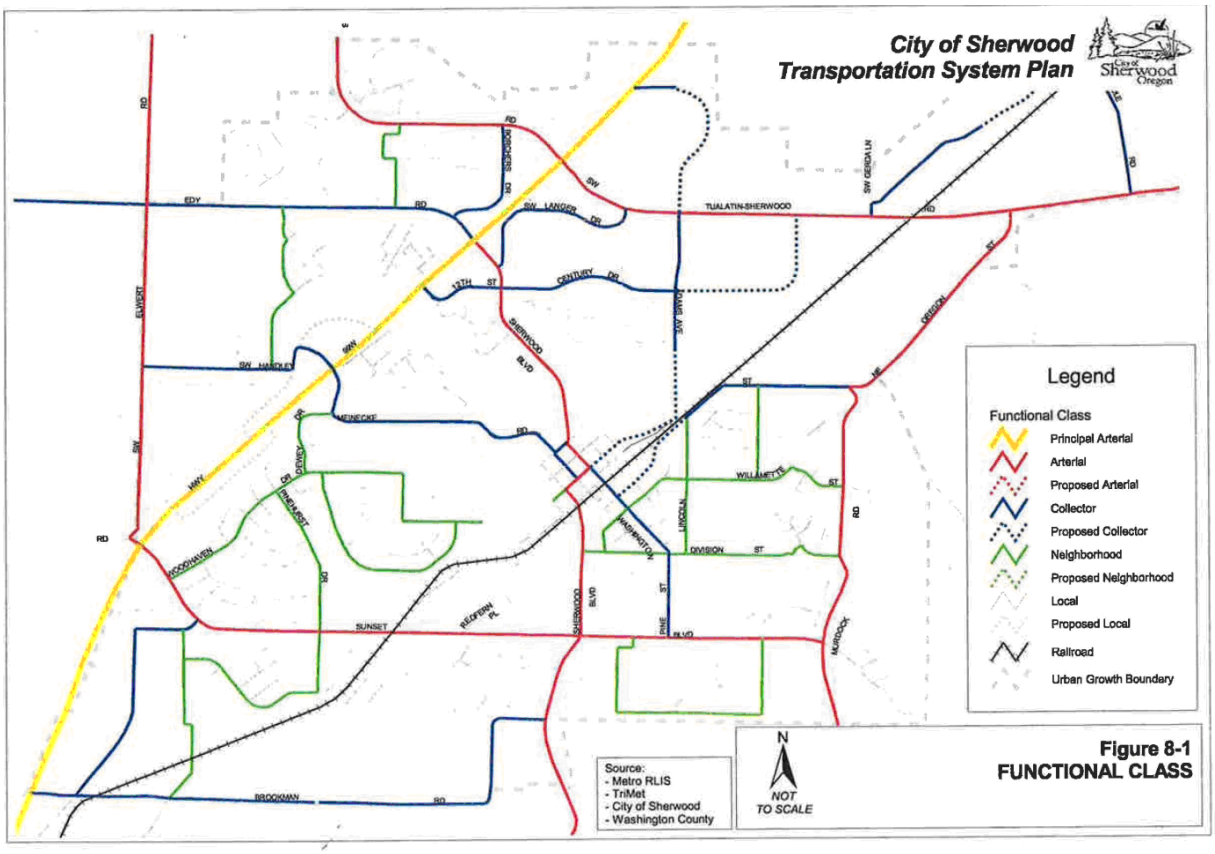
CHAPTER 16.106 TRANSPORTATION FACILITIES

16.106.020 Required Improvements

A. Generally

Except as otherwise provided, all developments containing or abutting an existing or proposed street, that is either unimproved or substandard in right-of-way width or improvement, shall dedicate the necessary right-of-way prior to the issuance of building permits and/or complete acceptable improvements prior to issuance of occupancy permits. ~~The following figure provides the depiction of the~~ Right-of-way requirements are based on functional classification of the street network as ~~found~~ established in the Transportation System Plan, Figure ~~8-1~~15.

[Delete following figure]



[…]

16.106.030 Location

[…]

B. Street Connectivity and Future Street Systems

1. Future Street Systems. The arrangement of public streets shall provide for the continuation and establishment of future street systems as shown on the Local Street Connectivity Map contained in the adopted Transportation System Plan (Figure ~~8-8~~16).

[Delete following figure]

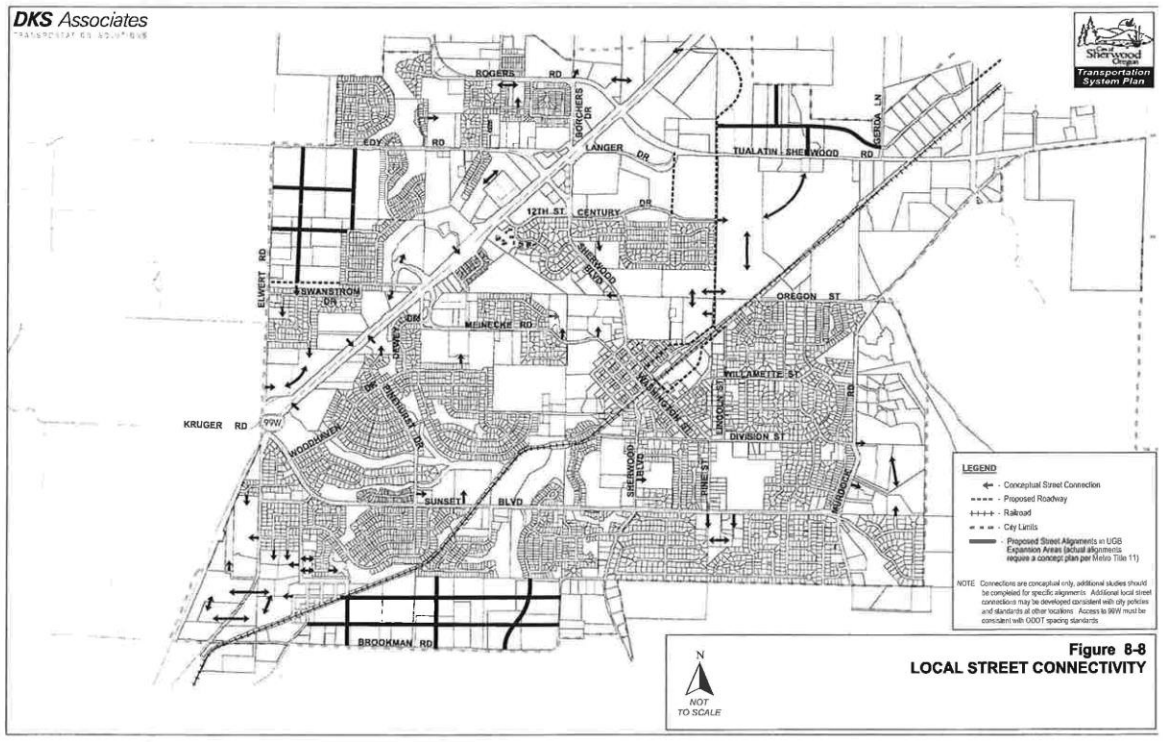


Figure 8-8
LOCAL STREET CONNECTIVITY

CAP program discontinuation (Recommendation DC-18 in Table A-1)

CHAPTER 16.106 TRANSPORTATION FACILITIES

~~16.106.070 Hwy. 99W Capacity Allocation Program (CAP)~~

~~A. Purpose - The purpose of the Highway 99W Capacity Allocation Program is to:~~

~~1. Prevent failure of Highway 99W through Sherwood.~~

~~2. Preserve capacity on Highway 99W over the next 20 years for new development within Sherwood.~~

~~3. Preserve land values in Sherwood by preventing failure of one of the City's key transportation links.~~

~~4. Insure improvements to Highway 99W and adjacent primary roadways are constructed at the time development occurs.~~

~~5. Minimize the regulatory burden on developments that have minimal impact on Highway 99W.~~

~~B. Exclusions~~

~~The following types of projects and activities are specifically excluded from the provisions of this program:~~

~~1. Churches.~~

~~2. Elementary, middle, and high schools.~~

~~3. Changes in use that do not increase the number of trips generated by the current use.~~

~~C. Definitions~~

~~1. "Base Application" means the site plan or conditional use application which invokes the provisions of this chapter.~~

~~2. "Capacity" means the maximum number of peak hour vehicle trips that Highway 99W through Sherwood may accommodate at the Level of Service Standard assuming full build-out of all land zoned for residential and industrial development in Sherwood.~~

~~3. "Full Access Intersections" means the following intersections on Highway 99W in Sherwood:~~

~~Sunset, Meinecke, Edy/N. Sherwood, Tualatin-Sherwood/Scholls-Sherwood (Roy Rogers Road, and Home Depot (Adams Street).~~

~~4. "ITE Manual" means the latest edition of the public titled "Trip Generation" by the Institute of Transportation Engineers.~~

~~5. "Level of Service (LOS) Standard" means the lowest acceptable level of service on a transportation corridor within Sherwood as stated in the Standard Requirements Section.~~

~~6. "Mitigation" means improvements to the transportation system that increase or enhance capacity.~~

~~7. "Net Trips" means the number of trips generated by a regulated activity during the PM Peak Hours. Net trips equal new trips, diverted trips, and trips from existing activities on a site that will remain. Net trips do not include: Pass-by trips, Internal trips, trips from existing facilities that will be removed, and Trips Reduced due to implementation of transportation demand strategies.~~

~~8. "Peak Hour" means a consecutive sixty (60) minute period during the twelve (12) PM hours of an average day, which experience the highest sum of traffic volumes on a roadway.~~

~~9. "Regulated Activity" means project(s) or activities proposed in the base application.~~

~~10. "Site Trip Limit" means the trip limit multiplied by the acreage of the site containing the regulated activity.~~

~~11. "Trip Allocation Certificate" means a certificate or letter from the City Engineer specifying that a regulated activity meets the trip limit and specifying any required mitigation.~~

~~12. "Trip Analysis" means a study or report that specifies the net trips from a regulated activity and analyzes the trip distribution and assignment from the activity.~~

~~13. "Trip Limit" means the maximum number of trips per acre from regulated activities that can be accommodated without violating the LOS Standard.~~

~~D. Standard Requirements~~

~~1. All regulated activities shall acquire a Trip Allocation Certificate prior to approval of their base application. Lack of a Trip Allocation Certificate shall be the basis for denial of a base application.~~

~~2. A Trip Analysis is required for all regulated activities prior to being considered for a Trip Allocation Certificate.~~

~~3. The Level of Service Standard for Highway 99W through Sherwood through the year 2020 is "E".~~

~~4. The trip limit for a regulated activity shall be forty-three (43) net trips per acre.~~

~~5. Mitigation to comply with the CAP shall not be required for regulated activities occurring on land zoned General Industrial (GI) or Light Industrial (LI) when the activity produces less than eight (8) net trips per acre.~~

~~E. Trip Analysis~~

~~1. Purpose~~

~~The first step in the process of seeking a Trip Allocation Certificate is preparation of a Trip Analysis by the applicant for the regulated activity. The purpose of the Trip Analysis is to evaluate whether the net trips from a regulated activity exceed the site trip limit.~~

~~2. Timing~~

~~The Trip Analysis shall be submitted with the relevant base application. Base applications without a Trip Analysis shall be deemed incomplete.~~

~~3. Format~~

~~At a minimum, the Trip Analysis shall contain all the following information:~~

~~a. The type and location of the regulated activity.~~

~~b. A tax map clearly identifying the parcel(s) involved in the Trip Analysis.~~

~~c. Square footage used to estimate trips, in accordance with methods outlined in the ITE Manual.~~

~~d. Description of the type of activity, especially as it corresponds to activities described in the ITE Manual.~~

~~e. Copy of the ITE Manual page used to estimate trips.~~

f. Acreage of the site containing the regulated activity calculated to two (2) decimal points.

g. Trip distributions and assignments from the regulated activity to all full access intersections impacted by ten (10) or more trips from the regulated activity with identification of the method used to distribute trips from the site.

h. Copies of any other studies utilized in the Trip Analysis.

i. Summary of the net trips generated by the regulated activity in comparison to the site trip limit.

j. Signature and stamp of a professional engineer, registered in the State of Oregon, with expertise in traffic or transportation engineering, who prepared the analysis.

4. Methods

a. The Trip Analysis and trip generation for an activity shall be based on the ITE Manual.

b. If a trip generation for the proposed use is not available in the ITE Manual or the applicant wishes to dispute the findings in the ITE Manual, the trip generation calculation may be based on an analysis of trips from five (5) sites with the same type of activity as that proposed.

5. Modification of Trip Analysis Requirements

The City Engineer may waive, in writing, some of the requirements of the Trip Analysis if:

a. The proposed regulated activity is part of a previously approved Trip Allocation Certificate that meets the requirements of this chapter and the applicant demonstrates, to the satisfaction of the City Engineer, that the applicable provisions of the previously approved Trip Allocation Certificate shall be met; or

b. The City Engineer determines, upon receipt of a letter of request from the applicant, that less information is required to accomplish the purposes of this chapter.

F. Trip Allocation Certificate

1. General

a. Trip Allocation Certificates shall be issued by the City Engineer.

b. Trip Allocation Certificates shall be valid for the same period as the land use or other city approval for the regulated activity.

c. The City Engineer may invalidate a Trip Allocation Certificate when, in the City Engineer's judgment, the Trip Analysis that formed the basis for award of the Trip Allocation Certificate no longer accurately reflects the activity proposed under the base application.

~~2. Approval Criteria~~

~~a. Upon receipt of a Trip Analysis, the City Engineer shall review the analysis. The Trip Analysis shall meet both of the following criteria to justify issuance of a Trip Allocation Certificate for the regulated activity:~~

~~(1) Adequacy of analysis; and~~

~~(2) Projected net trips less than the site trip limit.~~

~~b. Adequacy of Analysis~~

~~The City Engineer shall judge this criterion based on the following factors:~~

~~(1) Adherence to the Trip Analysis format and methods described in this chapter.~~

~~(2) Appropriate use of data and assumptions; and~~

~~(3) Completeness of the Trip Analysis.~~

~~3. Mitigation~~

~~a. The Trip Allocation Certificate shall specify required mitigation measures for the regulated activity.~~

~~b. Mitigation measures shall include improvements to Highway 99W and nearby transportation corridors that, in the judgment of the City Engineer, are needed to meet the LOS Standard and provide capacity for the regulated activity.~~

~~c. Engineering construction plans for required mitigation measures shall be submitted and approved in conjunction with other required construction plans for the regulated activity.~~

~~d. Mitigation measures shall be implemented in tandem with work associated with the regulated activity.~~

~~e. Failure to implement required mitigation measures shall be grounds for revoking the regulated activity's base application approval.~~

~~G. Other Provisions~~

~~1. Acreage Calculation for a Regulated Activity~~

~~a. Acreage calculations used to calculate net trips per acre in the Trip Analysis must use the entire area of the tax lot(s) containing the regulated activity, less 100-year floodplain area, in accordance with FIRM map for Sherwood.~~

~~b. If the site contains existing uses, the net trips generated by these uses shall be included in the calculation of net trips generated from the site.~~

~~2. Partial Development of a Site~~

~~a. If a regulated activity utilizes a portion of a vacant tax lot, such that the site could be further developed in the future, the applicant shall identify the potential uses for the vacant portion and reserve trips for that portion of the site in accordance with the uses identified. These reserve trips shall be included in the calculation of the net trips generated from the site.~~

~~b. The Trip Allocation Certificate shall not be issued if the proposed future uses of the vacant area and the reserve trips are unrealistic in the opinion of the City Engineer.~~

Bike path section update (Recommendation DC-19 in Table A-1)

16.106.07~~8~~0 Bike ~~Paths~~Lanes

If shown in ~~on the~~ Figure ~~6-1~~13 of the Transportation System Plan, bicycle ~~paths~~lanes shall be installed in public rights-of-way, in accordance with City specifications. Bike lanes shall be installed on both sides of designated roads, should be separated from the road by a twelve (12) inch stripe or other means approved by Engineering Staff~~, not a curb~~, and should be a minimum of five (5) feet wide. ~~Bike paths should not be combined with a sidewalk.~~

Attachment A

Table A-1: Summary of Recommended Potential Development Code Amendments and Corresponding Transportation Planning Rule (TPR) and Regional Transportation Functional Plan (RTFP) Requirements

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
DC-1	Identify and update all references to the TSP in the code.		This has been made into a note in the introductory text of this memorandum.
DC-2	Ensure that code requirements in Chapter 16.96 (On-site Circulation) and Chapter 16.106 (Transportation Facilities) related to access spacing/management and design of streets, bikeways, sidewalks, and accessways/paths are consistent with the standards established in the updated TSP.	• TPR Section -0045(2)(a) Access Control • TPR Section -0045(3)(b) On-site Pedestrian and Bicycle Circulation and Connections • TPR Section -0045(7) Minimizing Roadway Width • RTFP Section 3.08.110B Street System Design for Pedestrian and Bicycle Access	No amendments are needed to Chapter 16.96 and Chapter 16.106 related to access management and spacing standards; existing development code and the Draft TSP are consistent. The updated TSP does not include or otherwise modify existing street design standards in this chapter. Minor amendments are needed to Chapter 16.106 related to street design. Amendments proposed to Section .010 reflect deletions proposed for Chapter 6 of the Comprehensive Plan. Amendments proposed to Section .040 remove a reference to cross-sections in the TSP, which the updated TSP does not include. **Proposed code amendments to:** **Chapter 16.106**

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			Transportation Facilities, Section.010 Generally **Chapter 16.106 Transportation Facilities, Section.040 Design**
DC-3	Define the following terms and ensure consistency between the TSP, Development Code, and Engineering Design Manual: access way and shared-use path. *Note: The City Engineering Design Manual includes a reference to pedestrian and bicycle access ways that can be provided at a maximum spacing of 330 feet in lieu of a street in some cases.*	• TPR Section -0045(3)(b) On-site Pedestrian and Bicycle Circulation and Connections • RTFP Sections 3.08.110 B & E Street System Design	**Proposed code amendments to:** **Chapter 16.10 Definitions, Section .020 Specifically**
DC-4	Provide additional guidance regarding the applicability and preparation of traffic impact analyses (TIAs), including rough proportionality provisions.	TPR Section -0045(2)(b) Standards to Protect Roadways	**Proposed code amendments to:** • **Chapter 16.90 Site Planning, Section .030.D Required Findings** • **Chapter 16.106 Transportation Facilities, Section .020.D Extent of Improvements** • **Chapter 16.106 Transportation Facilities, Section .040.K Traffic Controls** • **Chapter 16.106 Transportation Facilities, Section .080**

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			Traffic Impact Analysis [new section] • **Chapter 16.106 Transportation Facilities, Section .090 Rough Proportionality** [new section]
DC-5	Given TPR requirements for coordinated review, consider whether inviting transportation facility and service providers to pre-application conferences would be helpful to the review process and thus would be language to include in the code (Section 16.70.010).	TPR Section -0045(2)(d) Coordinated Review of Land Use Decisions	The City already allows for this level of coordinated review, so code amendments are not necessary.
DC-6	Provide more direction about "preferential" carpool and vanpool parking spaces.	TPR Section -0045(4)(d) Employee Parking	**Proposed code amendments to:** **Chapter 16.94 Off-Street Parking and Loading, Section .010.E Location**
DC-7	Consider code changes if there are TDM program elements developed for the updated TSP that lend themselves to implementation in code.	TPR Section -0045(5)(b) Transportation Demand Management (TDM) Programs	TDM program elements in the Draft TSP will be reviewed. However, it is not anticipated that these will result in proposed code amendments.
DC-8	Allow exemptions from maximum parking space standards for structured parking and on-street parking.	TPR Section -0045(5)(d) Parking Management	**Proposed code amendments to:** **Chapter 16.94 Off-Street Parking and Loading, Section .010.K General Requirements** [new

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			subsection]
DC-9	Administrative/housekeeping amendments: Address typos and inconsistencies in the footnotes for the parking standards table.	TPR Section -0045(5)(d) Parking Management	**Proposed code amendments to:** **Chapter 16.94 Off-Street Parking and Loading, Section .020 Off-Street Parking Standards**
DC-10	Consider the feasibility of allowing a local street cross-section of 20-28 feet and under what conditions.	TPR Section -0045(7) Minimizing Roadway Width	This recommendation will be developed into proposed policy language.
DC-11	Modify the code provisions for plan and land use regulation amendments to make simpler reference to TPR Section -0060.	TPR Section -0060 Plan and Land Use Regulations Amendments	**Proposed code amendments to:** **Chapter 16.80 Plan Amendments, Section .030.C Transportation Planning Rule Consistency**
DC-12	Provide a variance process in Chapter 16.84 (Variances and Adjustments) and/or Chapter 16.94 (Off-Street Parking and Loading) that allows maximum parking standards to be exceeded.	RTFP Section 3.08.410 Parking Management	Section 16.94.010.A (Off-Street Parking Required) already refers to procedures in Chapter 16.84 for varying from minimum or maximum parking standards. No amendments are proposed.
DC-13	Require that major driveways that are proposed for mixed-use and residential developments align with existing and/or planned streets.	RTFP Section 3.08.410 Parking Management	**Proposed code amendments to:** • **Chapter 16.90 Site Planning, Section .030.D Required Findings** • **Chapter 16.106**

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			Transportation Facilities, Section .030.B.2.d Connectivity Map Required [new subsection]
DC-14	Add on-street loading provisions in an appropriate location such as Old Town, including specific conditions for when on-street loading would be permitted.	RTFP Section 3.08.410 Parking Management	**Proposed code amendments to:** **Chapter 16.94 Off-Street Parking and Loading, Section .030.C Off-Street Loading Standards** [new subsection]
DC-15	Provide more requirements and guidance regarding short-term and long-term bicycle parking.	RTFP Section 3.08.410 Parking Management	**Proposed code amendments to:** **Chapter 16.94 Off-Street Parking and Loading, Section 16.94.020.C Bicycle Parking Facilities**
DC-16	Consider whether having a hierarchy of management to capacity strategies (RTFP Section 3.08.220A) would be effective as part of traffic impact analysis and legislative decision conditions of approval.	RTFP Sections 3.08.510 A & B Comprehensive Plan and TSP Amendments	This was determined to not be an effective or necessary set of potential code amendments.
DC-17	Replace maps in the development code with references to the maps in the updated TSP.		Replacing maps with references can help avoid inconsistencies between the development code and TSP and make updates easier in the future. **Proposed code**

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			amendments to: • **Chapter 16.106 Transportation Facilities, Section .020 Required Improvements** • **Chapter 16.106 Transportation Facilities, Section .030 Location**
DC-18	Remove CAP program.		The CAP program is being discontinued given TIA requirements and mobility standards proposed for adoption as part of this TSP update. **Proposed code amendments to:** • **Chapter 16.106 Transportation Facilities, Section .070 Highway 99W Capacity Allocation Program (CAP)**
DC-19	Re-number the following section (Bike Paths) and update a reference to the TSP. Update the bike path section to address bike lanes.		The section on bike paths is updated to address bike lanes because bike path is are not a term that is used in the updated TSP or elsewhere in the code. **Proposed code amendments to:** • **Chapter 16.106**

	Recommended Potential Development Code Amendments	TPR and/or RTFP Requirements	Commentary
			Transportation Facilities, Section .080 Bike Paths

DRAFT

DRAFT PROPOSED TRANSPORTATION GOALS AND POLICIES

The tables below focus on proposed amendments to the City's adopted transportation goals, policies and strategies that implement the updated Transportation System Plan (TSP). Identical transportation policy language is found in both Chapter 2 of the adopted TSP from 2005 and Chapter 6 of the Comprehensive Plan (Transportation). Language recommended for addition to Chapter 6 of the Comprehensive Plan is underlined and language recommended for removal is struck through. The tables in which the amendments are presented include a commentary column explaining the background and rationale for the proposed amendment.

Note that, in addition to goals, policies, and strategies (Section B, pp. 1-11), Comprehensive Plan Chapter 6 includes an introduction (Section A, p. 1) and a section addressing roadway functional classification and the transportation improvement program projects from the 2005 TSP (Section C, pp. 11-17). Proposed amendments to these sections are presented in order, in Tables 1, 2, and 3 respectively.

Table 1: Draft Proposed Amendments to SECTION A – Introduction

Existing and Proposed Text	***Commentary***
The purpose of the Transportation element of the Comprehensive Plan is to describe a multi-modal system which will serve the future transportation needs of Sherwood. The plan for the future transportation system should be capable of effective implementation, responsive to changing conditions and be consistent with plans of adjoining jurisdictions. The Plan seeks to foresee specific transportation needs and to respond to those needs as growth occurs. The original Transportation Network Plan was created in 1979. The original transportation policy element was created in 1980 as part of the first Comprehensive Plan acknowledged by the Oregon Department of Land Conservation and Development. The plan policies were updated in 1989 and a ~~new~~ Transportation Plan Update was completed in 1991. The~~ most recent~~ Transportation element ~~has been~~ was revised substantially to reflect updates ~~changes~~ in the~~an updated new~~ Transportation System Plan (TSP)~~, begun in 2003 and completed~~ in ~~March~~ 2005 and 2014. The current adopted ~~newest~~ TSP is attached as an appendix and technical reference to this Comprehensive Plan, including an analysis of the existing transportation system, changes to the functional classification of streets, an update of various inventory and plan maps, and changes to the street design standards. NOTE: The following types of capital facilities are not present within the City: 1)	*References to the TSP are updated.*

Existing and <u>Proposed</u> Text	***Commentary***
air transportation, and 2) water transportation. Therefore, they are not addressed in this plan.	

Table 2: Draft Proposed Amendments to SECTION B – Goals, Policies, and Strategies

Existing and <u>Proposed</u> Text	***Commentary***
Goal 1: Provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes serving all neighborhoods and businesses.	*This is an existing goal.*
Policy 1 – The City will ensure that public roads and streets are planned to provide safe, convenient, efficient and economic movement of persons, goods and services between and within the major land use activities. ~~Existing rights of way shall be classified and improved and new streets built based on the type, origin, destination and volume of current and future traffic.~~	*Deleted text has been moved to Strategies.*
Policy 2 – Through traffic shall be provided with routes that do not congest local streets and impact residential areas. Outside traffic destined for Sherwood business and industrial areas shall have convenient and efficient access to commercial and industrial areas without the need to use residential streets.	*This is an existing policy.*
Policy 3 – Local traffic routes within Sherwood shall be planned to provide convenient circulation between home, school, work, recreation and shopping. Convenient access to major out-of-town routes shall be provided from all areas of the city.	*This is an existing policy.*
Policy 4 – The City shall encourage the use of more energy-efficient and environmentally sound alternatives to the automobile by: • The designation and construction of bike paths and pedestrian ways; • The scheduling and routing of existing mass transit systems and the development of new systems to meet local resident needs; and	*This is an existing policy.*

Existing and <u>Proposed</u> Text	***Commentary***
• Encouraging the development of self-contained neighborhoods, providing a wide range of land use activities within a single area.	
Policy 6 – The City shall work to ensure 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.	*This is an existing policy.*
Policy 7 – The City ~~of Sherwood~~ shall foster transportation services to the transportation disadvantaged including the young, elderly, handicapped, and poor.	*This proposed change reflects a recommendation to make all references to the City [of Sherwood] consistent throughout this section.*
Policy 8 – The City ~~of Sherwood~~ shall consider infrastructure improvements with the least impact to the environment.	*This is an existing policy.*
Policy 9 – The City ~~of Sherwood~~ shall ~~develop a transportation demand management program to complement investments in infrastructure (supply).~~ <u>manage the transportation system to improve reliability and maximize efficient use of existing facilities.</u>	*The proposed modification provides a more general policy and minimizes redundancy with (existing) Strategy 6.*
Strategies	
<u>1. Establish and maintain design standards for public rights of way in accordance with the Functional Street Classification System.</u>	*Modified language is based on existing Policy 1.*
~~1.~~<u>2.</u> Make traffic safety a continuing effort through effective law enforcement and educational programs.	*This is an existing strategy.*
~~2.~~ <u>3. Design and manage the city street system to meet</u> ~~Adopt~~ an acceptable ~~level of service~~ <u>mobility standard</u> for the roadway network that is consistent with regional transportation policies.	*The proposed change reflects the City's interest in having both level of service and volume to capacity (v/c) as measures by which to evaluate mobility and provide better context for decision making. The mobility standards will be in the adopted TSP*

Existing and <u>Proposed</u> Text	***Commentary***
	and implemented through development review and the traffic impact analysis requirements.
~~3.~~ <u>4.</u> ~~Develop~~ <u>Plan for</u> an array of transportation assets and services to meet the needs of the transportation-disadvantaged.	*The proposed modification narrows the intent of this strategy to a system-level planning effort on the part of the City. Note that more specific policies regarding providing for the transportation disadvantaged can be found under Goal 5.*
~~4.~~ <u>5.</u> Evaluate, identify, and map existing and future neighborhoods for potential small scale commercial businesses to primarily serve local residents.	*This existing strategy to integrate small-scale, neighborhood commercial uses into existing neighborhoods is related to Policy 4. Note that this existing strategy does not specify the level of analysis or proposed approach to implement such a study. This strategy should be reevaluated to ensure that it continues to be relevant and match the City's priorities.*
~~5.~~ <u>6.</u> Adopt a strategy for reducing impacts of impervious surfaces to stormwater management.	*This is an existing strategy.*
~~6.~~ <u>7.</u> Identify and adopt a transportation demand management strategy <u>and program</u> to provide incentives to employers who develop transportation options for employees.	*This addition is consistent with modified Policy 9.*
<u>8. Seek strategic opportunities to improve connectivity in the city, including measures such as mid-block crossings connecting to commercial areas.</u>	*This language is based on comments from the Citizen Advisory Committee.*

Existing and Proposed Text	***Commentary***
Goal 2: Develop a transportation system that is consistent with the City's adopted comprehensive land use plan and with the adopted plans of state, local, and regional jurisdictions.	*This is an existing goal.*
Policy 1 – The City shall implement the transportation plan based on the functional classification of streets shown in ~~Table 8-1~~ Figure 16 of the TSP.	*This is existing policy with amendments proposed for updating a TSP reference.*
Policy 2 – The City shall maintain a transportation plan map that shows the functional classification of all streets within the Sherwood urban growth area. Changes to the functional classification of streets must be approved through an amendment to the Sherwood Comprehensive Plan, Part 2, Chapter 6 - Transportation Element.	*This is an existing policy.*
Policy 3 – The Sherwood transportation system plan shall be consistent with the ~~c~~City's adopted land use plan and coordinated with transportation plans and policies of other local jurisdictions, especially Washington County, Clackamas County, the City of Wilsonville, and the City of Tualatin.	*This is an existing policy with a proposed modification that indicates that City plans do not have to mirror neighboring jurisdictions' plans, but should not be inconsistent with these plans.*
Policy 4 – The City will coordinate with Metro regarding implementation of the Regional Transportation Plan and ~~related transportation sections of~~ the Metro Regional Transportation Functional Plan.	*These edits are proposed for consistency with regional plans.*
Policy 5 – The City shall adopt and maintain a street classification system that is compatible with the Washington County Functional Classification System for areas inside the Washington County Urban Area Plan and with the Washington County 2020 Transportation Plan (Ordinance 588).	*The proposed edit signifies the City's ongoing commitment to coordination with Washington County.*
Policy 6 — The City will work with Metro and other regional transportation partners to implement regional transportation system ~~demand~~ management and operations programs where appropriate.	*The proposed modifications broaden the scope of this policy to transportation system management and operations (TSMO) programs, of which transportation demand*

Existing and <u>Proposed</u> Text	***Commentary***
	management (TDM) is a part.
Policy 7 — The City shall work cooperatively with the Port of Portland and local governments in the region to ensure sufficient air and marine passenger access for Sherwood residents.	*This is an existing policy.*
Policy 8 – <u>The City shall work to develop more transportation options within city limits to increase opportunities for walking, biking, and taking transit and to reduce single occupancy vehicle (SOV) trips.</u> ~~Establish local non-Single Occupant Vehicle (SOV) modal targets, subject to new data and methodology made available to local governments, for all relevant design types identified in the RTP. Targets must meet or exceed the regional modal targets for the 2040 Growth Concept land use design types as illustrated in the following table:~~ ~~2040 Regional Modal Targets~~ ~~Non-single Occupancy Vehicles~~	*Proposed amendments reflect a recommendation to replace the existing policy with a more general statement that commits the City to reduce non-SOV trips.*
Strategies	
1. Develop <u>and maintain</u> an intergovernmental agreement between Sherwood, Washington County and the City of Tualatin, consistent with ORS 195.065, to establish urban service boundaries and responsibilities for transportation facilities within and adjacent to the City of Sherwood.	*This is an existing strategy with amendments proposed for clarity only.*
2. Work cooperatively with ODOT, Washington County, and Metro to ~~develop an interchange area management plan for the Pacific Highway 99-W and Tualatin- Sherwood Highway intersection.~~ <u>improve regional mobility through such efforts as the Westside Solution Study and the I-5 to 99W Connector project.</u>	*Proposed language reflects the City's interests in regional transportation planning and the fact that planning for a grade-separated interchange is not an identified transportation need.*
3. Work cooperatively with ODOT, Metro, Washington	*Proposed language reflects the*

Existing and Proposed Text	***Commentary***
County, and Tualatin to develop a corridor management plan for Pacific Highway 99W and Tualatin-Sherwood Road ~~to preserve~~ that ▫ maintains access to the highway ~~for~~ from the ~~c~~City's arterial and collector streets and ▫ improves pedestrian and bicycle mobility, connectivity and safety in the vicinity of, and crossing, the highway.	*community's focus on Highway 99W and desire for enhancements related to non-motorized modes of transportation.*
4. Participate in regional planning efforts, including the development of the Regional Transportation Plan (RTP), to secure funding for safety and capacity improvements to the City of Sherwood's arterial and collector street system that are necessary to maintain acceptable levels of service for local and through traffic.	*This is an existing strategy.*
5. Define transportation corridors in advance through long range planning efforts.	*This is an existing strategy.*
6. Coordinate ~~the~~ local transportation network planning and improvements with adjacent governmental agencies, such as Washington County, Metro, and the State. Coordinate with ODOT in implementing their Six-Year Plan and the State Highway Improvement Program.	*This is an existing strategy with amendments proposed for clarity only.*
7. Adopt performance measures that are consistent with regional modal targets for non-single occupancy vehicles and track the City's progress with meeting adopted goals and policies each successive TSP update.	*This proposed new policy acknowledges regional targets, which are reflected in the performance measures in TSP.*
8. Accommodate car-sharing programs in the city.	*This adopted strategy from the Sherwood Town Center Plan (Strategy 9.4) has been modified to apply citywide.*
9. Promote development of transportation demand management programs by employers in the city. Focus on employers with 100 employees or less that are not	*The first part of this strategy is adopted Strategy 9.5 in the Sherwood Town Center Plan. The strategy has*

Existing and <u>Proposed</u> Text	***Commentary***
<u>subject to the Oregon Department of Environmental Quality's Employee Commute Options program requirements.</u>	*been modified to apply citywide. Additional language is based on comments from the Citizen Advisory Committee.*
<u>10. Support projects that remove regional through traffic from the local transportation system or allow through traffic to bypass Sherwood.</u>	*This proposed new strategy reflects a Citizen Advisory Committee recommendation.*

Existing and Proposed Text	***Commentary***
Goal 3: Establish a clear and objective set of transportation design and development regulations that addresses all elements of the city transportation system and that promote access to and utilization of a multi-modal transportation system.	*This is an existing goal.*
Policy 1 – The City ~~of Sherwood~~ shall ~~adopt~~ require~~ments~~ that proposed ~~for~~ land developments ~~that~~ mitigate ~~the~~ adverse traffic impacts and ensure that all new development contributes a fair and proportionate share toward on-site and off-site transportation system improvement remedies.	*This is an existing policy with amendments proposed for clarity only.*
Policy 2 – The City ~~of Sherwood~~ shall require dedication of land for future streets when development is approved. The property developer shall be required to make full street improvements for their portion of the street commensurate with the proportional benefit that the improvement provides the development.	*This is an existing policy.*
Policy 3 – The City ~~of Sherwood~~ shall require applicable developments (as defined in the development code), to prepare a traffic impact analysis.	*This is an existing policy.*
Policy 4 – The City ~~of Sherwood~~ shall adopt and maintain a uniform set of design guidelines that provide one or more typical cross section associated with each functional street classification. For example, the City may allow for a standard roadway cross-section and a boulevard cross section for arterial and collector streets.	*This is an existing policy with amendments proposed to reflect existing city practices.*
Policy 5 – The City shall adopt and maintain roadway design guidelines and standards that ensure sufficient right-of-way is provided for necessary roadway, bikeway, and pedestrian improvements.	*This is an existing policy with amendments proposed to reflect existing city practices.*
Policy 6 – The City shall adopt and maintain roadway design guidelines and standards that ensure sidewalks and bikeways be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and	*This is an existing policy with amendments proposed to reflect existing city practices.*

Existing and Proposed Text	***Commentary***
bicyclists between residential areas, schools, employment, commercial and recreational areas.	
Policy 7 – The City ~~of Sherwood~~ will generally favor granting property access from the street with the lowest functional classification, including alleys. Additional access to arterials and collectors for single family units shall be prohibited. ~~and~~ Residential uses should be encouraged to use access from frontage roads and local streets. Frontage roads shall be designed as local streets.	*This is an existing policy with amendments proposed for clarity only.*
Policy 8~~:~~ – The City will adopt and maintain access control and spacing standards for all arterial and collector streets to improve safety and promote efficient through street movement. Access control measures shall be generally consistent with Washington County access guidelines to ensure consistency on city and county roads.	*This is an existing policy with amendments proposed to reflect city practices.*
Policy 9 – The City will establish and maintain guidelines and standards for the use of medians and islands for regulating access and providing pedestrian refuge on arterial and collector streets.	*This is an existing policy with amendments proposed to reflect city practices.*
Policy 10 – The City ~~of Sherwood~~ will establish and maintain a set of guidelines and standards for traffic calming measures to retrofit existing streets and as part of land use review.	*This is an existing policy with amendments proposed to reflect city practices.*
Policy 11 – The City will develop and maintain uniform traffic control device standards (signs, signals, and pavement markings) and uniformly apply them throughout the city.	*This is an existing policy with amendments proposed to reflect city practices.*
Policy 12 – ~~The City of Sherwood will adopt parking control regulations for streets as needed. On-street parking shall not be permitted on any street designated as an arterial, unless allowed by special provision within the Town Center (Old Town) area or through the road modifications process outlined in the Sherwood Development Code.~~ The City will support actions that provide sufficient parking for	*Proposed amendments reflect a recommendation to replace this policy with adopted Policy 9 from the Town Center Plan and the more specific Strategies from this plan (see proposed Strategies 11-18).*

Existing and Proposed Text	***Commentary***
businesses and residents, while maximizing the efficiency of parking areas.	
Policy 13 – The City ~~of Sherwood~~ shall ~~adopt new development codes~~ explore and adopt regulatory and financing tools to fill in gaps in existing sidewalks to achieve a consistent pedestrian system.	*These modifications reflect the fact that the City needs to first have a policy discussion regarding viable funding options before development requirements would be modified to be consistent with the preferred/adopted funding methods.*
Policy 14 – The City will implement transportation system improvements and standards that increase access between residences and civic, employment, and commercial uses within the Town Center boundary and that improve safety for all modes of transportation for people traveling to, within and adjacent to the Town Center.	*This is adopted Policy 7 in the Sherwood Town Center Plan.*
Policy 15 – The City will balance the need for vehicular mobility within and adjacent to the Town Center with the other transportation and land use goals and priorities identified in the Town Center Plan.	*This is adopted Policy 8 in the Sherwood Town Center Plan.*
Strategies	
1. Ensure consistency between the Transportation System Plan, development code requirements, and the ~~Incorporate typical street cross section~~ guidelines in the City's ~~public works~~ engineering design standards ~~that address~~ regarding street cross sections and other standards related to vehicular, bicycle, pedestrian, and transit needs.	*The existing strategy is a "one time" action; proposed modifications address the ongoing need to ensure consistency between City plans and codes.*
2. ~~Include a Road Modification Process~~ Maintain a process in the ~~Sherwood D~~development ~~C~~code ~~to provide a procedure for~~ that allows the City to grant~~ing~~ variances from street design standards for parking, pedestrian facilities, signals, and other roadway features.	*The proposed modification is consistent with existing Code language and City procedures.*

Existing and Proposed Text	***Commentary***
3. Consider the ~~Metro 2040~~ Regional Transportation Plan Regional System ~~Street~~ Design Concepts ~~Elements~~ when planning for improvements to City transportation facilities, including those built by ODOT or TriMet.	*The proposed modifications are consistent with the terms used in the RTP.*
4. ~~Incorporate~~ Continue to implement guidelines in the City's development code that establish when a local street refinement plan must be prepared and the process for preparing such a plan.	*The proposed modification is consistent with existing Code language and City procedures.*
5. Periodically review the development code, and A~~a~~mend ~~the city development code~~ as necessary, to ensure that ~~regulate~~ vehicular access, spacing, circulation, and parking continues to be regulated consistent with plan policies.	*The proposed modifications are consistent with the intent of the existing policy.*
~~6. Amend the city development code as necessary to include specific guidelines for determining the proportional benefit contribution associated with requirements for street dedication and the construction of off-site transportation improvements.~~	*Proposed code amendments include a new section addressing rough proportionality, so this strategy is no longer needed.*
~~7. Amend the development code to include standards and procedures for a transportation impact analysis (TIA). Refer to Appendix for example.~~	*Proposed code amendments include a new section addressing TIA thresholds and requirements, so this strategy is no longer needed.*
~~8.~~ 6. Develop a list to prioritize refinement plan needs, such as corridor plans and interchange area management plans.	*This is an existing strategy.*
~~9.~~ 7. ~~Amend development code to include provisions for implementing traffic calming mechanisms.~~ Allow for the implementation of traffic calming mechanisms through provisions in the development code.	*The proposed modification reflects existing code language.*
~~10.~~ 8. Create a map that identifies locations targeted for on-street parking, such as in neighborhood commercial areas and the town center that support multi-modal	*This is an existing strategy.*

Existing and <u>Proposed</u> Text	***Commentary***
options.	
~~11.~~ <u>9.</u> Regularly <u>review, and</u> update <u>as necessary,</u> the development code to ensure consistency with regional parking requirements.	*This is an existing strategy; modification reflect city practices.*
~~12.~~ <u>10.</u> Develop a "conceptual new streets plan" map for all contiguous areas of vacant and redevelopable parcels of 5 (five) or more acres planned or zoned for residential or mixed-use development, and adopt the map as part of the TSP.	*This is an existing strategy.*
<u>11. Implement the parking strategies in the Sherwood Town Center Plan, including:</u> <u>▫ Evaluate and monitor parking supply and demand in Old Town.</u> <u>▫ Evaluate the parking needs for townhome developments in the Town Center.</u> <u>▫ Evaluate the needs of commercial uses in the Langer Drive Commercial District.</u>	*This proposed strategy incorporates and abbreviates adopted Strategies 9.1, 9.2, 9.3 and 9.6 from the Sherwood Town Center Plan.*
~~13.~~ <u>12.</u> ~~Consider a "mixed-use" overlay zone in the development code that will apply to the Six Corners area. Include design standards that will encourage a vibrant, pedestrian friendly environment through the implementation of boulevards, medians, mixed-use development and site design.~~ <u>Support public or private development of the bicycle and pedestrian improvements shown on Map 2 of the Town Center Plan.</u>	*The proposed amendment reflects a recommendation to replace existing Strategy 13 with adopted Strategies in the Town Center Plan. Underlined text is adopted Strategy 7.1 in the Sherwood Town Center Plan.*
<u>13. Enhance Sherwood Boulevard for bicycle and pedestrian travel consistent with the key changes identified for this roadway in the Town Center Plan.</u>	*This is adopted Strategy 7.2 in the Sherwood Town Center Plan.*
<u>14. Enhance Langer Drive for pedestrian and bicycle travel to create a complete street that supports a</u>	*This is adopted Strategy 7.3 in the*

Existing and <u>Proposed</u> Text	***Commentary***
<u>vibrant mixed use district, consistent with the key changes identified for this roadway in the Town Center Plan.</u>	*Sherwood Town Center Plan.*
<u>15. Work with ODOT to provide safe pedestrian crossing movements for all directions at 99W intersections.</u>	*This is adopted Strategy 7.4 in the Sherwood Town Center Plan.*
<u>16. Identify and consider all funding sources appropriate and available to work with property owners to fill gaps in sidewalk system along neighborhood streets.</u>	*This is adopted Strategy 7.5 in the Sherwood Town Center Plan.*
<u>17. The City will support collaborative solutions that enhance access and improve safety for pedestrians and all other modes of transportation within, adjacent to and into the Town Center.</u>	*This is adopted Strategy 7.6 in the Sherwood Town Center Plan.*
<u>18. The City will work with the County, ODOT, and local stakeholders to enhance vehicular and pedestrian access from the Town Center to developments adjacent to the Town Center.</u>	*This is adopted Strategy 8.4 in the Sherwood Town Center Plan; Strategies 8.2 and 8.3 included direction for the current TSP update process and have been addressed.*
<u>19. The City will reexamine local street standards and will explore appropriate locations within the city and circumstances under which a narrower street standard may be permitted as part of new development.</u>	*Reducing pavement width is a Transportation Planning Rule requirement. Benefits include minimizing impervious surface, diminishing run-off/pollution, freeing land for other uses, etc. The proposed strategy acknowledges that there may be situations where the City's existing local street width standard could be reduced in order to minimize impervious surface, diminish run-off/pollution, free land for other uses, etc. Because of issues regarding restricting parking and parking enforcement, among others, the City*

Existing and <u>Proposed</u> Text	***Commentary***
	needs more community discussion before a narrower local standard can be implemented; this policy commits the City to having this community conversation.

Existing and Proposed Text	***Commentary***
Goal 4: Develop complementary infrastructure for bicycles and pedestrian facilities to provide a diverse range of transportation choices for city residents.	*This is an existing goal.*
Policy 1 – The City ~~of Sherwood~~ shall provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes.	*This is an existing policy.*
Policy 2 – Sidewalks and bikeways shall be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicyclists between residential areas, schools, employment, commercial and recreational areas.	*This is an existing policy.*
Policy 3 – The City ~~of Sherwood~~ will pursue development of local and regional pedestrian trail facilities, especially a trail system connection between the city and the Tualatin National Wildlife Refuge.	*This is an existing policy.*
Policy 4—The City ~~of Sherwood~~ shall provide design standards for roadway ~~traffic calming~~ features ~~such as traffic circles, curb extensions, bulb-outs, and speed humps~~ that make roadways safer for walking and biking.	*This is an existing policy, with minor amendments proposed to broaden applicability; more specific action is in Strategy 8.*
Policy 5 – The City ~~of Sherwood~~ shall ~~include~~ require~~ments for the provision of~~ short-term and long-term bicycle parking ~~on large~~ be included as part of commercial, industrial, institutional, and multi-family residential projects.	*The TPR, RTP, and RTFP require bicycle parking for these uses in general, not just "large" projects.*
Policy 6 – The City ~~of Sherwood~~ will coordinate the bikeway system with adjacent jurisdictions, especially Tualatin, Wilsonville, Clackamas and Washington County.	*This is an existing policy.*
Policy 7 – The City will work to eliminate architectural barriers from buildings and public improvements, which limit elderly and handicapped use of the transportation system.	*This is an existing policy.*

Existing and <u>Proposed</u> Text	***Commentary***
<u>Policy 8 – The City will require new development to accommodate bicyclists and pedestrians, and to provide non-motorized transportation facilities consistent with the proposed use and pursuant to applicable code requirements.</u>	*This proposed new policy acknowledges private development's role in providing bicycle and pedestrian facilities.*
Strategies	
1. Include pedestrian and bike projects in the capital improvement plan to ensure investment in alternative modes~~;~~<u>.</u>	*This is an existing strategy.*
2. Use intergovernmental agreements with Tualatin and Washington County for the coordination of urban services per ORS 196.065 to coordinate the bikeway system and trail system~~;~~<u>.</u>	*This is an existing strategy.*
3. Include design standards for sidewalk and bikeway facilities in the ~~c~~<u>C</u>ity's roadway design guidelines~~;~~<u>.</u>	*This is an existing strategy.*
4. Include provisions for planning the location of pedestrian and bike routes for connecting residential, school, commercial, employment and recreational areas in the development code guidelines for preparing local street refinement plans~~;~~<u>.</u>	*This is an existing strategy.*
5. Include a system of bikeways along collector and arterial roadways ~~as illustrated on the Transportation Plan Map;~~<u>.</u>	*This is existing strategy with minor amendments proposed for accuracy. (The Transportation Plan Map shows recommended projects rather than bikeways along all collectors and arterials.)*
6. Include requirements in the development code for private development to provide bike and pedestrian facilities as <u>are related and proportional to the projected impacts of the proposed development and that are consistent with</u> ~~indicated on~~ the Transportation Plan <u>Map in TSP Figures 12, 13, and 14</u>~~;~~<u>.</u>	*These changes include updated references to the TSP.*

Existing and <u>Proposed</u> Text	***Commentary***
7. Include design standards for sidewalks and bicycle facilities in the <u>City's</u> roadway design guidelines~~;~~<u>.</u>	*This is an existing strategy.*
8. Pursue traffic calming techniques, such as traffic circles, curb extensions and speed humps, for neighborhood and local streets so as to provide safe passage for pedestrians and bicyclists, and a more pleasant neighborhood environment for residents.	*This is an existing strategy with proposed additions for clarity.*
9. Construct and install infrastructure, including storm drain inlets, which are pedestrian and bicycle-friendly.	*This is an existing strategy.*

Existing and Proposed Text	***Commentary***
Goal 5: Provide reliable convenient transit service to Sherwood residents and businesses as well as special transit options for the ~~c~~City's elderly and disabled residents.	*This is an existing goal.*
Policy 1 – The City shall support and encourage p~~P~~ublic transportation ~~shall be provided~~ as a~~n alternative~~ viable means of transportation in Sherwood.	*The policy has been re-written to reflect the City's supporting role in providing public transportation.*
Policy 2 – The City ~~of Sherwood~~ will work with Tri-Met to expand transit services to all parts of the City through additional routes, more frequent service, and transit oriented street improvements.	*This is an existing policy.*
Policy 3 – Park-and-ride facilities should be located with convenient access to the arterial system to facilitate rider transfer to transit and car pools.	*This is an existing policy.*
Policy 4 – The City will ~~E~~encourage the construction of bus shelters and park-n-ride lots in the vicinity of planned transit corridors.	*This is an existing policy.*
Policy 5 – The City ~~of Sherwood~~ will support the establishment of a "feeder" transit route from downtown Sherwood to Tualatin employment centers.	*This is an existing policy.*
Policy 6 – The City ~~of Sherwood~~ will support park and ride facilities that are sited for the maximum convenience of commuters and transit riders.	*This is an existing policy.*
Policy 7—The City ~~of Sherwood~~ will support regional efforts for the preservation and development of appropriate rail rights-of-way for passenger rail service, in particular for serving local and regional commuter rail needs in Washington County, Clackamas County, and Yamhill County.	*Review for consistency with the updated TSP recommendations. Note that this policy is related to new Strategy 5 (adopted Strategy 6.3 in the Sherwood Town Center Plan).*
Policy 8 – The City ~~of Sherwood~~ will encourage the provision of special transportation services (i.e., van pools, or car pools, dial-a-ride, etc.) to transportation disadvantaged by Tri-Met and community-based service	*This is an existing policy.*

Existing and Proposed Text	***Commentary***
providers.	
Policy 9 – ~~Fully integrate the City into the regional transit system by expanding hours and destinations served by transit providers.~~ The City supports transit service that serves the needs of the residents and businesses in and adjacent to the Town Center, including maintaining a robust local transit service network and planning for future local and high capacity transit service to neighboring cities.	*Deleted policy is somewhat redundant to Policy 2 and suggests that the City has authority to expand transit hours of service and routes. Proposed language is adopted Policy 6 in the Town Center Plan.*
Policy 10 – The City will meet RTP goals of providing a safe and convenient pedestrian circulation system.	*This is an existing policy.*
Policy 11 – The City will participate in and will support regional efforts that seek to improve multi-modal transportation options that benefit the residents and business in Sherwood.	*The proposed policy recognizes the City' participation in regional transportation projects such as the Southwest Corridor and Tonquin Trail projects.*
Policy 12 – The City will support providing and improving transit connections between Sherwood, Tualatin, and other communities in the region, particularly for work-related trips.	*This proposed policy language is based on comments from the Citizen Advisory Committee.*
Strategies	
1. In consultation with TriMet and consistent with their guidelines, ~~D~~develop and maintain design standards ~~to separate~~ for bus pullouts and stops on ~~buses from the~~ arterial roadways ~~while~~ to facilitate safe and efficient ~~transferring~~ passengers~~s~~ transfers. ~~Establish a bus turnout design for stops on arterial streets.~~	*Proposed modifications defer to TriMet regarding the preferred design for bus pullouts and stops.*
2. ~~Update development code to include design guidelines that require transit stops to be accessible to transit riders, especially the elderly and handicapped.~~ Ensure new development and redevelopment provide connections to transit streets and facilities, providing protected street crossings and bus stop amenities, if	*Existing Strategy is a "one time" action; proposed language is consistent with existing code requirements for new development in the vicinity of a transit stop.*

Existing and <u>Proposed</u> Text	***Commentary***
<u>needed.</u>	
~~3. Amend development code to require development on sites at major transit stops(defined by the City of Sherwood) to do the following:~~ ~~▫ Locate within 20 feet of (or provide a pedestrian plaza) at the major transit stop;~~ ~~▫ Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site;~~ ~~▫ Provide a transit service passenger landing pad accessible to disabled persons;~~ ~~▫ Provide an easement or right-of-way dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider; and~~ ~~▫ Improve public safety by providing lighting at transit stops.~~	*Strategy is reflected in existing code requirements for new development in the vicinity of a transit stop and is no longer needed.*
~~4. Work with Tri-Met and Metro to extend transit options to Sherwood, which may include:~~ ~~▫ High capacity transit service along 99W terminating near Six Corners;~~ ~~▫ Potential extension of commuter rail line from Lake Oswego to Sherwood on the existing rail line with service to Newberg or McMinnville; and~~ ~~▫ Other regional transit service connections, such as frequent bus, interurban bus, as appropriate.~~ <u>3. Identify the ongoing transit needs within the community and work with Tri-Met and other transit providers to enhance services to address short and</u>	*This existing strategy has been updated; language proposed here is Strategy 6.1 in the Town Center Plan.*

Existing and <u>Proposed</u> Text	***Commentary***
<u>long-term transit needs in the community.</u>	
<u>4. Work with Metro, as well as the cities of Tualatin and Tigard, to explore feasible modes and locations to provide high-capacity transit service to the Town Center and adjacent areas.</u>	*This is adopted Strategy 6.2 in the Sherwood Town Center Plan.*
<u>5. Periodically evaluate the feasibility of passenger service along the existing rail lines as the Town Center grows.</u>	*This is adopted Strategy 6.3 in the Sherwood Town Center Plan.*
<u>6. Continue to explore opportunities to achieve long-term transit supportive densities in the Town Center in order to increase the viability of high-capacity transit.</u>	*This is adopted Strategy 6.4 in the Sherwood Town Center Plan.*

Existing and <u>Proposed</u> Text	***Commentary***
Goal 6: Provide a convenient and safe transportation network within and between the Sherwood Old Town ~~(Town Center)~~ and Six Corners area that enables mixed use development and provides multi-modal access to area businesses and residents.	*This goal and its policies and strategies are consistent with the adopted Town Center Plan, but it is proposed that references to the Town Center be removed because the Town Center now applies to an area larger than Old Town.*
Policy 1 – The City ~~of Sherwood~~ shall continue to refine and develop existing and new design guidelines and special standards for the Old Town and Six Corners areas to facilitate more pedestrian and transit friendly development.	*This is an existing policy.*
Policy 2 – The City ~~of Sherwood~~ shall work to provide connectivity, via the off-street trail system and public right-of-way acquisitions and dedications, to better achieve street spacing and connectivity standards.	*This is an existing policy.*
Strategies	
1. Provide handicap ramps at all intersections with landings connected to sidewalk improvements, especially within Six Corners and Old Town areas.	*This is an existing strategy.*
2. <u>Work with transit service providers to</u> ~~D~~<u>d</u>esign transit stops in- to meet ADA requirements for transit accessibility.	*This is an existing strategy with minor amendments proposed acknowledge the relationship with transit service providers in designing transit stops.*
3. Adopt design and development guidelines for the Old Town areas that facilitate pedestrian use and a mix of commercial and residential development.	*This is an existing strategy.*
~~4. Adopt parking guidelines for the Old Town areas that are compatible with the parking guidelines established in Title 2 of the Metro Urban Growth Management Functional Plan.~~	*It is recommended to replace this strategy with proposed Goal 3, Strategy 11, language that was developed as part of the Town Center Plan and reflects the need for a parking study*

Existing and <u>Proposed</u> Text	***Commentary***
	and strategy for Old Town.

Existing and <u>Proposed</u> Text	***Commentary***
Goal 7: Ensure that efficient and effective freight transportation infrastructure is developed and maintained to support local and regional economic expansion and diversification consistent with City economic plans and policies.	*This is an existing goal.*
Policy 1 — The City ~~of Sherwood~~ will collaborate with federal, state and neighboring local governments and private business to ensure the investment in transportation infrastructure and services deemed necessary by the City to meet current and future demand for industrial and commercial freight movement.	*This is an existing policy.*
Policy 2 — The City ~~of Sherwood~~ will adopt implementing regulations that provide for safe and convenient access to industrial and commercial areas for commercial vehicles, including freight loading and transfer facilities.	*This is an existing policy.*
Policy 3 — The City ~~of Sherwood~~ will work cooperatively with local, regional and state agencies to protect the viability of truck and freight service routes within, through, and around the City of Sherwood, especially for Pacific Highway 99-W, the Tualatin-Sherwood Highway, and the ~~planned~~<u>multi-corridor</u> I-5/Hwy 99-W Connector corridor <u>strategy</u>.	*This is an existing policy with minor amendments to acknowledge that multiple facilities will be involved in the I-5/Highway 99-W Connector.*
Policy 4 — The City ~~of Sherwood~~ will work cooperatively with local, regional and state governments to ensure there is adequate air transportation infrastructure to serve local needs at regional airport facilities, including the Hillsboro Airport and Portland International airport.	*This is an existing policy.*
Policy 5 — The City ~~of Sherwood~~ will strongly encourage the preservation of rail rights-of-way for future rail uses, and will work with appropriate agencies to ensure the availability of rail services to its industrial lands.	*This is an existing policy.*
Policy 6 — The City ~~of Sherwood~~ will cooperate with local, regional and state governments to provide for regional marine freight infrastructure sufficient to serve local needs.	*This is an existing policy.*

Existing and Proposed Text	***Commentary***
Policy 7 — The City ~~of Sherwood~~ will cooperate with the Portland Development Commission, Port of Portland, Washington County, and other economic development agencies to ensure the availability of inter-modal connectivity facilities deemed necessary to facilitate seamless freight transfer between all transport modes.	*This is an existing policy.*
Strategies	
1. Revise the ~~Sherwood D~~development ~~C~~code as necessary to include clear and objective standards for the provision of freight loading and handling facilities, such as restricted on-street parking, loading docks, truck access ways, and rail spurs, in all industrial and commercial development districts.	*Note that proposed development code revisions include provisions for on-street loading. [Proposed new Subsection C in Section 16.94.030 (Off-Street Loading Standards).]*
2. Participate in regional economic development planning efforts related to inter-modal transportation facilities.	*This is an existing strategy.*
3. Adopt appropriate standards to ensure the preservation of rail access corridors to ~~Sherwood~~ the City's industrial land base.	*This is an existing strategy.*

Existing and Proposed Text	***Commentary***
Goal 8: The ~~Sherwood~~ City's transportation network will be managed in a manner that ensures the plan is implemented in a timely fashion and is kept up to date with respect to local and regional priorities.	*This is an existing goal.*
Policy 1 – The City ~~of Sherwood~~ shall develop and pursue a systematic approach to implementing the transportation network.	*This is an existing policy with amendments proposed to reflect existing city practices.*
Policy 2 – The City ~~of Sherwood~~ shall pursue a diversified funding strategy to implement the transportation system plan including private, public and regional sources.	*This is an existing policy.*
Policy 3 – The City ~~of Sherwood~~ shall use its adopted capital improvement plan to prioritize and schedule transportation projects based upon need as shown in the Transportation System Plan. Incorporate the transportation system priorities from the TSP into the cCity's capital improvement planning process.	*This is an existing policy.*
Policy 4 – Project scheduling shall be performed in a systematic manner based on the priority rating process outlined in the Transportation System Plan and available financial resources.	*This is an existing policy.*
Policy 5 – The Transportation System Plan shall be periodically updated, preferably on a five-year cycle, to assure consistency with changing ideas, philosophies, and related policies.	*This is an existing policy.*
Strategies	
1. Participate in MPAC, JPACT and other Metro advisory bodies to promote ~~Sherwood~~ the City's transportation system improvements.	*This is an existing strategy.*
2. Local private financing resources will include right of way dedication and developer contributions to street improvements, and local improvement districts. Public resources will include local system development	*This is an existing strategy.*

Existing and Proposed Text	***Commentary***
charges and bonding authority. Regional sources will include Washington County Traffic Impact Fees (TIF) and projects bonded through the County MSTIP program. Regional sources will also include Metro Transportation Improvement Plan (MTIP) resources and other state and federal grant assistance programs.	
~~3. Adopt a comprehensive local system development charge (SDC) ordinance to either augment or replace CAPand collector street SDC.~~	*A SDC ordinance has been adopted, so this strategy is no longer needed.*
3~~4~~. Develop a method for scheduling improvement projects based on priority and funding sources.	*This is an existing strategy.*
4~~5~~. Assign ~~c~~City staff and elected officials to participate in regional transportation planning processes.	*This is an existing strategy.*
5~~6~~. Secure intergovernmental agreements between ~~Sherwood~~ the City and adjoining communities and regional service providers that outline cooperative measures for coordinating transportation investment and regulation per ORS 195.065.	*This is an existing strategy.*
6. Continue to collaborate with Washington County and other regional partners on refinement planning related to Brookman Road, and update the Sherwood Transportation Plan to incorporate the agreed upon classification and design of this roadway.	*This is a new Strategy acknowledging the outstanding issues surrounding Brookman Road and articulating the need for a future amendment to the TSP.*

Table 3: Draft Proposed Amendments to SECTION C – The Transportation System Plan

Existing and Proposed Text	***Commentary***
The Transportation System Plan stresses the improvement of the existing system of transportation facilities through transportation system management before new facilities are built. Existing conditions have been analyzed in the Study Area (lands within UGB) and are contained in ~~Chapter 3 of~~ the TSP Appendix (Existing Conditions Report). Transportation analysis zones were created for each part of the city based on types of land use in the Comprehensive Plan Map. Future traffic volumes were projected based on expected ~~build out~~ development of those zones and surrounding areas consistent with Metro's land use projections. ~~Future traffic volumes with trip origins or destinations in the Study Area were then calculated for selected subareas or zones in this case. Future locally generated traffic volumes were then distributed onto the street system based on assumption as to major directional movements. From this process future locally generated traffic volumes were calculated for major roads. Future traffic volumes within the Study Area represent only locally generated traffic. Reduction in traffic volumes over time on certain major streets assumes the progressive improvement of alternative major street routes, which have the effect of shifting traffic from existing to improved routes in satisfying major directional movements. To determine total volumes on major streets with significant through traffic (i.e. Highway 99W) locally generated volumes should be added to through traffic volumes determined by Washington County, Metro or ODOT.~~ ~~The above a~~Analysis of projected future traffic conditions taken together with the application of the goals, objectives and policies described in Section B were used in the development of Transportation System Plan. A map for each existing and planned transportation system is included in the TSP. ~~Each m~~Maps, ~~several~~ street classifications, and the above policies are~~were~~ updated as part of TSP updates~~as well~~. The TSP ~~(2005)~~ is a technical reference to the Transportation element of the Comprehensive Plan. ~~The following information is included in the TSP and is included below for reference. Table 1 is a list of functional classifications and definitions for each street followed by Figure 1 Transportation Plan Map that illustrates the location and functional classification of each street. Table 2 is a list of major transportation improvements planned for the next twenty years based on the transportation system analysis of expected traffic levels, a performance standard Level of Service "D", and projected costs. Generally, most of the improvements are upgrades and connections to existing streets while some improvements are proposed new streets.~~	*Specific references to the TSP are replaced with general references. It is recommended to remove functional classification maps and project lists from this section and generally simplify this section.*

Sherwood Planning Commission Meeting

Date: May 13, 2014

☒ Meeting Packet

☒ Approved Minutes Date Approved: May 27, 2014

☐ Request to Speak Forms N/A

Documents submitted at meeting:

Work Session

Ex1 – Presentation - Sherwood TSP

– Sherwood Transportation System plan Draft

– Transportation Document

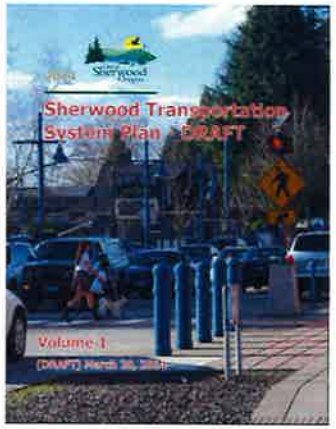
SHERWOOD TSP UPDATE

Planning Commission
May 13, 2014

DKS TRANSPORTATION SOLUTIONS Angelo planning group

TSP Review Discussion Topics

- Process Overview
- Content and Plan Purpose
- Draft TSP Project Lists
- Future Refinements
- Implementation/Code



DKS Angelo planning group

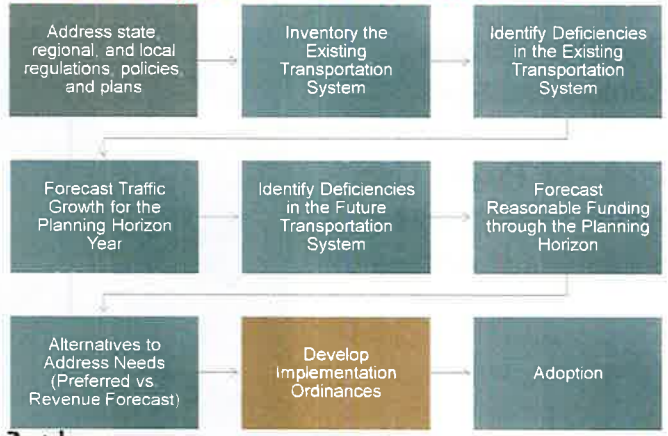
5-13-14
Date

Planning Comm.
Gov. Body

1
Agenda Item

1
Exhibit #

Process Update – Current Status



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TSP Content and Purpose

- General vision & strategies
- Future improvements
- Overview of standards
  - Cross-sections
  - Access spacing
  - Traffic calming
  - Connectivity
  - Mobility targets

DKS Angelo planning group

Overview of what has Changed

- Looking further ahead
- Updated project list
- Intersection project focus
- Mobility targets
- CAP removed

2005 2014

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Project List Development

- Limited funding
- Evaluated projects
- Prioritized project lists
  - Aspirational (all planned projects)
  - Fundable Plans
    - Conservatively Fundable
    - Projected Fundable

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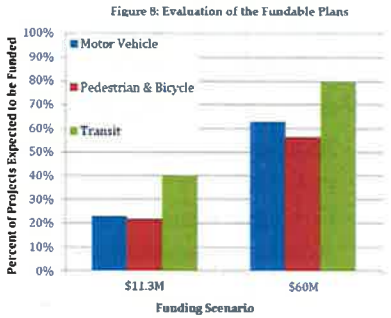
Project List Outcomes

- Approximate cost
  - Pedestrian: 37%
  - Motor Vehicle: 33%
  - Bicycle: 23%
  - Transit: 7%



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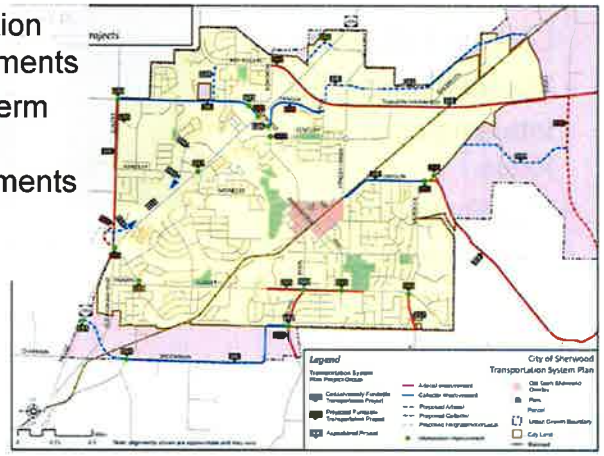
Motor Vehicle Projects

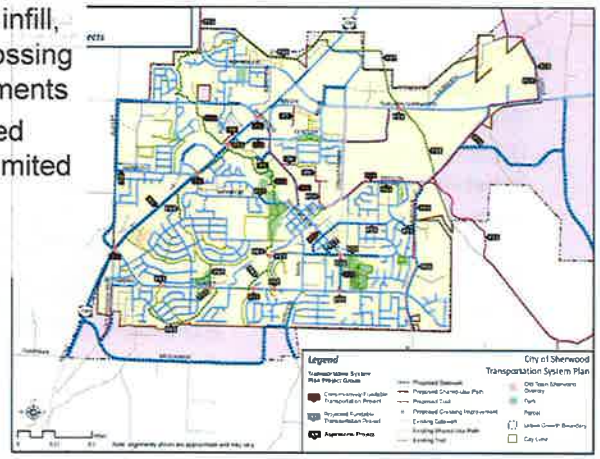
- Intersection Improvements
- Longer term corridor improvements



DKS Angelo planning group

Pedestrian Projects

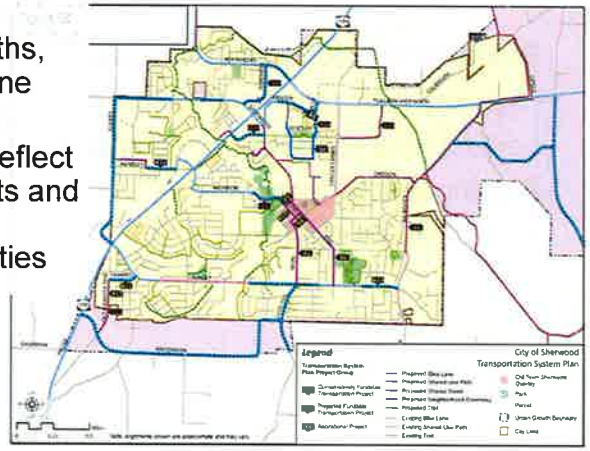
- Sidewalk infill, paths, crossing enhancements
- Centralized focus of limited funds



DKS Angelo planning group

Bicycle Projects

- Exclusive lanes, paths, shared lane
- Proposed facilities reflect constraints and system opportunities



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Future Refinement Areas

- Brookman Road function and design
- Highway 99W cross sections
- Local transit service enhancements
- Parking management plan
- Bypass route support

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Code and Policy Amendments

- Current Drafts reflect:
  - Feedback from PC, CC, TAC, CAC, and City staff
  - Updated references between Code and TSP
  - Rewording for more clarity
  - Clearer distinction between existing vs. new policy language

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Development Code

- Traffic impact analysis (TIA)
  - Purpose/context statement
  - Reference to performance measures in TSP
  - Connections/crossings to adjacent ped/bike facilities
- Clarified bicycle parking requirements
- Removal of capacity allocation program (CAP)

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Comprehensive Plan Policies

- Improve connectivity citywide (e.g., mid-block crossings)
- Support transportation demand management citywide
- Improve transit connections between communities (e.g., Sherwood/Tualatin)
- Retain goal and policies related to Six Corners and Old Town

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Next Steps

- Upcoming events
  - Planning Commission hearing (tentatively 5/27)

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Discussion

- Project lists
- Future refinements
- Code elements

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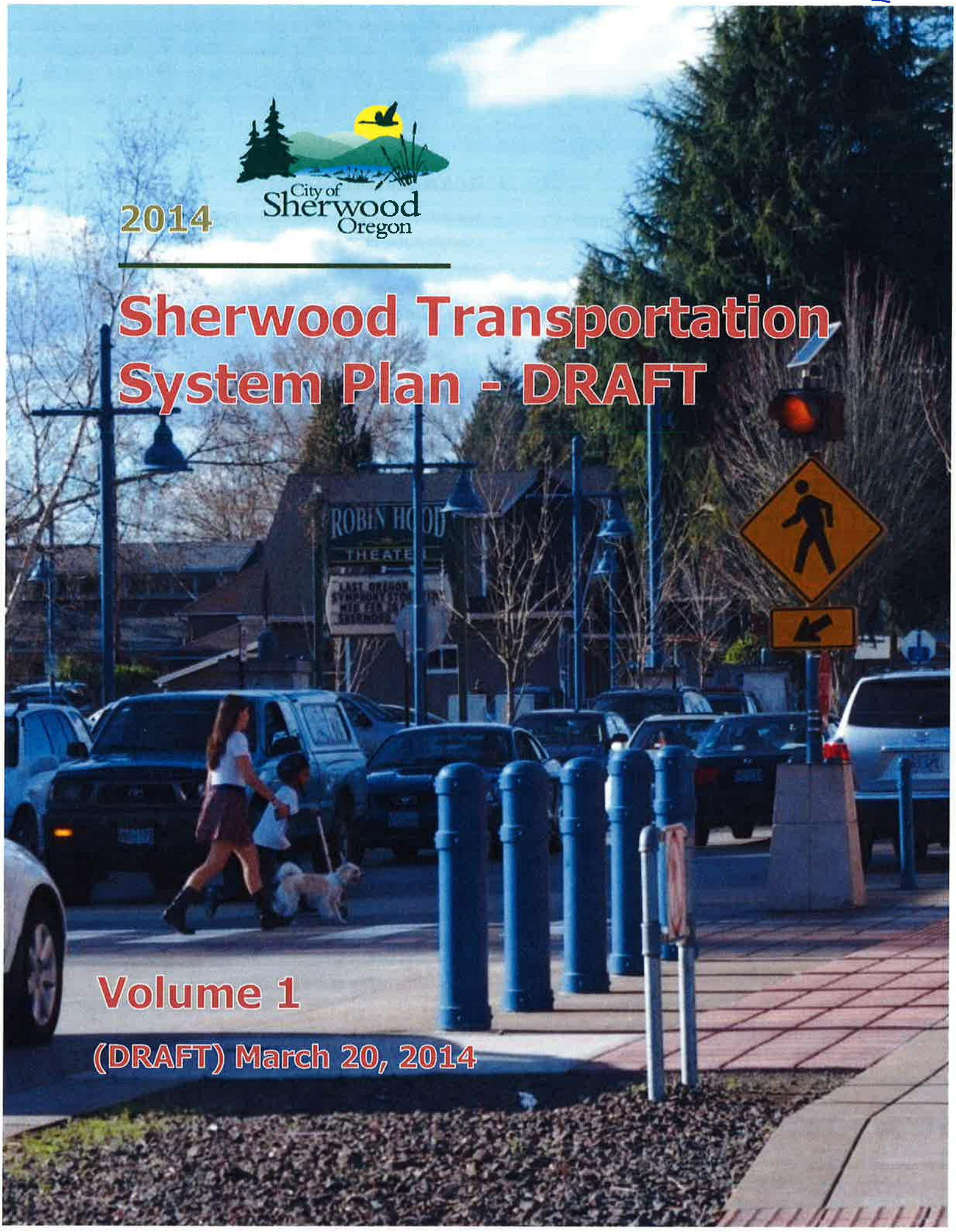

2014

Sherwood Transportation System Plan - DRAFT

Volume 1

(DRAFT) March 20, 2014

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Acknowledgements

The 2014 Sherwood Transportation System Plan was a collaborative process among various public agencies, key stakeholders and the community. Input, assistance and outreach by the following helped make the Plan possible:

- *Citizen Advisory Team*
- *Technical Advisory Team*

A special acknowledgement goes out to all the Sherwood residents, business owners, and visitors who attended community meetings or submitted comments. Your input helped make this Plan possible.

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Moving Ahead for Progress in the 21st Century ("MAP-21"), local government, and the State of Oregon funds.

The contents of this document do not necessarily reflect views or policies of the State of Oregon.

Table of Contents

Appendix (Volume 2)

Figures

Tables

Acronyms

CAC: Community Advisory Committee

CAP: Capacity Allocation Program

MSTIP: Major Streets Transportation Improvement Program

ODOT: Oregon Department of Transportation

RTFP: Regional Transportation Functional Plan

RTP: Regional Transportation Plan

SOV: Single Occupant Vehicle

TAC: Technical Advisory Committee

TDM: Transportation Demand Management

TGM: Transportation Growth and Management

TIA: Traffic Impact Analysis

TSM: Transportation System Management

TSMO: Transportation System Management and Operations

TSP: Transportation System Plan

TVFR: Tualatin Valley Fire and Rescue

UGB: Urban Growth Boundary

V/C: Volume-to Capacity

VHD: Vehicle-Hours of Delay

VMT: Vehicle-Miles Travelled

How to use this Document

The Transportation System Plan (TSP) serves the following general purposes:

- Identifies general vision and strategies
- Identifies future improvements
- Provides an overview of standards.

Project List

The prioritized project list identifies improvements that the City is anticipated to pursue through year 2035 given the projected revenue. The inclusion of projects does not commit the City to funding or constructing these projects. Rather, the list is a guide for determining how the City of Sherwood is generally assumed to allocate its funding towards transportation investments. New development, the likelihood for atypical funding opportunities, and the potential for unforeseen circumstances, may shift identified transportation improvement priority.

The project list includes conceptual street alignments at a system planning-level. Before construction of any of the projects can begin, more detailed surveys will need to be undertaken to identify hydrological, topographical, or other geological constraints that could hinder the alignment of the planned streets.

Transportation Standards

The standards documented in the TSP are for guiding new improvements to the transportation system and for identifying deficiencies in the current system. These apply city facilities; facilities owned by other jurisdictions will have their own standards to follow.

Street Cross-Sections: New streets shall meet the design requirements in Sherwood's *Engineering Design and Standard Details Manual*[1] per the functional class in the TSP. In constrained situations, a design exception may be allowed through a variance procedure.

Access Spacing: New street connections shall meet the access spacing standards in the TSP. In constrained situations, a design exception may be allowed through a variance procedure. Generally, existing facilities are not required to be modified to meet these standards. However, if a site redevelops, or a street is upgraded, access to the site may be subject to redesign to achieve or work towards achieving access spacing standards.

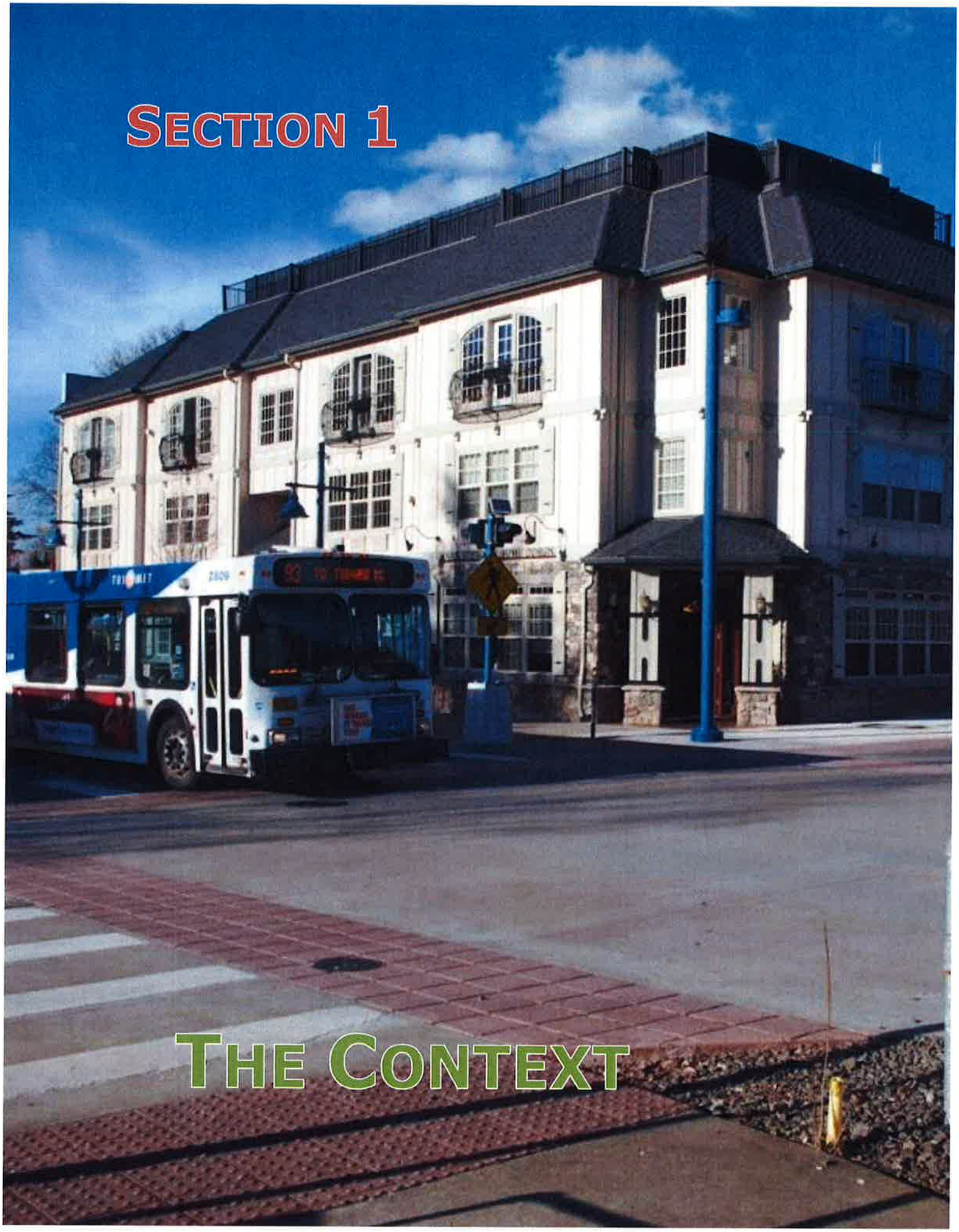
Traffic Calming: After determining the need for traffic calming along a facility, the appropriate technique shall be determined using engineering judgment by the Sherwood Public Works department. A toolbox of potential traffic calming techniques and their typical application is provided in Volume 2 of the TSP.

Local Connectivity: Figure 16 indicates the general location where new local streets could potentially be installed, and is not a comprehensive map of all potential future local connections. Connections shown on the figure do not necessarily topographic, environmental or manmade constraints. All future local connections must go through city review—whether or not the connection is shown on the figure—to determine the appropriate location.

Mobility Targets: For all Traffic Impact Analysis (TIA) studies conducted in Sherwood, the TIA shall evaluate its impact on the transportation system using the mobility targets in the TSP. Additional requirements are provided in the City's Development Code.

Truck Routes: If an improvement is proposed along a truck route shown on Figure 17, it must comply with the special design standards for truck routes set by the facility owner. Reductions to vehicle-carrying capacity are not often allowed along truck routes.

[1] *Engineering Design and Standard Details Manual,* July 1, 2009.



SECTION 1

THE CONTEXT

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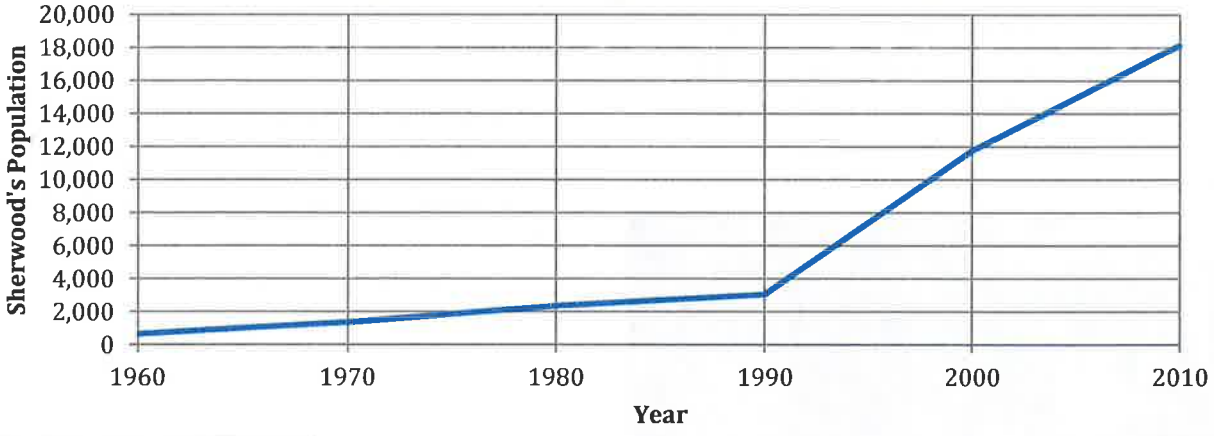
THE CONTEXT

The City of Sherwood lies in southwest Washington County, only fourteen miles from downtown Portland. The lush landscape led to the establishment of the farming community in the late 1800's, and agriculture and manufacturing have dominated the economy of Sherwood until recent decades.

Sherwood is now roughly four square miles, and home to approximately 18,575 residents.[2] The city has a downtown grid (Old Town) where the town was originally platted around the Portland and Willamette Valley Railway. Beyond the historic downtown, the city has commercial retail areas, manufacturing and industrial parks, as well as suburban neighborhoods mixed with green space, recreational trails, and is adjacent to the Tualatin River National Wildlife Refuge.

The City of Sherwood has grown rapidly since 1990, as shown in Figure 1, from a population of 3,093 to 18,194 in 2010.[3] The population is younger and wealthier on average than typical residents of Washington County or Oregon. The average household size is 2.8 persons compared to 2.5 statewide, and 20% of Sherwood residents are under 10 years old compared to less than 14% for Washington County and 13% statewide. The prevalence of young families translates to specific transportation needs to serve children who are likely to walk or bike to get around.

Figure 1: Historical Population Growth in Sherwood



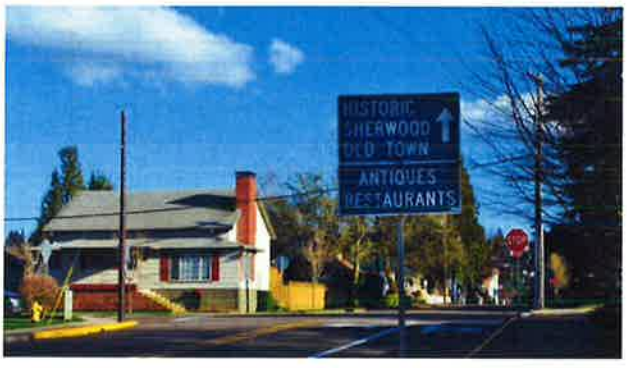
[2] 2013 Portland State Population Research Center population projection.

[3] United States Census Bureau.

While the growth in population has been accommodated through increases in housing, it has created a housing and jobs imbalance in the community. Currently, with the higher than average income levels, 70% of employed residents commute outside of the city for work to seek higher wage jobs. To help remedy this, a concept plan for a 300 acre "employment land" area to the east of the city (Tonquin Employment Area) has been adopted to guide development. In addition, there are 70 acres of smaller, vacant parcels throughout the city that are available for non-residential development. These planned areas may have capacity needs for moving freight, or multimodal needs for accessing smaller sites in town.

The Challenge

Sherwood, like many jurisdictions, faces the challenge of accommodating population and employment growth while maintaining acceptable service levels on its transportation network. With major regional facilities (e.g., OR 99W, Tualatin-Sherwood Road) dividing the city, trying to meet acceptable levels of service for motor vehicles is likely to come at a cost to other modes—therefore, achieving a balanced, multi-modal transportation system through a series of system improvements is difficult. Furthermore, the city must balance its investments to ensure that the existing and future transportation system adequately serves all members of the community and is well maintained.



The Transportation System Plan

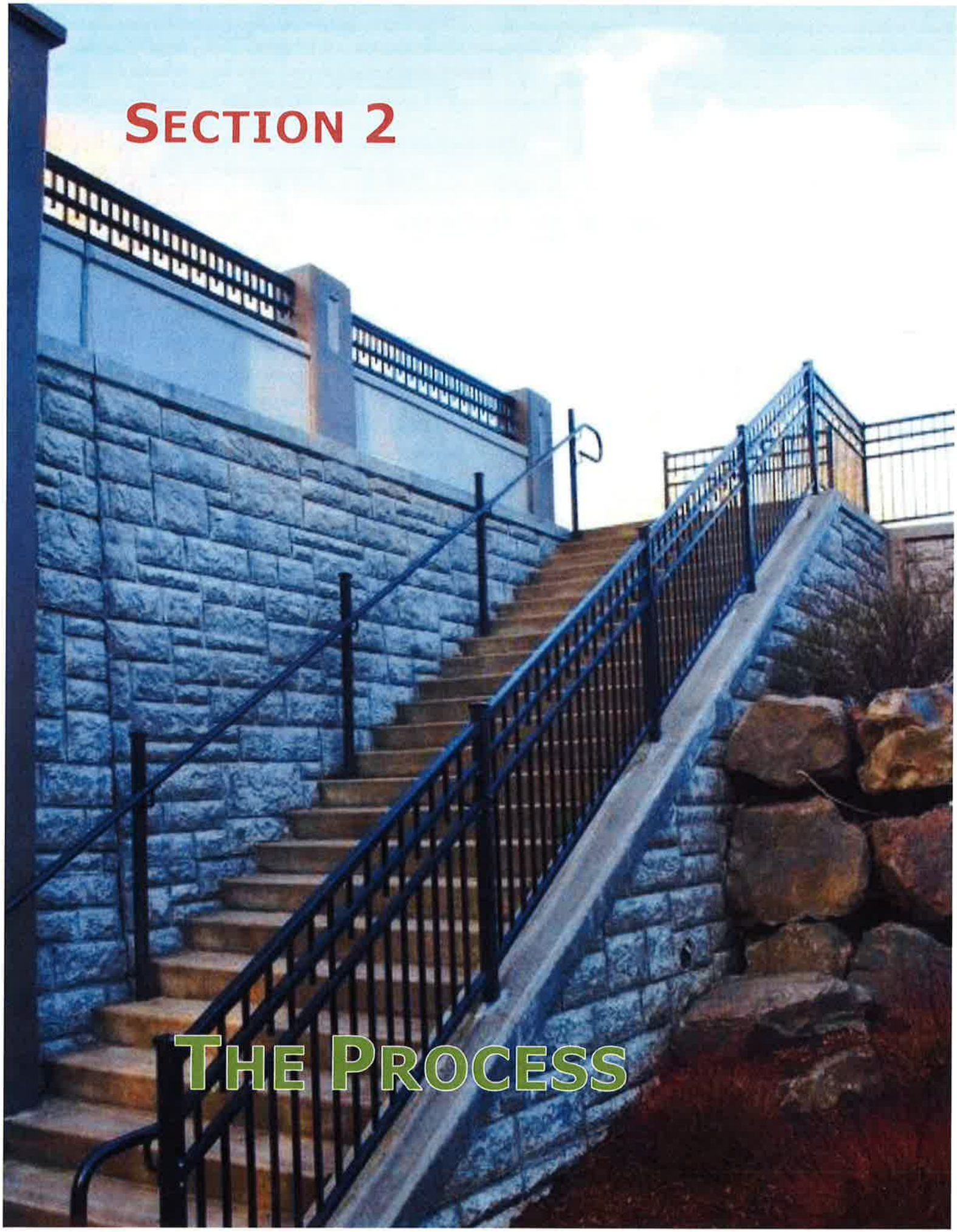
The Transportation System Plan (TSP) is intended to prepare for and accommodate the future growth through year 2035 in the most efficient manner possible. Without the big picture that the TSP provides, maintaining acceptable transportation network performance could not be achieved in an efficient manner. This Plan updates Sherwood's original TSP, which was adopted in the year 2005 for a horizon year of 2020.

What is a TSP?

The TSP provides a long term guide for city transportation investments by incorporating the vision of the community into an equitable and efficient transportation system.

The plan evaluates the current transportation system and outlines policies and projects that are important to protecting and enhancing the quality of life in Sherwood through 2035. The TSP also provides a foundation from which to evaluate and determine what improvements could or should be required as part of private development projects. Plan elements can be implemented by the city, private developers, and state or federal agencies.

A TSP is required by the State of Oregon to help integrate the city's transportation investment plans into the statewide transportation system. The plan balances the needs of walking, bicycling, driving, transit and freight into an equitable and efficient transportation system.



SECTION 2

THE PROCESS

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THE PROCESS

The Sherwood TSP Update was a collaborative process among various public agencies, key stakeholders and the community. Throughout this project, the project team took time to understand multiple points of view, obtain fresh ideas and resources, and encourage participation from the community.

Project staff conducted technical group meetings (referred to as the TAC), hosted citizen advisory group meetings (referred to as the CAC), held meetings with decision makers, and conversed informally with members of the community.

The process (shown in Figure 2) was broken into four manageable pieces:

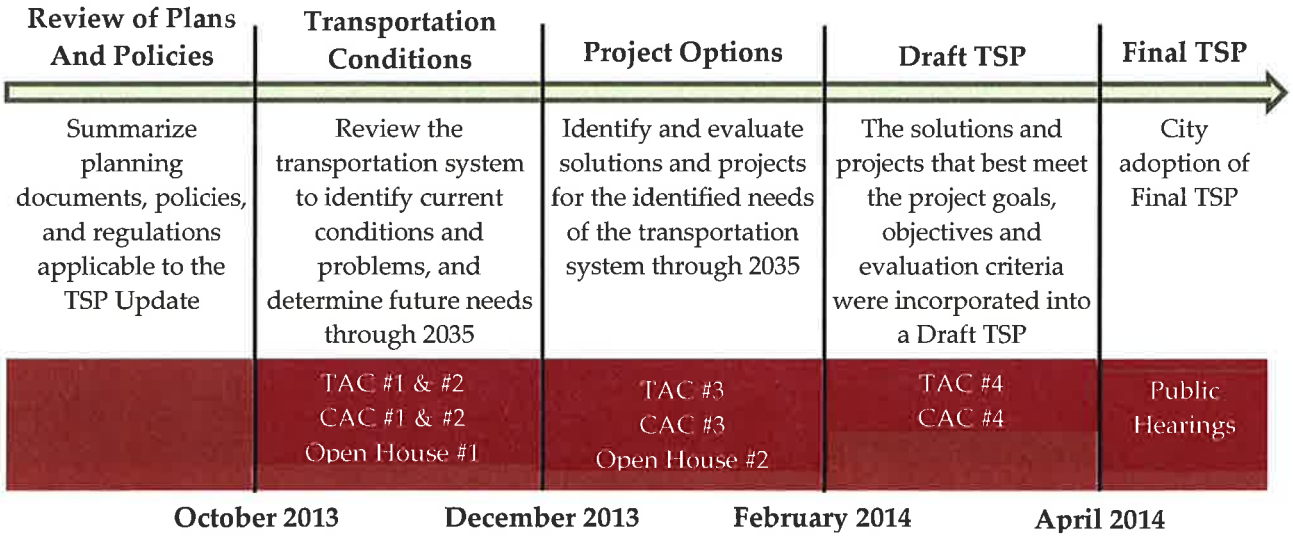
- Plan and Policy Summary Report
- Existing Conditions Technical Report
- Needs, Opportunities, Constraints and Tools Technical Report
- Project Options Technical Report

Each report was posted to the project website (which presented an email address for the public to submit comments and concerns) and presented at an open house, giving residents an opportunity to provide feedback and keep up-to-date with the project.

The project team would then revise the draft reports based on feedback received from the TAC, CAC, decision makers, and public input. The revised documents were reposted to the TSP website. Material from these reports was ultimately used to create the Draft TSP.

Subsequent public hearings with the Planning Commission and City Council on the Draft TSP ultimately led to adoption of the 2014 Sherwood Transportation System Plan.

Figure 2: TSP Update Process



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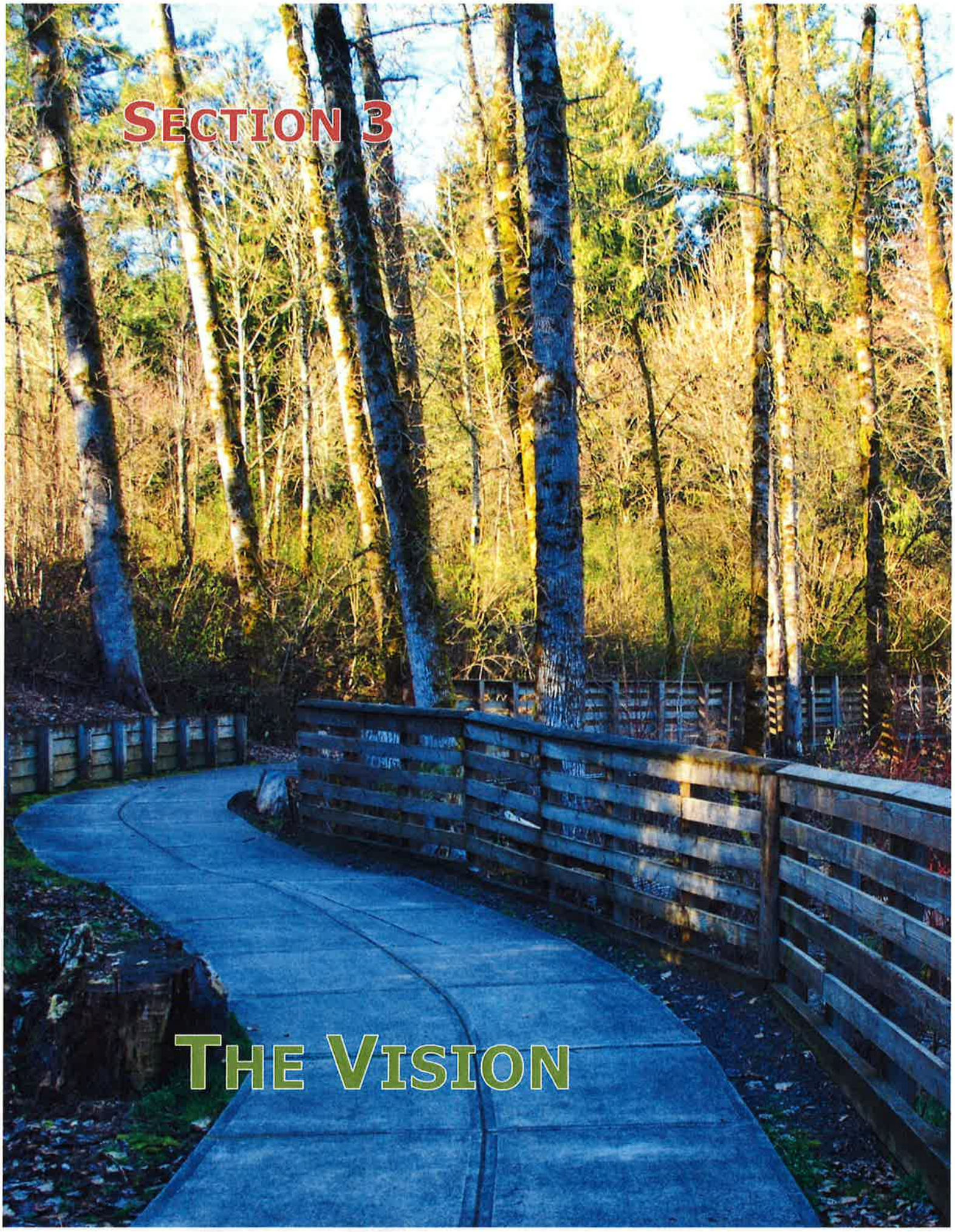

Section 3

The Vision

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In the past, a typical response to congestion from communities in the region was to expand streets to add additional travel lanes. This practice created significant barriers to walking and biking and detracted from the livability, health, safety, and fiscal wellbeing of the community.

Sherwood's approach to the TSP placed more value on investments in smaller cost-effective solutions for the transportation system rather than larger, more costly ones where practical as transportation funding is limited. As required by statewide planning policies and the Metro Regional Transportation Functional Plan, the approach emphasized a multi-modal network-wide approach to identifying transportation system solutions. As shown in Figure 3, this approach followed a five-step process that considered solutions from top to bottom until a viable solution was identified. This enabled more cost-effective solutions to increase transportation system operation and helped to encourage multiple travel options, increase street connectivity and promote a more sustainable transportation system.

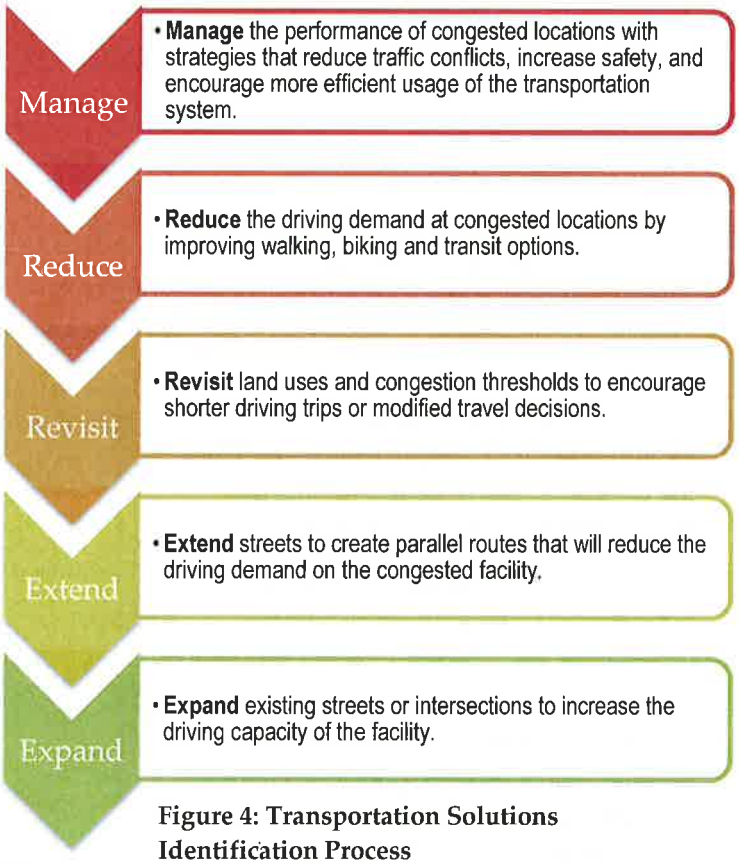

Figure 4: Transportation Solutions Identification Process

How do we reflect Sherwood's Vision in the Plan?

Sherwood's Comprehensive Plan (Chapter 6 Section B) includes eight transportation goals with several strategies to achieve each goal. As shown in Figure 4, these strategies were grouped and condensed into evaluation criteria that project stakeholders felt to be most important to the community to measure how well the transportation solutions addressed Sherwood's goals. The following strategies for each goal were applied as project evaluation criteria:

Goal 1: Provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes serving all neighborhoods and businesses

Circulation: Improves mobility through separation of local and through traffic

Goal 2: Develop a transportation system that is consistent with the City's adopted comprehensive land use plan and with the adopted plans of state, local, and regional jurisdictions

Compatibility: Compatible with other jurisdiction's plans and policies (including adjacent cities, counties, Metro, or ODOT)

Agency Standards: Consistent with the standards of the city, region, and state as a whole

Figure 4: Reflecting our Vision in the Plan

Goal 3: Establish a clear and objective set of transportation design and development regulations that addresses all elements of the city transportation system and that promote access to and utilization of a multi-modal transportation system

Land Development Standards: Promotes standardized processes for developers to access and accommodate transportation impacts from development

Goal 4: Develop complementary infrastructure for bicycles and pedestrian facilities to provide a diverse range of transportation choices for city residents

Pedestrian and Bicycle Facilities: Adds bikeway and walkways that fill in system gaps, improve system connectivity, and are accessible to all users

Goal 5: Provide reliable convenient transit service to Sherwood residents and businesses as well as special transit options for the city's elderly and disabled residents

Expands Transit Service: Adds hours, additional routes, stops, or special ride services

Transit Supportive Infrastructure: Improves transit supportive infrastructure and facilities

Goal 6: Provide a convenient and safe transportation network within and between the Sherwood Old Town (Town Center) and Six Corners area that enables mixed use development and provides multi-modal access to area businesses and residents

Design Standards: Develops or refines special standards to facilitate pedestrian and transit friendly development in Old Town and Six Corners

Corridor Connectivity: Improves connectivity through acquisitions and dedications to achieve better street spacing and enhance off-street trail system

Goal 7: Ensure that efficient and effective freight transportation infrastructure is developed and maintained to support local and regional economic expansion and diversification consistent with City economic plans and policies

Freight Mobility: Invests in infrastructure and services needed to meet current and future demand

Freight Access: Regulates and improves access, including loading and transfer facilities

Goal 8: The Sherwood transportation network will be managed in a manner that ensures the plan is implemented in a timely fashion and is kept up to date with respect to local and regional priorities

Funding: Leverages local, regional, state, federal, or private funds

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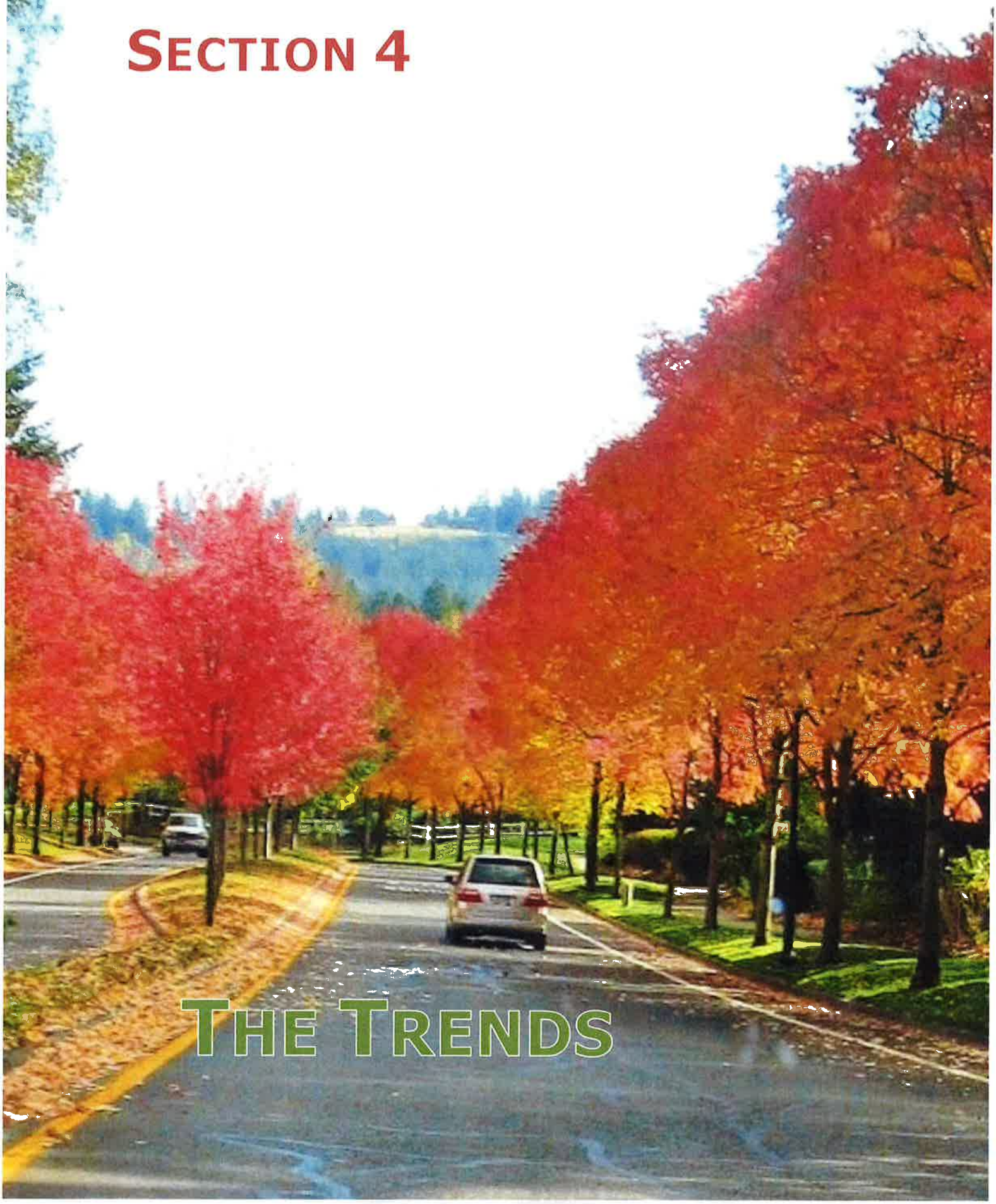
SECTION 4



THE TRENDS

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Before it was determined what investments were needed for Sherwood's transportation system, the current travel conditions were reviewed and future growth and travel trends were forecasted through the year 2035. For this assessment of needs, it was assumed that only the transportation projects with committed funding would be built and that no further investments would be made in order to prioritize and plan projects that re not currently funded. The following sections explain where growth is expected, how the transportation system will perform, and where solutions will be needed.

Snapshot of Sherwood in 2035

Today, the Sherwood area (both land within the existing city limits as well as outlying rural area) is home to 7,500 households and accounts for over 8,800 jobs. Based on Metro's regional growth projections[4] for areas in and around Sherwood, between now and year 2035, employment is expected to increase nearly 5.0 percent a year, slightly outpacing household growth over the same period (4.5 percent). By 2035, based on regional growth forecasts, the Sherwood area (including the urban reserves) is expected to be home to almost 16,000 households and over 19,800 jobs, a 113 and 124 percent increase respectively from 2010.[5] With more people and more jobs in Sherwood, the transportation network will face increased demands.

More People, More Jobs

As shown in Figure 5, much of the population and employment growth is expected to occur around the undeveloped edges of Sherwood.

Employment growth is expected to be highest in the following areas:

- The Tonquin Employment Area, including the area bound by Tualatin-Sherwood Road to the north, Oregon Street to the South, Langer Farms Parkway to the west, and the 124th Avenue alignment to the east
- North of Tualatin-Sherwood Road between OR 99W and Cipole Road
- The urban reserves west of the city
- The areas adjacent to Brookman Road
- The areas adjacent to Tonquin Road
- The area bound by OR 99W, Elwert Road, and Edy Road

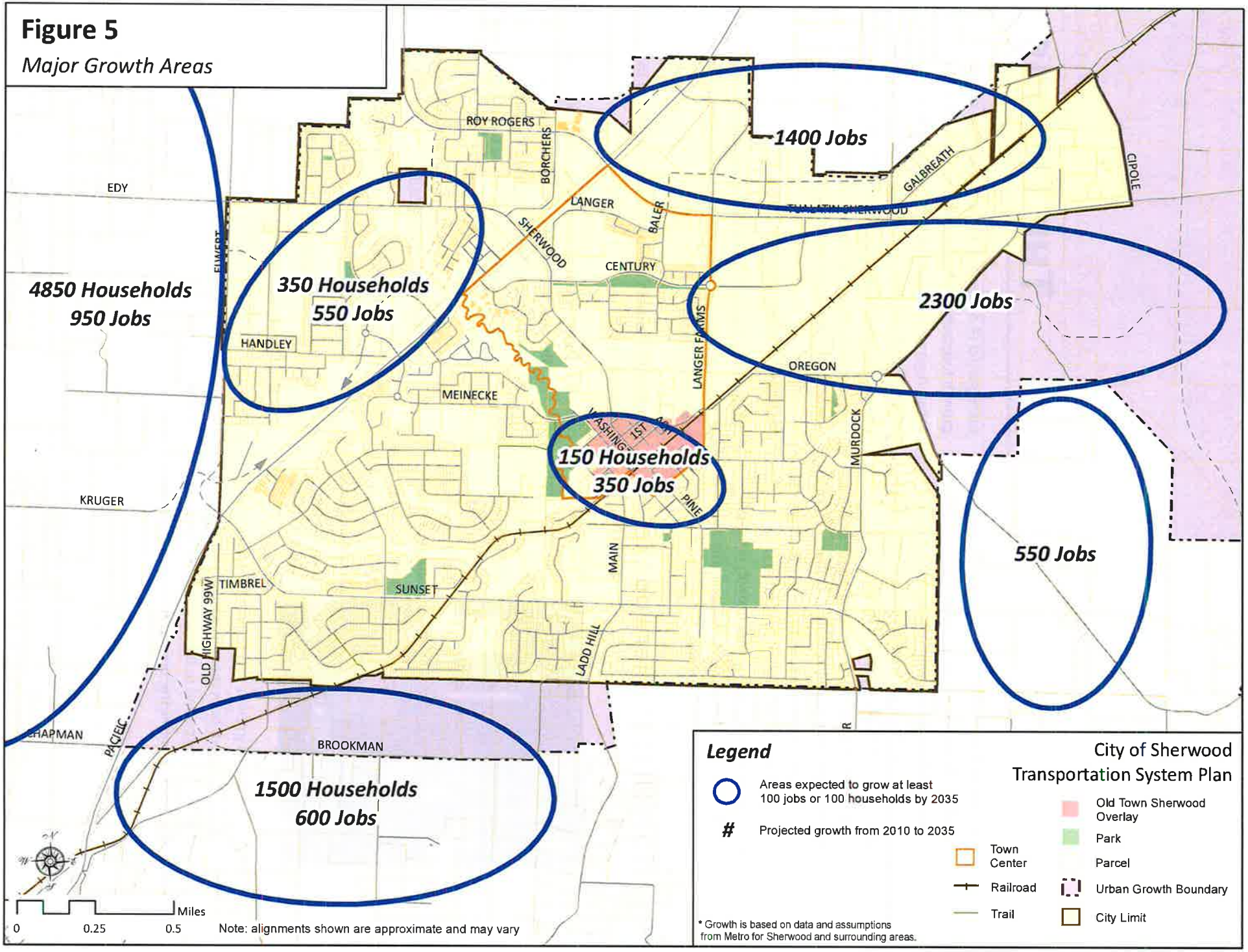
Old Town Sherwood is also expected to see moderate employment growth.

[4] Metro 2035 Gamma land use forecasts.

[5] Analysis is based on Metro Gamma land use forecasts for zones in and around Sherwood.

Figure 5

Major Growth Areas



By the year 2035, household growth is expected to be highest in the following areas:

- The urban reserves west of the city
- The areas adjacent to Brookman Road

Old Town Sherwood and the area bound by OR 99W-Elwert Road-Edy Road are also expected to see moderate household growth.

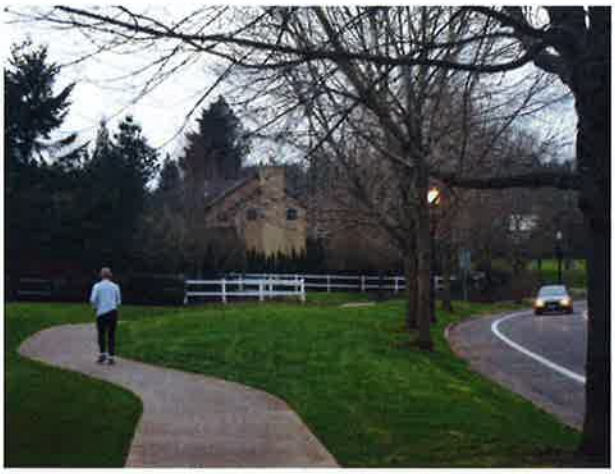
More Driving

The projected growth in housing and employment is likely to lead to increased activity and person-trips in Sherwood. Even with enhancements to pedestrian and bicycle opportunities and progress towards non-driving trips, there is projected to be an increase of approximately 65% weekday peak hour vehicle trips in the Sherwood area by 2035. Along with this growth, the total vehicle distance travelled in Sherwood is projected to increase, even though the distance travelled per person (average distance) is projected to decrease[6]. This increased overall vehicle travel will place additional strain on Sherwood's streets.

More Congestion

More travel means more congestion. Evening peak hour motor vehicle trips beginning or ending in Sherwood are expected to increase by 63 percent through 2035. Through travel, or trips that do not begin or end in Sherwood, is also expected to increase through 2035 and is generally representative of growth in the region, including surrounding cities such as Tualatin and Newberg. Figure 6 indicates the general amount of traffic projected to use streets in the Sherwood area (based on the width of the color) and the general level of congestion (noted by warmer colors). The following road segments were identified as locations that are projected to be congested during evening peak hour conditions and may require additional capacity improvements or management strategies by the year 2035:

- OR 99W north of SW Tualatin-Sherwood Road
- SW Roy Rogers Road west of OR 99W
- SW Tualatin Sherwood Road east of OR 99W
- SW Edy Road west of OR 99W
- OR 99W south of SW Edy Road
- SW Oregon Street east of SW Murdock Road
- SW Sunset Boulevard between SW Pinehurst Drive and SW Murdock Road
- SW Langer Farms Parkway south of SW Century Drive



[6] The projected increase in vehicle trips (65%) is less than the projected increase in land use (approximately 115% and 125% growth in households and jobs, respectively). As a result, the average distance travelled per person is projected to decrease. Section 9 (The Outcome) includes additional information.

More Walking, Biking, and Transit Use

Old Town and other areas of the Town Center continue to develop in ways that will support multimodal activity. Amenities such as Cannery Square and the Cedar Creek Trail will attract activity and the amount of pedestrian, bicycle, and transit use in the area is expected to grow.

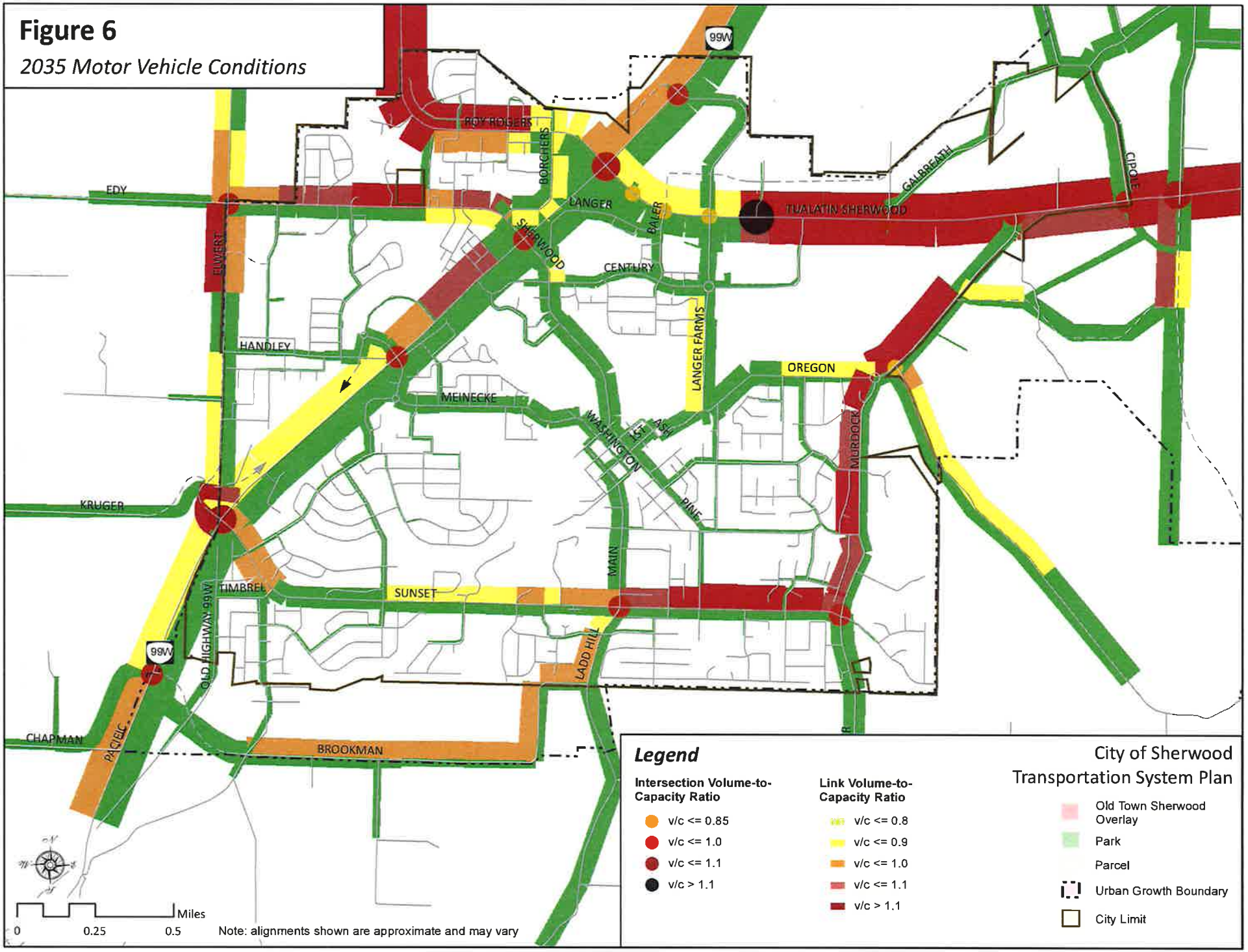
The future needs for walking, biking, and transit in Sherwood were determined by reviewing major growth areas of the city and seeing how they were served by existing facilities. In addition, the areas of the city in close proximity to key destinations (such as schools, transit stops, and shopping) with potential to attract significant walking and biking trips and areas with existing deficiencies were identified and reviewed to determine prioritized walking, biking, or transit investments.

Key routes with bike and/or pedestrian deficiencies include:

- 12th Street
- Borchers Drive
- Highway 99W
- Langer Drive
- Main Street
- Pine Street
- Sherwood Boulevard
- Sunset Boulevard
- Washington Street

Figure 6

2035 Motor Vehicle Conditions



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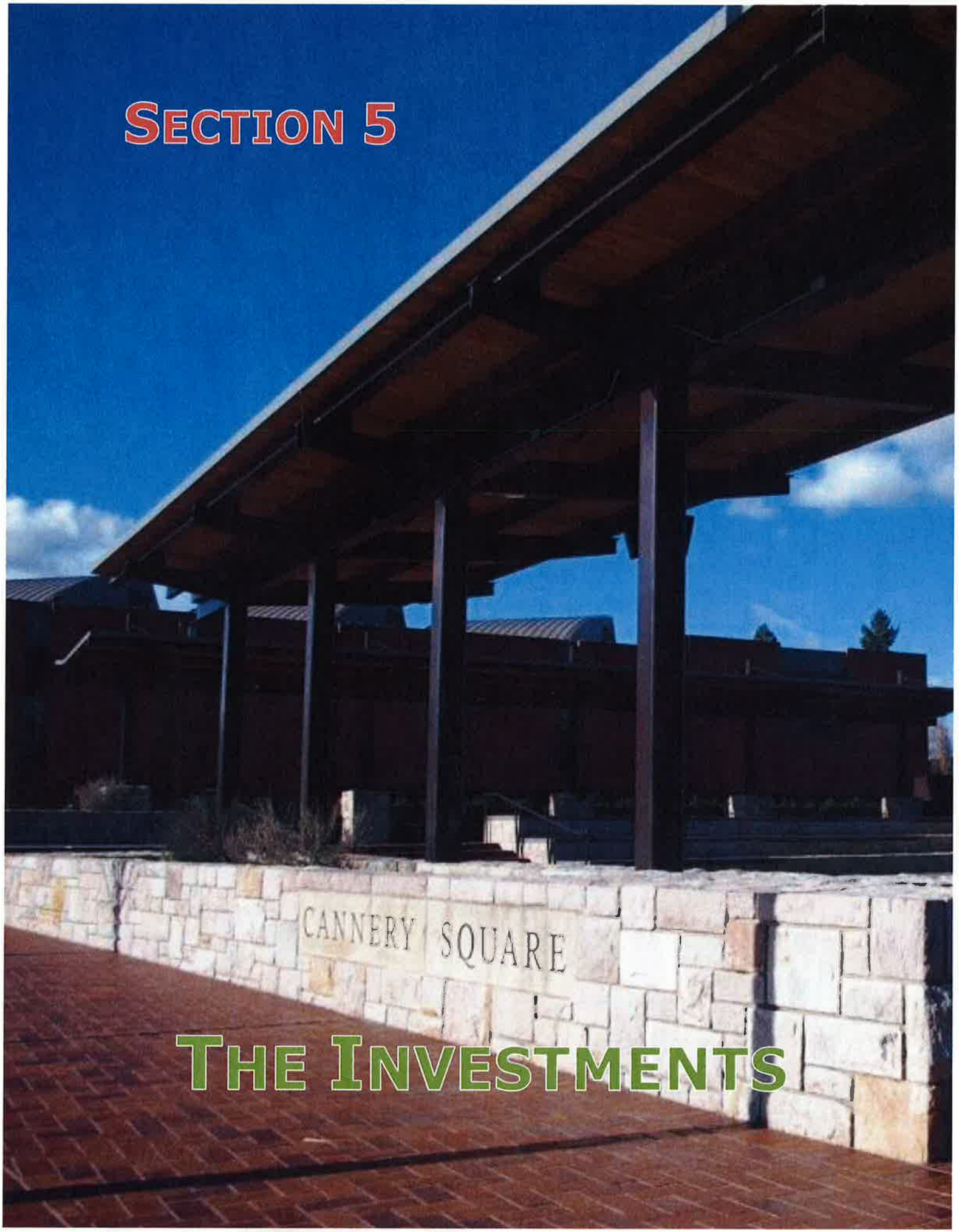

Section 5

The Investments

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THE INVESTMENTS

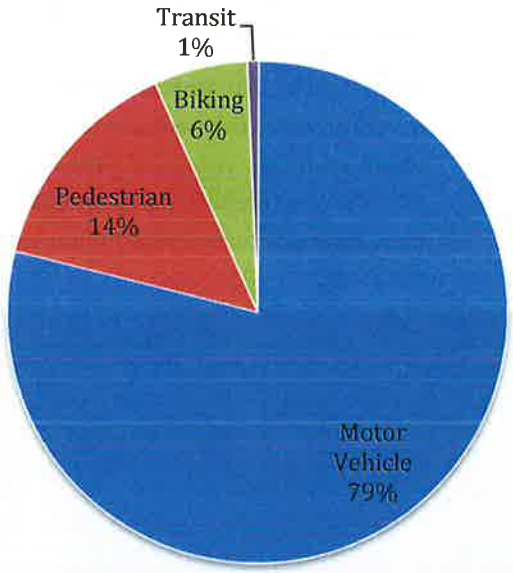
As required by Metro's Regional Transportation Functional Plan (RTFP), the Sherwood approach to developing transportation solutions placed more value on investments in smaller cost-effective solutions for the transportation system rather than larger, more costly ones as the City and regional partners will have a limited amount of funding to spend on these solutions through 2035. The approach helped to encourage multiple travel options, increase street connectivity and promote a more sustainable transportation system.

Taking the network approach to transportation system improvements, the projects in this plan—listed in Table A1 of Volume 2, Section E—are grouped into several modal categories. The following categories list the number of projects and their costs (which are in 2013 dollar amounts, and are the City's estimated share of the total cost) for each mode:

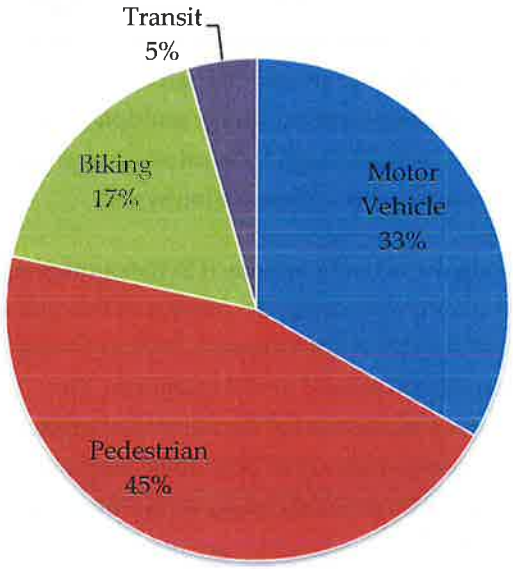
- **Motor vehicle** projects to improve connectivity, safety, and mobility throughout the city. Sherwood identified 35 driving projects that would cost the City an estimated $87.4 million to complete.
- **Pedestrian** projects for sidewalk infill, local and regional trails, and shared-use paths, providing seamless connections for pedestrians throughout the city. Sherwood identified 50 sidewalk projects that would cost the City an estimated $15.9 million to complete.
- **Biking** projects including an integrated network of bicycle lanes, marked on-street routes, and shared-use paths that facilitates convenient travel citywide. Sherwood identified 19 biking projects that would cost the City an estimated $6.7 million to complete.
- **Transit** projects to provide wider coverage, more frequent service, and more better amenities. A total of 5 transit projects were identified that would cost the City an estimated $0.8 million to complete.

Overall, Sherwood identified 109 transportation solutions, totaling an estimated $347 million worth of investments—$111 million of which is assumed to be city funded. The remainder is the assumed share for the county and state for projects not on city owned facilities. As shown in Figure 7, only about 32 percent of the improvements in the Plan are driving projects, yet these projects account for nearly 79 percent of the total project expenses in the Plan.

Figure 7: Breakdown of Projects and Expenses in the Plan



Projects Expenses in the TSP by Mode



Projects in the TSP by Mode

Section 6

The Funding

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THE FUNDING

With an estimated $111 million worth of transportation solutions identified to potentially be funded by the City, Sherwood must make investment decisions to develop a set of transportation improvements that are reasonably likely be funded to meet identified needs through 2035. As summarized in the Existing Conditions Technical Report, it is estimated that Sherwood would have approximately $11.3 million to spend on capital improvement projects through 2035 based on historical growth that has occurred over the last several years.

However, assuming the level of growth related to urbanization of surrounding areas through 2035, Sherwood's available funds for transportation projects would grow to approximately $60 million. Therefore, both the $11.3 million funding estimate (referred to as "conservative funding") and the $60 million funding estimate (referred to as "projected funding") will be considered as funding scenarios.

Funding Shortfall

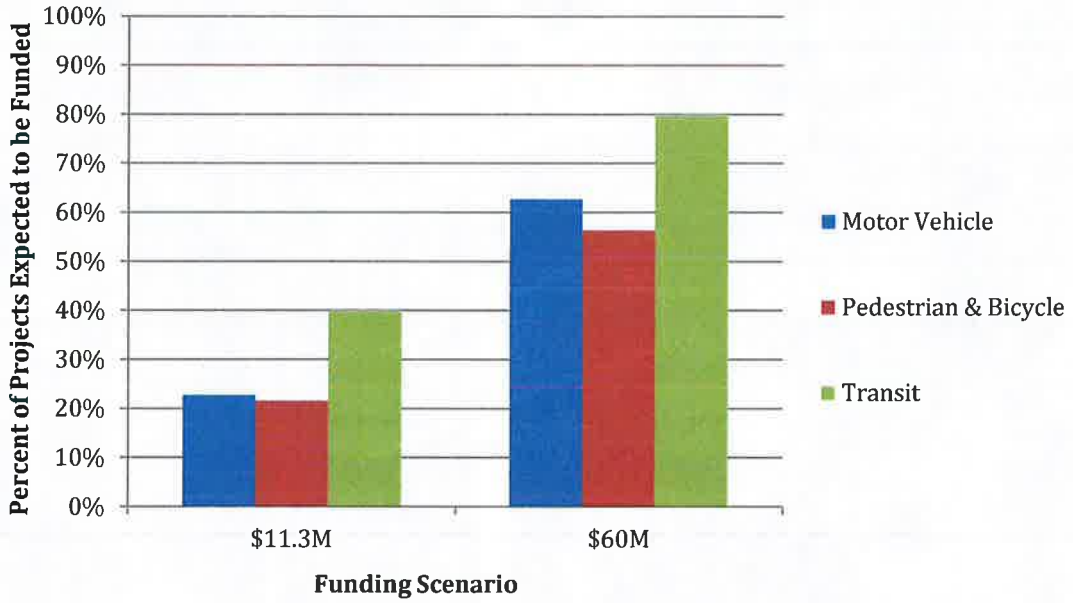
Over $187 million worth of motor vehicle projects, nearly $23 million worth of pedestrian, bicycle, and shared-use path and trail improvements, and about $1 million worth of transit projects were identified for City funding, totaling approximately $110.8 million.

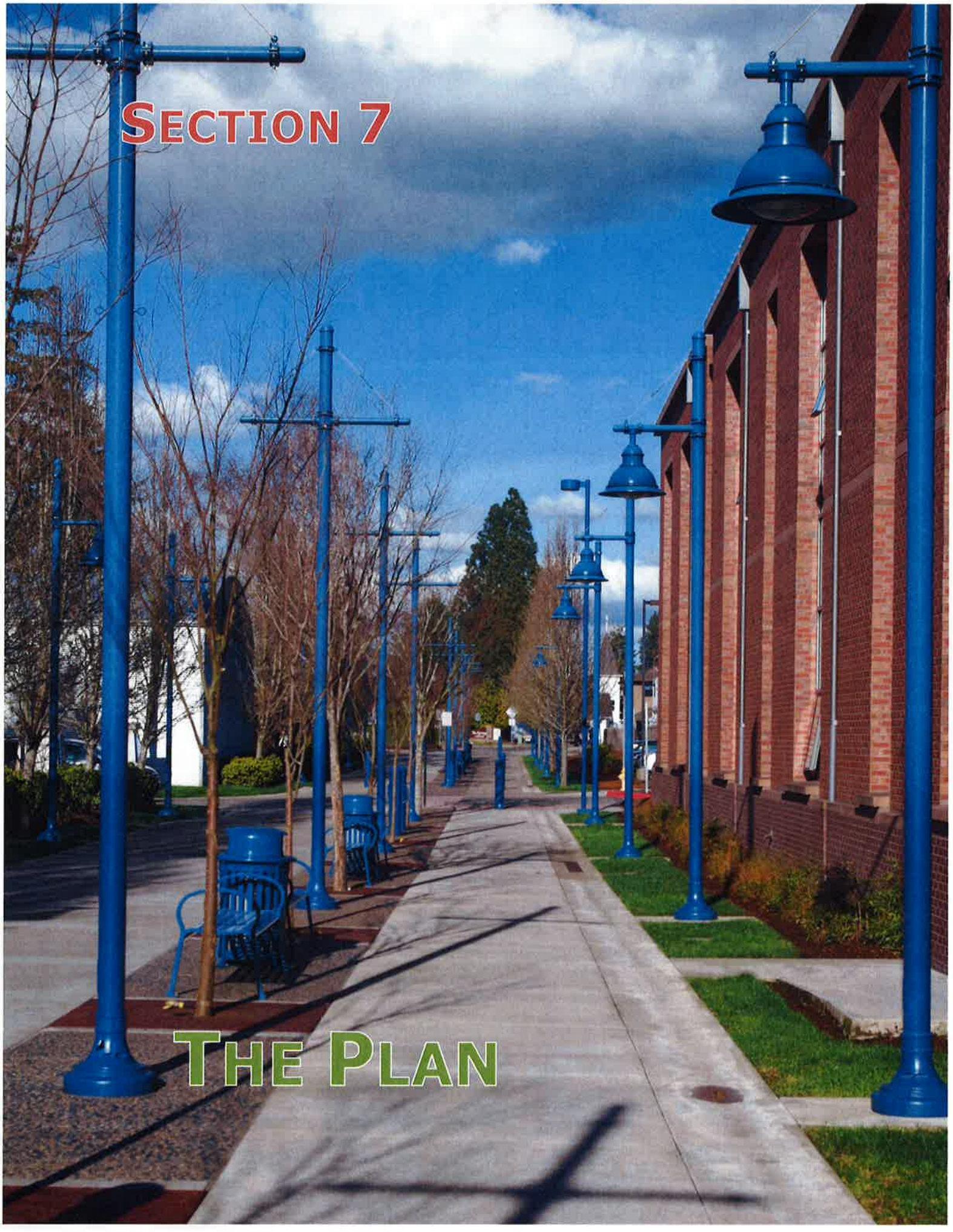
Unless additional funds are developed, Sherwood will be short as much as $99 million to fund desired transportation projects if growth in the city continues as it has over the last few years. If the level of growth in the area is consistent with the regional land use growth projections, the City would be short nearly $51 million to fund transportation projects. However, the funding estimates do not consider developer contributions that would likely apply to a handful of investments shown in the TSP—therefore, the funding gap is likely to be less than $51 million, yet significant none-the-less.

As shown in Figure 8, approximately 23 percent of the motor vehicle projects, 22 percent of the pedestrian and bicycle projects, and 40 percent of the transit projects could be funded under the conservative funding estimate of $11.3 million. Under the projected funding estimate of $60 million, approximately 63 percent of the motor vehicle projects, 57 percent of the pedestrian and bicycle projects, and 80 percent of the transit projects could be funded.

In addition to Sherwood's funding shortfall, state and county funding limitations may further constrain the degree of transportation investments made in the City. Even though Sherwood may dedicate a match to support funding an investment along a state or county facility, it is not guaranteed that the county or state could provide the remaining match to complete the investment.

Figure 8: Evaluation of the Fundable Plans





SECTION 7

THE PLAN

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As detailed in the Funding section, the City is projected to have up to $60 million to cover the $111 million in project costs. Clearly, 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 grouped into three categories based on the timing of anticipated implementation:

- The Conservatively Fundable Plan
- The Projected Fundable Plan
- The Aspirational Plan

The highest priority projects that fall within the $11.3 million scenario were included in the Conservatively Fundable Plan, the highest priority projects that fall within the $60 million scenario were included in the Projected Fundable Plan, and the complete projects list—regardless of expected funding—is referred to as the Aspirational Plan.

Determining the Investments that made the Fundable Plans

The complete list of transportation projects were prioritized based on a three-tier evaluation process, which included:

- **Tier 1: Screening for Needs**—Projects previously identified in plans prior to the update (e.g., prior transportation plans, concept plans, etc.) were screened to determine if they addressed a specific need identified in the TSP update process. Projects that were previously identified but did not directly address a given need were given a "long-term phasing status (regardless of Tier 2 and Tier 3 evaluation). Additional projects were developed to address the needs that were not otherwise addressed with previously identified projects.
- **Tier 2: Primary Evaluation Criteria**—Evaluation criteria were applied to projects across all modes based on consistency with Sherwood's transportation goals. These criteria provided a means to evaluate very different projects using the broad criteria that was applied to all project types.
- **Tier 3: Secondary Criteria**—In order to further differentiate projects that received the same primary evaluation score within a given mode, sets of secondary criteria were applied. These criteria were different for each mode and were only used to compare projects relative to other projects of the same mode. The criteria were:
  - Pedestrian/Bicycle—Project location and proximity to schools and other activity generators.
  - Motor Vehicle—Hierarchy of projects based on regional strategies (intersection improvements are highest priority and major corridor widening is lowest priority).

Incorporating the funding scenarios with the prioritized list of projects, the solutions were grouped into the fundable plans. Each

transportation solution was then assigned a time frame for the expected investment need, based on a project's contribution to achieving the transportation goals of Sherwood.

Conservatively Fundable Transportation System

The Conservatively Fundable Plan identifies the highest priority transportation solutions that are anticipated to be funded by 2035, based on historical funding data. Transportation solutions within the Conservatively Fundable Plan were recommended as short-term investments.

Over $11 million worth of investments are included in the Conservatively Fundable Transportation System. As shown in Figure 9, about 32 percent of these investments are motor vehicle improvements, 36 percent are pedestrian improvements, 24 percent are biking improvements, and about 8 percent of these investments are transit improvements.

The Conservatively Fundable transportation solutions are highlighted in red in Table 1 and illustrated in Figures 11 to 13. The projects numbered on Figures 11 to 13 correspond with the project numbers in Table 1. The project numbers are denoted as follows:

- Driving ("D")
- Pedestrian ("P")
- Biking ("B")
- Transit ("T")

Planning level cost estimates for the projects can be found in Table A1 of the TSP Volume 2, Section E.

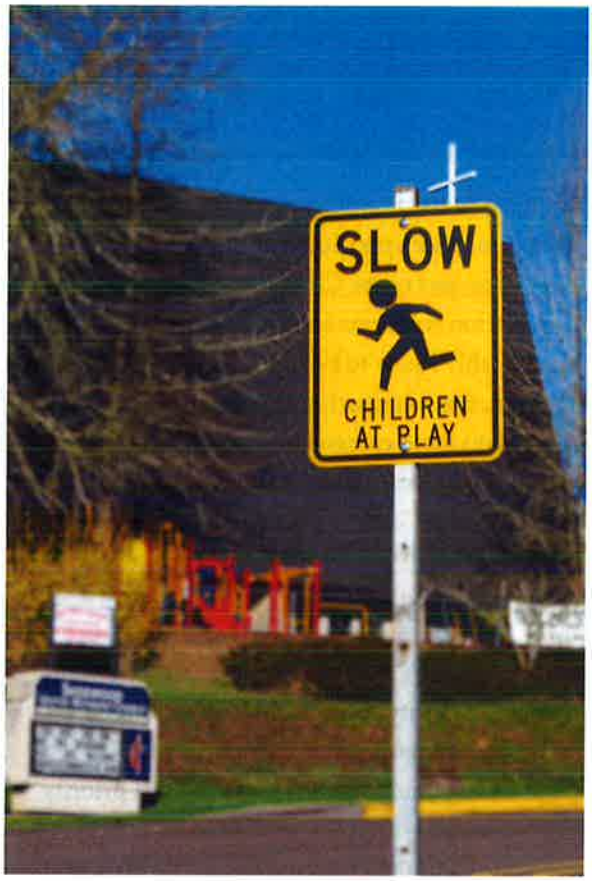
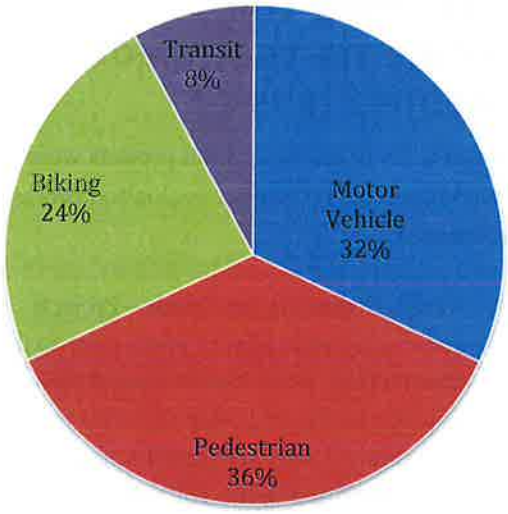


Figure 9: Breakdown of Projects in the Conservatively Fundable Plan



Projected Fundable Transportation System

The Projected Fundable Plan identifies additional high priority transportation solutions that reasonably could be funded by 2035, assuming the same level of growth related to urbanization of surrounding areas. Transportation solutions within the Projected Fundable Plan that were not included in the Conservatively Fundable Plan were recommended as medium-term investments.

Nearly $60 million worth of investments are included in the Projected Fundable Transportation System. As shown in Figure 10, about 34 percent of these investments are motor vehicle improvements, 38 percent are pedestrian improvements, 22 percent are biking improvements, and about 6 percent of these investments are transit improvements.

The Projected Fundable transportation solutions are also listed in Table 1 and illustrated in Figures 11 to 13. Planning level cost estimates for the projects can be found in Table A1 of the TSP Volume 2, Section E.

Figure 10: Breakdown of Projects in the Projected Fundable Plan

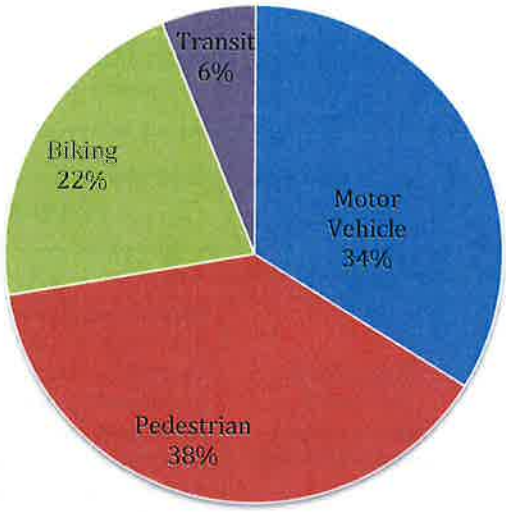


Table 1: The Fundable Transportation System

Project #	Project Name	Project Details	Priority
Projects with Committed Funding			
D13	Tualatin-Sherwood Improvements – Phase 1	Widen Tualatin-Sherwood Road/Roy Rogers Road between Borchers Drive and Baler Way to five lanes. Includes intersection modifications at OR 99W, the Sherwood Market Center, and at Baler Way.	(Funded Through MSTIP)
D19	124th Avenue Extension	Extend 124th Avenue as an arterial from Tualatin-Sherwood Road to Tonquin Road.	(Funded Through MSTIP)
D22	Kruger/Elwert Intersection Safety Improvement	Realign Elwert Road to provide more storage at Highway 99W, and realign the Kruger Road intersection to the Cedarbrook extension as a single lane roundabout.	(Funded Through MSTIP)
P13	Ice Age Tonquin Trail Segment 8	Implement Tonquin Trail Segment 8 improvements from immediately north of Park Street to immediately south of Highway 99W.	(Funded through Metro regional flex funds)
Motor Vehicle Projects (See Figure 11)			
D3	Oregon Street Intersection Improvements at Murdock and Tonquin	Install a roundabout at the Tonquin Road/Oregon Street intersection with dual westbound through lanes and a single eastbound through/right lane. Consider creating a "Dumbbell Roundabout" with the Oregon/Murdock roundabout by disallowing the west circulating lane at Oregon/Tonquin and disallowing the east circulating lane at Oregon/Murdock. Add a second westbound approach lane to the Murdock Road Oregon Street roundabout for separated westbound left and westbound through lanes. Keep three lanes on the bridge structure.	Short-Term
D4	Elwert Road Improvements	Upgrade Elwert Road (from Highway 99W to Edy Road) to a three lane arterial with bike lanes and sidewalks. This project may be phased with D30 for design and construction purposes.	Short-Term
D6	Edy Road Improvements	Upgrade Edy Road (from Borchers Drive to City Limits) to a three lane collector with bike lanes and sidewalks.	Medium-Term
D7	Ladd Hill Road Improvements	Upgrade Ladd Hill Road (from Sunset Boulevard to the Urban Growth Boundary) to a three arterial with bike lanes and sidewalks.	Medium-Term
D8	Oregon Street Improvements	Upgrade Oregon Street (from Murdock Road to the railroad crossing) to a three lane collector with sidewalks on south side and a shared-use path on the north side (part of the Ice Age Tonquin Trail).	Medium-Term
D12	Extension of Langer Farms Parkway at 99W	Extend Langer Farms Parkway from 99W west as a collector road.	Medium-Term
D14	Highway 99W/Brookman Traffic Signal and Realignment	Realign Brookman Road to intersect with Highway 99W approximately 1/4 mile north of its existing intersection; This alignment would provide future separation from the Southern Arterial connection at Highway 99W and would improve safety and driver expectancy for the intersection on the highway by moving it within the urbanized context (within future urbanized area of Brookman Concept Plan area). This improvement includes a traffic signal at the realigned intersection with a westbound left and southbound right turn lane, and a grade separated railroad crossing. All traffic signals on the state highway system would need to be approved by the state traffic engineer and design coordination with ODOT would be	Medium-Term

Project #	Project Name	Project Details	Priority
		needed to ensure that the improvements were done in a manner that would improve driver expectancy and safety.	
D15	Sunset Boulevard Improvements	Upgrade Sunset Boulevard (from Aldergrove Avenue to Eucalyptus Terrace) to a three lane arterial with sidewalks and bike lanes. Address vertical crest sight distance issues near Pine Street.	Medium-Term
D16	Edy/Highway 99W Intersection Improvements	Restripe the westbound Sherwood Boulevard approach to have a single left turn lane, a single through lane, and a single right turn lane. Eliminate the split phase timing for the side streets, and maintain the existing green time on OR 99W for the northbound and southbound through movements. Add the missing crosswalk to the south approach. Consider implementing P3 alongside this project.	Short-Term
D17	Meinecke/Highway 99W Intersection Improvements	Change the eastbound and westbound left turn phasing on Meinecke Road from permitted to permitted/protected and maintaining the existing green time on OR 99W for the northbound and southbound through movements. Consider implementing P3 alongside this project.	Medium-Term
D18	Langer Drive Improvements	Construct improvements to Langer Drive between Baler Way and Sherwood Boulevard that are consistent with the Sherwood Town Center Plan. Major improvements include: buffered bike lanes, on-street parking, wider sidewalks, narrower travel lanes, removal of the center turn lane, and landscaping.	Short-Term
D24	Sherwood Boulevard Intersection Modifications	Remove the Sherwood Boulevard/Langer Drive traffic signal (allow right-in, right-out, and left-in movements only), and install a traffic signal at the Sherwood Boulevard/Century Drive intersection (add eastbound and westbound left turn lanes).	Short-Term
D25	Sunset/Pine Improvements	Restripe Sunset Boulevard at Pine Street to add eastbound and westbound left turn lanes.	Medium-Term
D27	Baker Road Improvements	Upgrade Baker Road (from Sunset Boulevard to the urban growth boundary) to a two lane arterial with bike lanes and sidewalks.	Medium-Term
D30	Elwert/Edy Roundabout	Install a single lane roundabout at the Elwert Road/Edy Road intersection. This project may be phased with D4 for design and construction purposes.	Medium-Term
D31	Highway 99W/Sunset Improvements	Add westbound and eastbound left turn lanes at Highway 99W/Sunset Boulevard with protective-permissive phasing. Consider implementing D22 and P3 alongside this project.	Medium-Term
D33	Sunset/Murdock Turn Lanes	Add a southbound right turn lane and a northbound left turn lane at the Sunset Boulevard/Murdock Road intersection.	Medium-Term
D34	Brookman/Middleton Traffic Control Enhancements	Move the stop signs to the north and south approaches, and add a southbound left turn lane at the Brookman Road/Middleton Road intersection.	Medium-Term
D35	Area 59 Neighborhood Route	Build a neighborhood roadway, connecting Elwert Road and Copper Terrace as identified in the Area 59 concept plan.	Medium-Term
Pedestrian Projects (See Figure 12)			
P1	Handley Street Sidewalk Infill	Construct sidewalk along the north side of Handley Street from Elwert Road to the existing sidewalk terminus approximately 250 feet east of Elwert Road.	Medium-Term
P2	Highway 99W Sidewalk Infill	Construct sidewalks along both sides of Highway 99W between the north Urban Growth Boundary and the south Urban Growth Boundary.	Medium-Term

Project #	Project Name	Project Details	Priority
P3	Highway 99W Crosswalks	Add missing crosswalks at existing traffic signal locations on Highway 99W between Edy Road and Sunset Boulevard. The crosswalk enhancements may be phased individually with their corresponding intersection improvements (D16, D17, D31).	Short-Term
P4	Ice Age Tonquin Trail/Highway 99W Connection	Construct a shared use path that connects the proposed Cedar Creek/Tonquin Trail to Highway 99W.	Medium-Term
P5	10th Street Neighborhood Greenway	Add sidewalks and shared lane markings to 10th Street and Gleneagle Drive from Sherwood Boulevard to the planned Cedar Creek/Ice Age Tonquin Trail connection.	Medium-Term
P6	Sherwood Boulevard Improvements	Construct improvements to Sherwood Boulevard between Langer Drive and 3rd Street that are consistent with the Sherwood Town Center Plan. Major improvements include: a shared-use path on the east side, wider sidewalks on the west side, narrower travel lanes, and landscaping.	Short-Term
P12	Ice Age Tonquin Trail Segment 7	Implement Tonquin Trail Segment 7 improvements from immediately west of the Tonquin/Oregon Street intersection to immediately north of Park Street.	Short-Term
P14	Ice Age Tonquin Trail Segment 9	Implement Tonquin Trail Segment 9 improvements from immediately south of Highway 99W to Roy Rogers Road (including Roy Rogers intersection).	Short-Term
P16	Ice Age Tonquin Trail Segment 11	Implement Tonquin Trail Segment 11 improvements from immediately east of the Tonquin Road/Oregon Street intersection to immediately west of Cipole Road.	Medium-Term
P18	Cipole Road Sidewalk Infill	Construct sidewalk along the east side of Cipole Road from approximately 1,250 feet north of Tualatin-Sherwood Road to the existing sidewalk terminus approximately 450 feet north.	Medium-Term
P19	12th Street Sidewalk Infill	Construct sidewalk along the south side of 12th Street from Highway 99W to Sherwood Boulevard.	Short-Term
P20	Division Street Sidewalk Infill	Construct sidewalk along both sides of Division Street from Main Street to Cuthill Place.	Short-Term
P21	Meinecke Road Sidewalk Infill	Construct sidewalk along the north side of Meinecke Road from Lee Drive to the existing sidewalk terminus to the east (approximately 400 feet).	Medium-Term
P22	Pine Street Sidewalk Infill Segment 1	Construct sidewalk along the west side of Pine Street from Willamette Street to Columbia Street.	Medium-Term
P23	Pine Street Sidewalk Infill Segment 2	Construct sidewalk along the east side of Pine Street from Division Street to Sunset Boulevard, and fill the sidewalk gap along the west side of Pine Street just north of Sunset Boulevard.	Short-Term
P26	Highway 99W Grade Separated Crossing	Build a grade-separated crossing of Highway 99W for pedestrians and bicyclists, providing a direct connection for the Ice Age Tonquin Trail east and west of the highway.	Medium-Term
P30	Sunset Boulevard/St Charles Way Crossing Improvements	Install marked crosswalks at the Sunset Boulevard/St Charles Way intersection.	Medium-Term
P31	Sunset Boulevard/Redfern Drive Crossing Improvements	Install enhanced pedestrian crossing at the Sunset Boulevard/Redfern Drive intersection.	Medium-Term

Project #	Project Name	Project Details	Priority
P32	Sunset Boulevard/Galewood Drive Crossing Improvements	Install enhanced pedestrian crossing at the Sunset Boulevard/Galewood Drive intersection.	Medium-Term
P44	Oregon Street Sidewalk Infill	Construct sidewalk along the south side of Oregon Street between Hall Street and Orland Street.	Medium-Term
P45	Murdock Road Sidewalk Infill Segment 1	Construct sidewalk along the east side of Murdock Road from Willamette Street to Oregon Street.	Medium-Term
P47	Downtown Streetscapes Master Plan Phases 1 and 2 (Old Town Core)	Complete Phase 1 (Old Town Core) and Phase 2 (Cannery Arterials) of the Downtown Streetscapes Master Plan.	Medium-Term
P48	Downtown Streetscapes Master Plan Phase 3 (Old Town Secondary Streets)	Complete Phase 3 (Old Town Secondary Streets) of the Downtown Streetscapes Master Plan.	Short-Term
P49	Downtown Streetscapes Master Plan Phase 4 (Old Town Residential Neighborhoods)	Complete Phase 4 (Old Town Residential Neighborhoods) of the Downtown Streetscapes Master Plan.	Short-Term
Biking Projects (See Figure 13)			
B1	Murdock Shared-Use Path	Build a shared-use path along the west side of Murdock Road from Oregon Street to Upper Roy Street.	Medium-Term
B2	Meinecke Bike Lanes	Add bike lanes on Meinecke Road from Marshall Street to 3rd Street.	Short-Term
B5	Main Street Shared Lane Markings	Add shared lane markings to Main Street between 1st Street and Sherwood Boulevard.	Medium-Term
B6	Pine Street Shared Lane Markings	Add shared lane markings to Pine Street between 3rd Street and Sherwood Boulevard.	Medium-Term
B7	Borchers Bike Lanes	Build bike lanes on Borchers Road between Edy Road and Roy Rogers Road.	Short-Term
B8	3rd Street Shared Lane Markings	Add shared lane markings on 3rd Street from Washington Street to Sherwood Boulevard.	Medium-Term
B9	1st Street Shared Lane Markings	Add shared lane markings on 1st Street from Main Street to Pine Street.	Medium-Term
B10	Century Drive Shared-Use Path	Widen the sidewalk on the south/east side of Century Drive between Tualatin-Sherwood Road and the existing terminus to provide a shared-use path	Short-Term
B12	Old Highway 99W Shared-Use Path	Widen the sidewalk along the west side of Old Highway 99W between Timbrel Lane and Crooked River Lane to provide a shared-use path	Medium-Term
B13	Old Highway 99W Improvements Segment 2	Upgrade Old Highway 99W (from Crooked River Lane to Brookman Road) to a two lane collector with a shared use path on the west side and sidewalks on the east side.	Short-Term
B16	Baler Way Bike Lanes	Rebuild Baler Way to a collector between Century Drive and Tualatin-Sherwood Road to include bike lanes.	Short-Term
B17	12th Street Bike Lanes	Add bike lanes on 12th Street between Highway 99W and Sherwood Boulevard.	Short-Term

Project #	Project Name	Project Details	Priority
B18	Washington Street Shared Lane Markings	Add shared lane markings on Washington Street between 3rd Street and 1st Street.	Medium-Term
B19	Sunset Boulevard Bike Lanes	Add bike lanes on Sunset Boulevard between Aldergrove Avenue and Murdock Road	Medium-Term
Transit Projects			
T1	Provide Transit Amenities at Major Transit Stops	Provide Transit Amenities at Major Transit Stops.	Medium-Term
T2	Improve Pedestrian Connections to Transit Facilities	Improve Pedestrian Connections to Transit Facilities.	Short-Term
T3	Increase Density Adjacent to Transit	Increase Density Adjacent to Transit.	Short-Term
T5	Provide Local Service	Provide local service to enhanced regional service.	Medium-Term

Full project list (including aspiration projects) can be found in Volume 2, Section E
Projects may be constructed through private development

Aspirational Transportation System

The projects within the fundable plans will significantly improve Sherwood's transportation system. If the city is able to implement a majority of the Projected Fundable Plan, nearly two decades from now Sherwood residents will have access to a safer, more balanced multimodal transportation network.

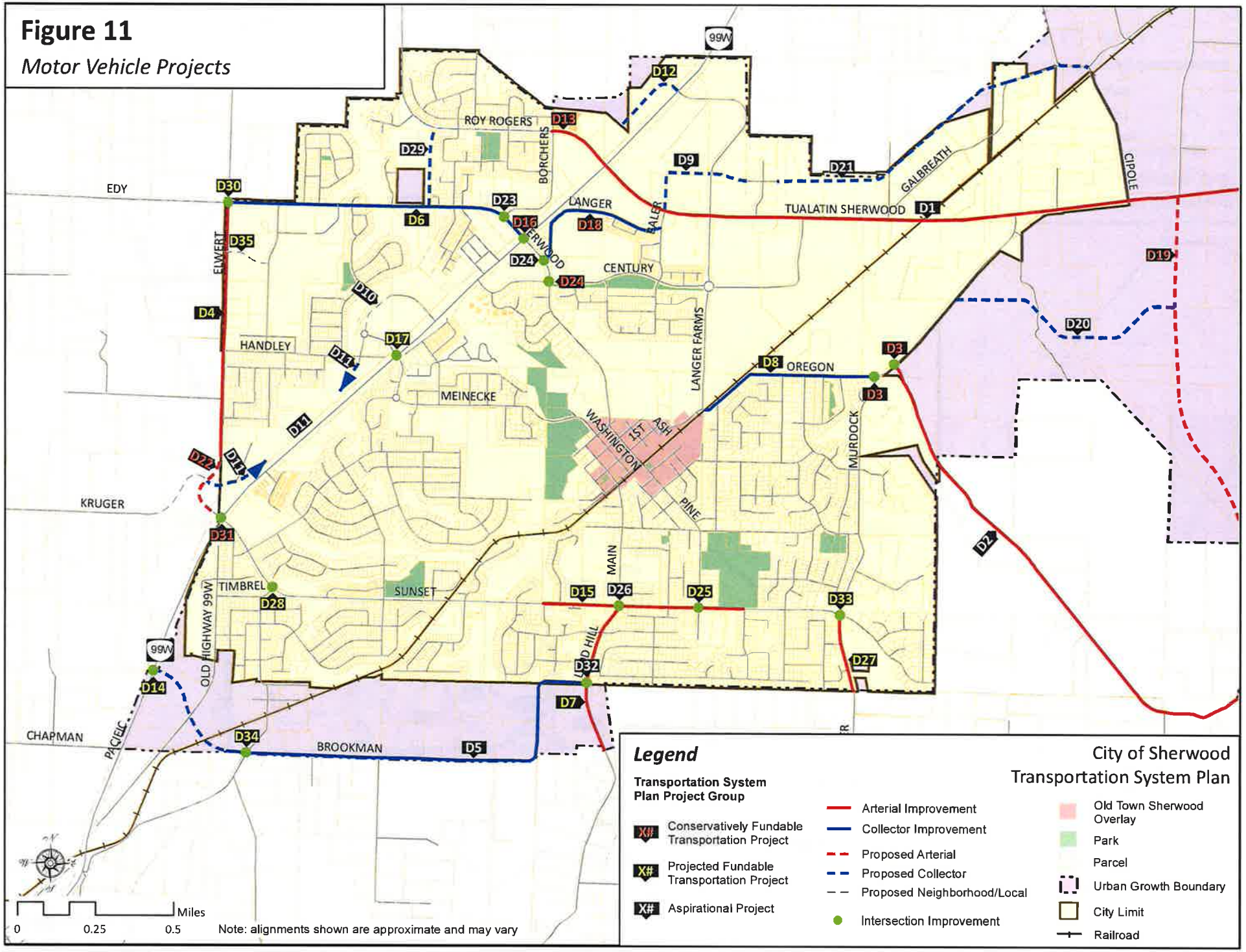
The Aspirational Transportation System identifies those transportation solutions that are not reasonably expected to be funded by 2035, but many of which are critically important to the transportation system. Some of the projects will require funding and resources beyond what is available in the time frame of this plan. Others are contingent upon redevelopment that makes it possible to create currently missing infrastructure, such as street connections.

The Aspirational Transportation System solutions are illustrated in Figures 12 to 14 and summarized in the TSP Volume 2, Section E. The Aspiration Transportation Plan includes about $111 million worth of investments. Planning level cost estimates for the projects can be found in Table A1 of the TSP Volume 2, Section E.

Transportation solutions within the Aspirational Transportation System, but not in a fundable plan, were recommended as long-term investments.

Figure 11

Motor Vehicle Projects



Legend

Transportation System Plan Project Group

- X# Conservatively Fundable Transportation Project
- X# Projected Fundable Transportation Project
- X# Aspirational Project

- Arterial Improvement
- Collector Improvement
- Proposed Arterial
- Proposed Collector
- Proposed Neighborhood/Local
- Intersection Improvement

City of Sherwood
Transportation System Plan

- Old Town Sherwood Overlay
- Park
- Parcel
- Urban Growth Boundary
- City Limit
- Railroad

Figure 12

Pedestrian Projects

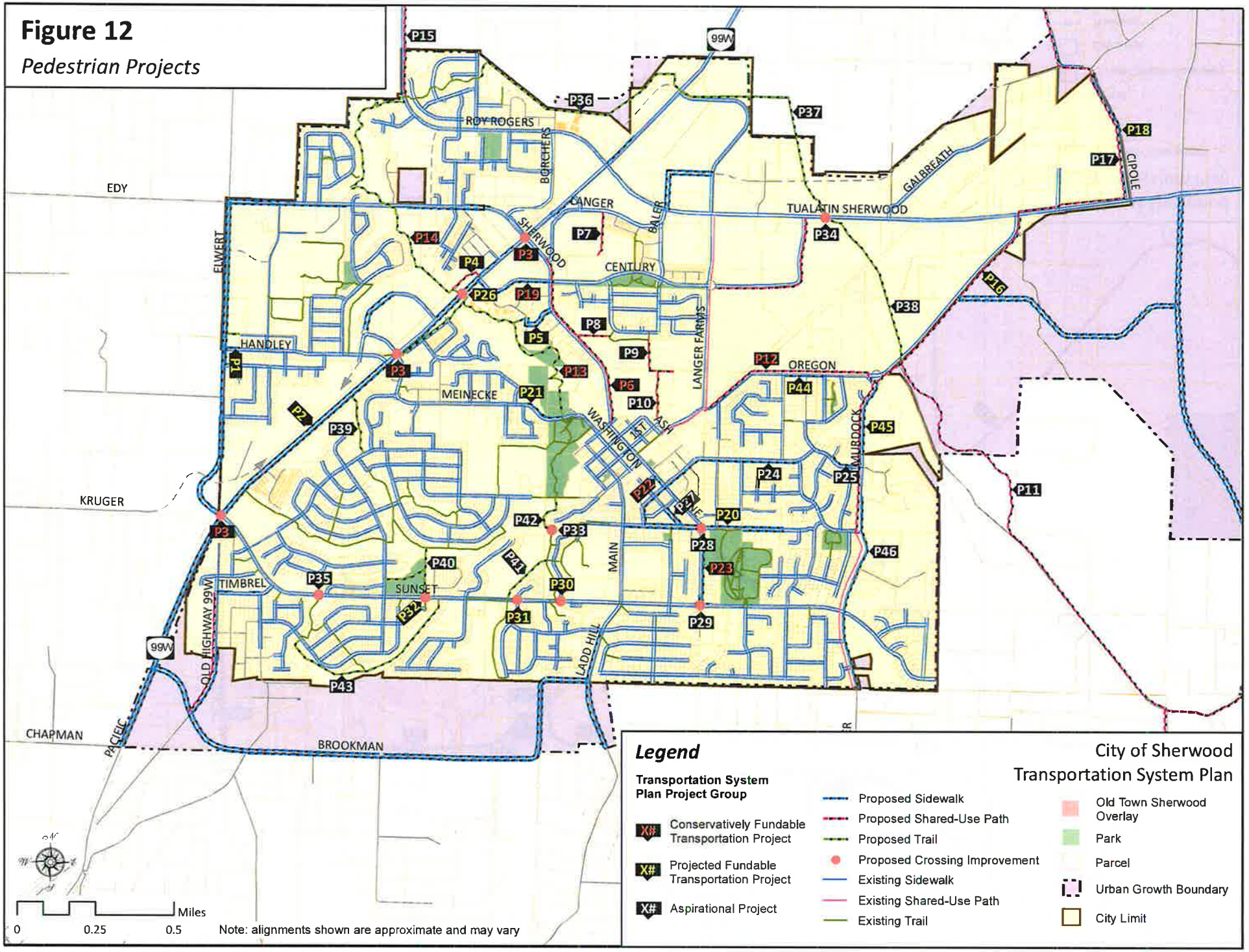
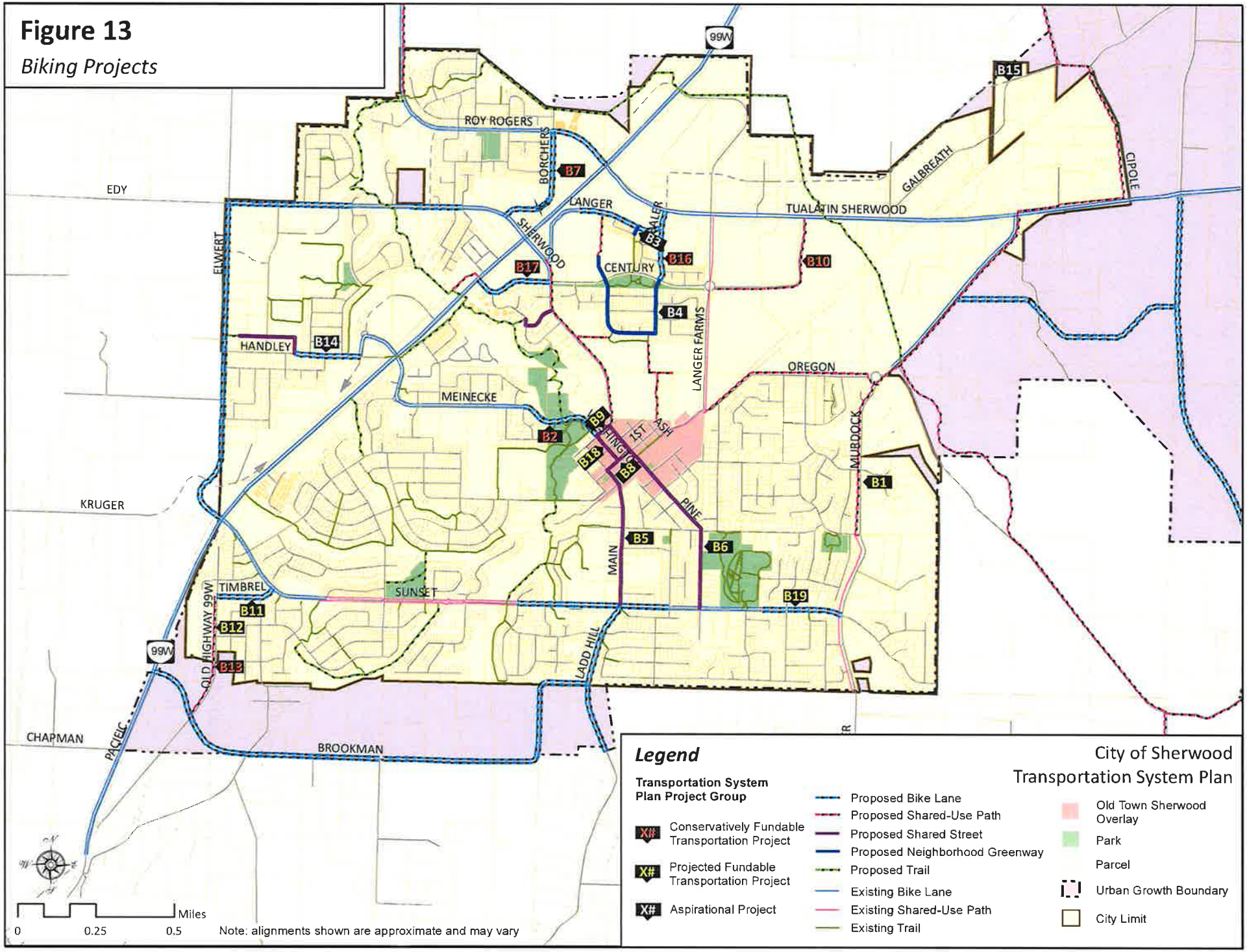


Figure 13

Biking Projects



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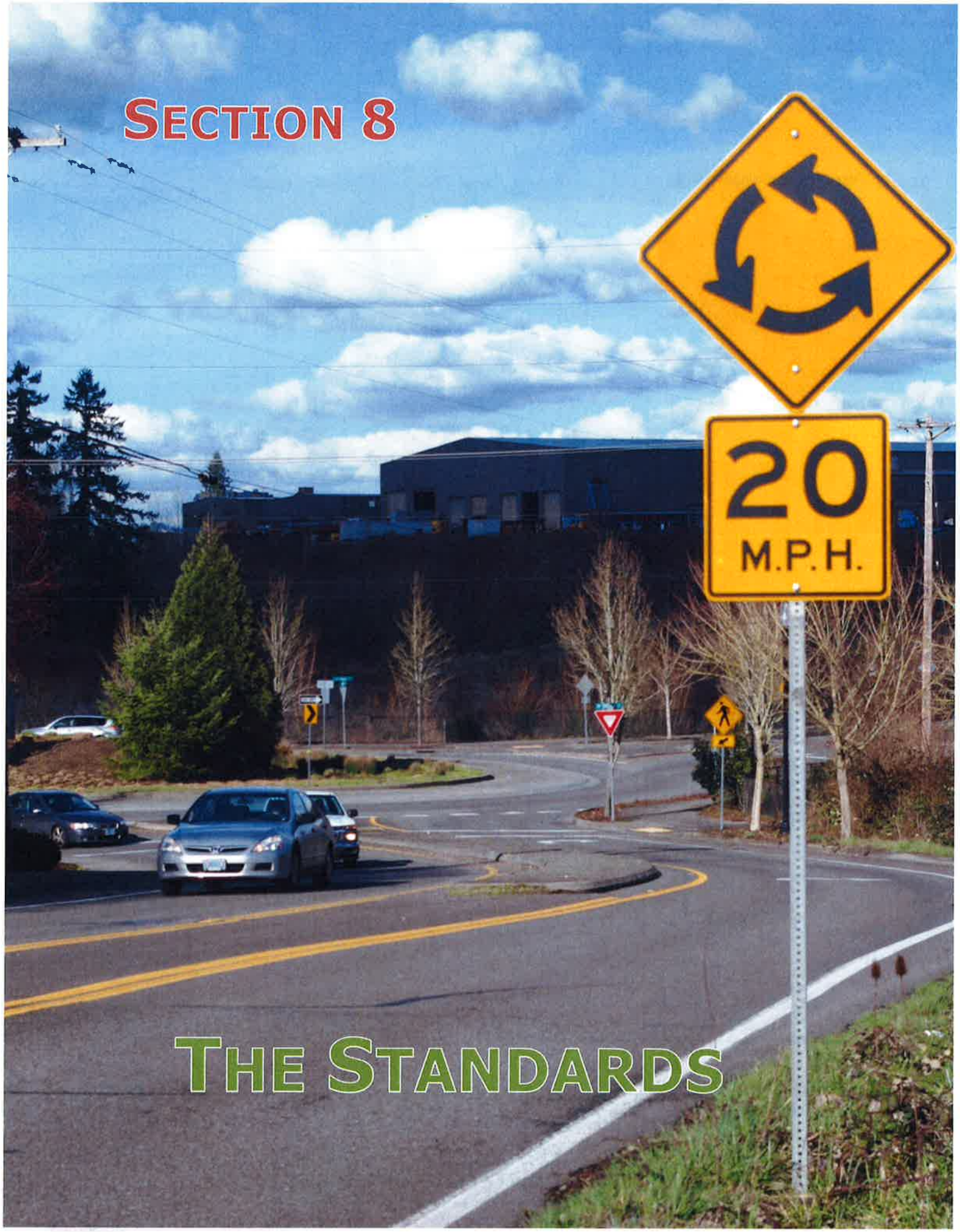

SECTION 8

THE STANDARDS

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Now that the vision and associated investments for transportation in Sherwood have been established, standards and regulations must be applied to ensure future development or redevelopment of property is consistent.

Functional Classification for Sherwood Streets

Roadway design typically focuses on the safety and flow of motor vehicle traffic. However some streets have other functions that might take precedent over vehicle mobility, such as ensuring sidewalks or bike facilities for vulnerable users like children or the elderly.

While the functional classification system is designed to serve transportation needs within the community, sometimes competing priorities can have opposing effects. For example, as access increases, the facility design dictates slower speeds, narrower travelways, and non-exclusive facilities. The goal of selecting functional classes for particular roadways is to provide a suitable balance to competing objects, which are depicted in Figure 14.

Figure 14 shows that as street classes progress from local to collector to arterial to freeway (top left corner to bottom right corner) the following occur:

- Mobility Increases
- Integration of Pedestrian and Bicycles Decreases
- Access Decreases
- Facility Design Standards Increase

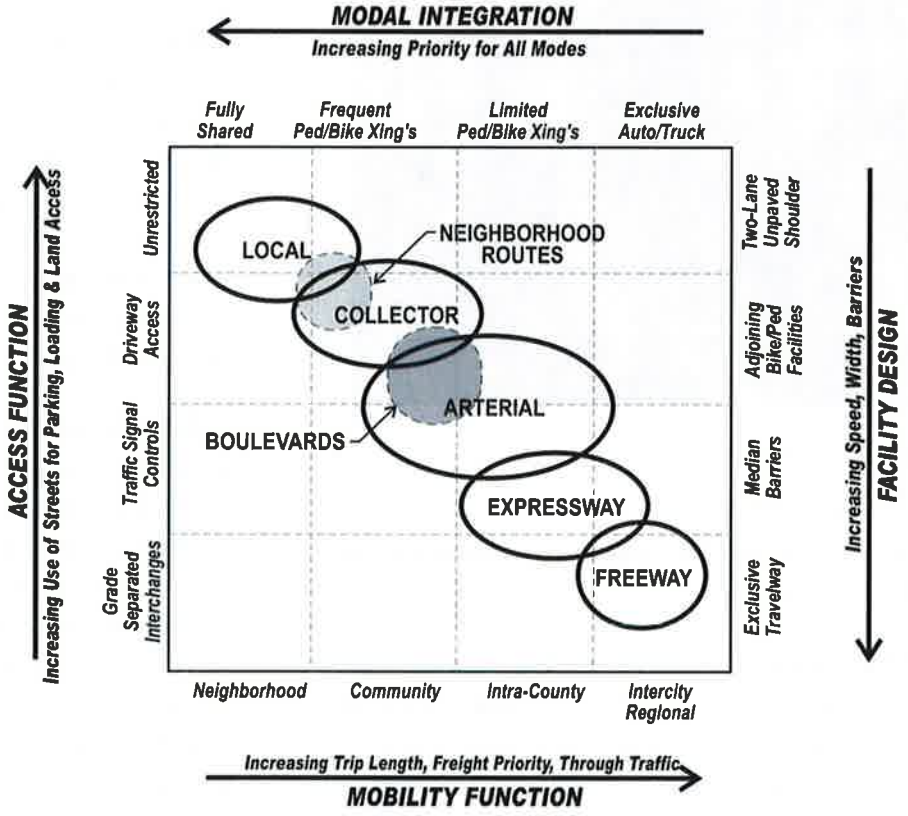


Figure 14: Functional Classification Matrix

The City of Sherwood links functional class to road design standards, and this has enabled the City to construct uniform high-quality improvements that were much needed with recent growth. However, the City also recognized that relying on this system has limitations. Functional classification has commonly been mistaken as a determinate for traffic volume, road size, urban design land use and various other features which collectively are the elements of a roadway but do not represent function. The factors can be outcomes of function, but do not define the function.

Functional Classification Designations

The types of roadways designated in Sherwood are described below.

Principal Arterials are typically freeways and state highways that are access controlled and provide the highest level of connectivity. These routes connect over the longest distance (sometimes miles long) and are less frequent than other arterials or collectors. These highways generally span several jurisdictions and many times have statewide importance (as defined in the State Highway Classification System). In Sherwood, OR 99W is the only route designated as a Statewide Highway. Tualatin-Sherwood Road is not designated in the State Highway Classification System.

Arterial streets serve to interconnect and support the principal arterial highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets for through traffic in lieu of a well place arterial route. Arterials are typically multiple miles in length and many connect to cities surrounding Sherwood.

Collector streets provide both access and circulation within and between residential and commercial/ industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function, do not require as extensive control of access (compared to arterials), and penetrate residential neighborhoods, distributing trips from the neighborhood and local street system. Collectors are typically greater than 0.5 to 1.0 miles in length.

Neighborhood routes are usually long relative to local streets and provide connectivity to collectors or arterials. Because neighborhood routes have greater connectivity, they general have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/ large area circulation. Traffic from cul-de-sacs and other local streets may drain onto neighborhood routes to gain access to collectors or arterials. Because traffic needs are greater than a

local street, certain measures should be considered to retain neighborhood character and livability of these routes.

Neighborhood traffic management measures are often appropriate (including devices such as speed humps, traffic circles and other devices). However, it should not be construed that neighborhood routes automatically get speed humps or any other measures. While these routes have special needs, neighborhood traffic management is only one means of retaining neighborhood character and vitality.

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

Characteristics of Streets for each Functional Classification

The design characteristics of streets in Sherwood were developed to meet the function and demand for each facility type. Because the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, the objective was to define a system that allows standardization of key characteristics to provide consistency, but also to provide criteria for application that provides some flexibility, while meeting standards.

Under some conditions a variance to the adopted street cross-section may be requested from the City Engineer. Typical conditions that may warrant consideration of a variance include—but are not limited to—the following:

- Infill sites
- Innovative designs (such as shared streets known as "woonerfs")
- Severe topographic constraints
- Existing developments and/or buildings that make it extremely difficult or impossible to meet the design standards

The street cross sections for each facility type in the city can be found in the city's *Engineering Design and Standard Details Manual*[7]. Streets under ODOT control (OR 99W) are subject to the design criteria in the Oregon Highway Plan and Highway Design Manual. Streets under Washington County's control are subject to County design standards.

[7] *Engineering Design and Standard Details Manual,* Adopted July 1, 2009.

Functional Classification Changes

Figure 16 shows the street functional classification system in the city, including changes made to the existing functional classification. Changes made to the functional classification system are discussed in Table 2.

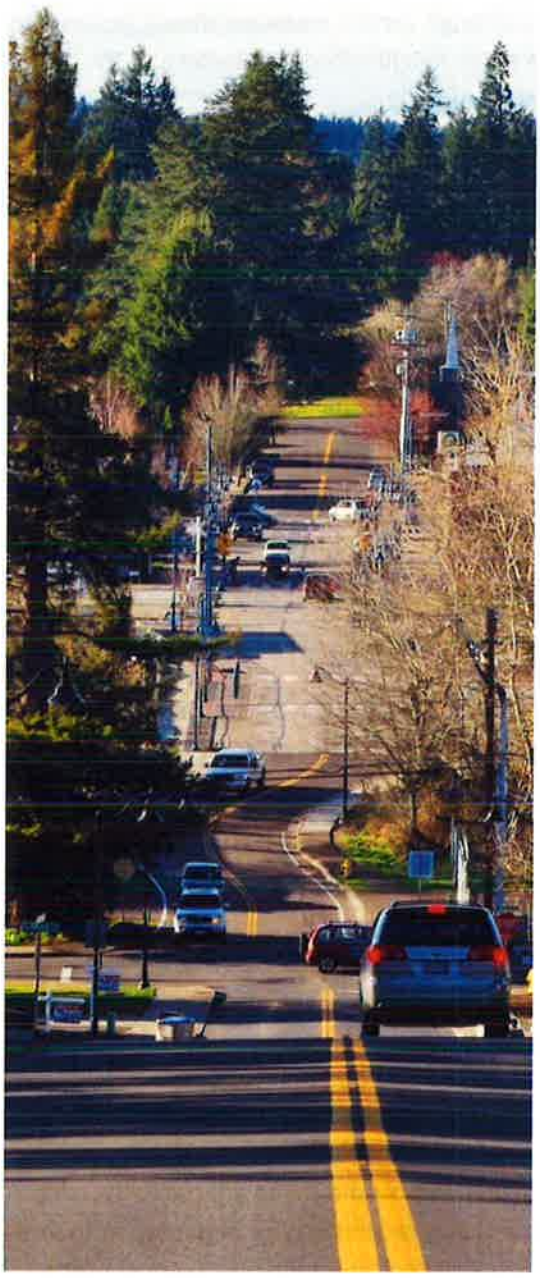
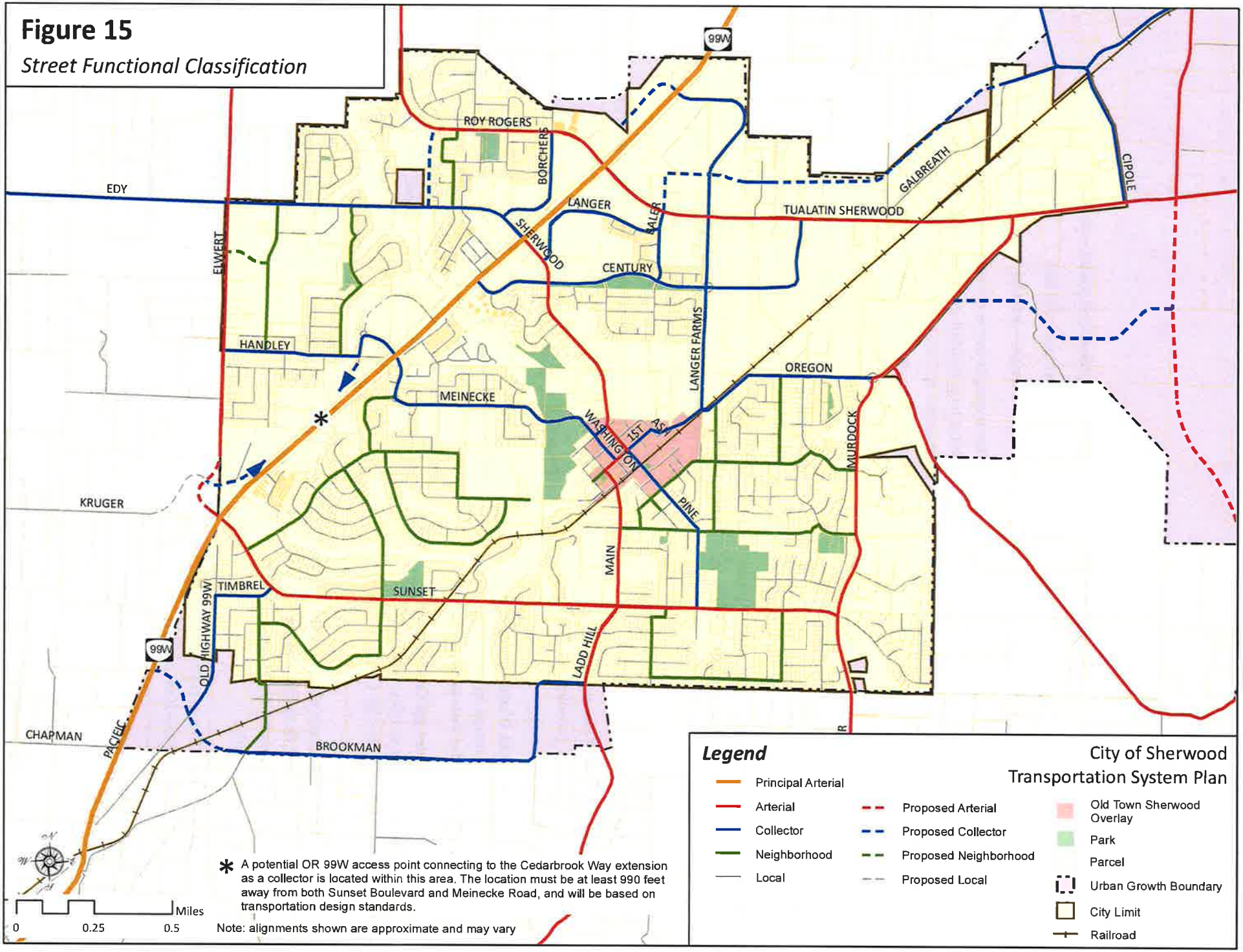


Table 2: Functional Classification Changes

Street	Existing Class	Proposed Class	Comment
Gerda Lane	Collector	Local	The future Herman Road extension will replace Gerda Lane/Galbreath Drive as the collector facility in the area
Galbreath Drive	Collector	Local	The future Herman Road extension will replace Gerda Lane/Galbreath Drive as the collector facility in the area
Herman Road	Local	Collector	Herman Road will be rebuilt as a collector and extended west as part of the I-5 to 99W Connector project
Baler Way (between Langer Drive and Century Drive)	Local	Collector	Removal of the signal at Sherwood Boulevard/Langer Drive will shift demand to Century Drive and Baler Way

Figure 15

Street Functional Classification



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 the individual destination. ODOT and Washington County have clear access management policies and the supporting documentation to ensure that the highway system is managed as wisely as possible for the traveling public.

Access management is control or limiting of access on arterial and collector facilities to preserve their functional capacity. Several access management strategies that have been developed in prior plans are noted below to improve access and mobility in Sherwood:

- Provide left turn lanes where warranted for access onto cross streets
- Work with land use development applications to consolidate driveways where feasible
- Meet ODOT and Washington County access requirements on arterials and collectors under their jurisdiction
- For streets under the City's control, implement the spacing standards established in the *City Code*[8]

Sherwood's minimum access spacing standards on locally owned streets are designated in the *City Code*[9] (which takes precedence) and are listed in the TSP for reference purposes only:

- Local streets – 10 feet from the point of curvature or 25 feet if no radius exists
- Neighborhood routes – 50 feet
- Collectors – 100 feet
- Arterials – 600 feet

Access management is not easy to implement and requires long institutional memory of the impacts of short access spacing – increased collisions, reduced capacity, poor sight distance and greater pedestrian exposure to vehicle conflicts. Many of the pre-existing driveways that do not meet access spacing requirements were put in when traffic volumes were substantially lower and no access spacing criteria were mandated. With higher and higher traffic volume in the future, the need for access control on all arterial roadways is critical – the outcome of not managing access properly is inefficient roadways with poor mobility, which leads to building additional wider roadways to compensate for the mobility inefficiency (which then have much greater impact than access control).

Traffic Calming

Traffic calming refers to street design techniques used to create safer, slower residential and mixed-use streets to mitigate the impacts of motor vehicle traffic volume and speed in neighborhoods and business districts where a greater balance between safety and mobility is needed. Traffic calming 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

[8] Sherwood Municipal Code, Section 16.106.040.M.2.

[9] Ibid.

- Deflecting the vehicle path horizontally with chicanes, roundabouts, and traffic circles

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

Determining the appropriate traffic calming technique will require careful thought as well as coordination with TVFR as each situation is unique and there is no standard solution. Section F in Volume 2 of the TSP provides a complete list of traffic calming techniques and their applicability to assist in the decision-making process.

Local Street Connectivity

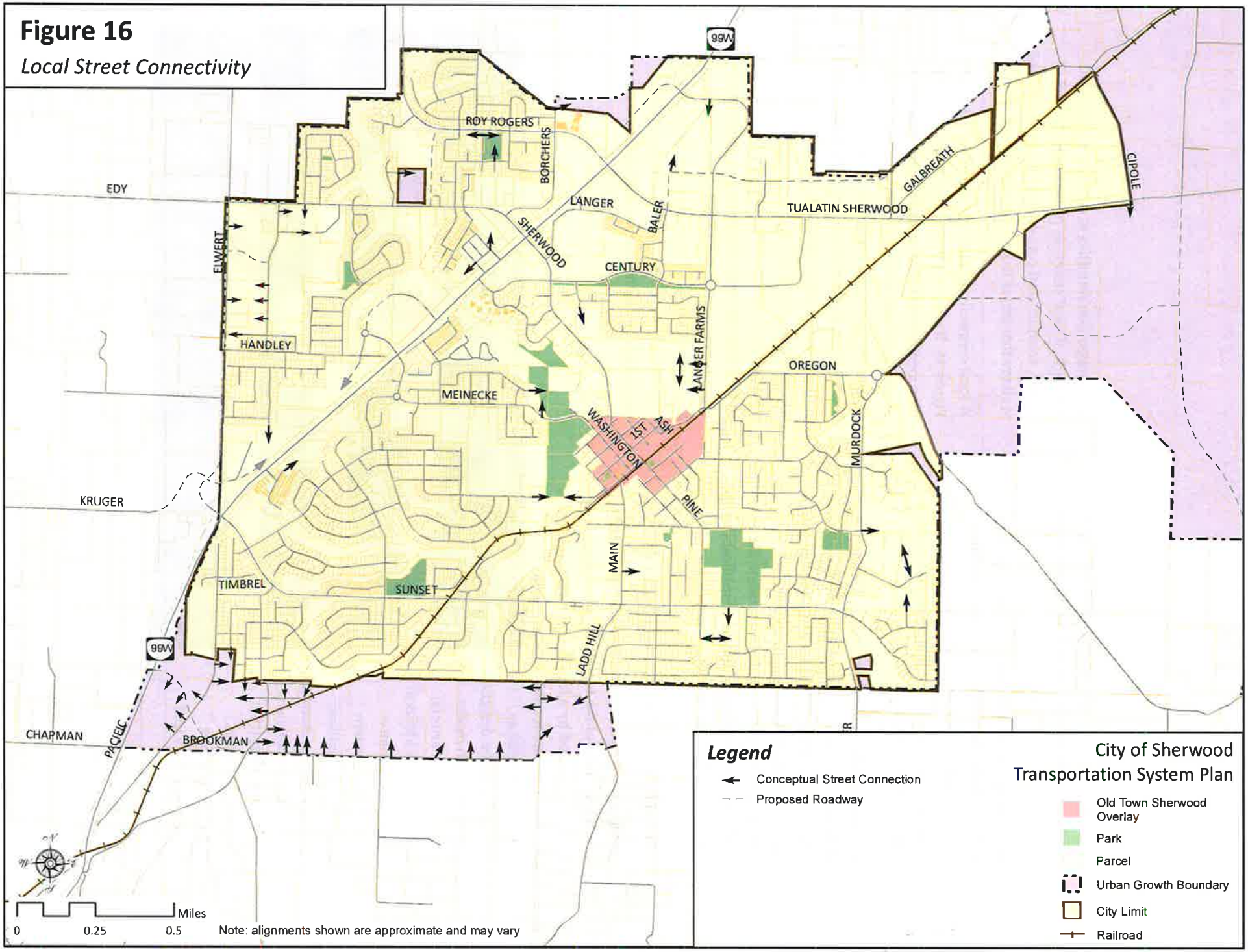
The aggregate effect of local street design impacts the effectiveness of the regional system when local travel is restricted by a lack of connecting routes, and local trips are forced onto the regional network[10]. Therefore, streets should be designed to keep through motor vehicle trips on arterial streets and provide local trips with alternative routes. Street system connectivity is critical because roadway networks provide the backbone for bicycle and pedestrian travel in the region. Metro's local street connectivity principal encourages communities to develop a connected network of local streets to provide a high level of access, comfort, and convenience for bicyclists and walkers that travel to and among centers.

A local connectivity plan for Sherwood is shown in Figure 16. It specifies the general location where new local streets could potentially be installed as nearby areas are developed or as the opportunity arises. The conceptual locations shown consider block length and access spacing requirements but do not necessarily reflect develop-ability due to topographic, environmental or manmade constraints. Locations identified are conceptual and must still go through city review to determine the appropriate location for a local street connection, if any, in the vicinity. The purpose of the plan is to ensure that new developments accommodate circulation between adjacent neighborhoods to improve connectivity for all modes of transportation.

[10] Metro 2035 Regional Transportation Plan, Local Street Network Concept.

Figure 16

Local Street Connectivity



Mobility Targets

Establishing new mobility targets for intersections in Sherwood will help encourage a sustainable transportation system by providing a metric to assess the impacts of new development on the existing transportation system. Two mobility targets that are commonly used by agencies include level of service (LOS) or volume-to-capacity (V/C) ratios.

- LOS – A "report card" rating (grade A through F) based on the average vehicle delay
- V/C – A ratio of how much available use or "how much of the pipe" is being used for a roadway or intersection. Values range from 0 to 1.0 in actual conditions but are sometimes expressed over 1.0 for projected conditions (where traffic demand or the amount that wants to use the system exceeds what can really fit in the system)

Metro requires that agencies do not adopt mobility standards that are more restrictive (lower level of service or volume to capacity ratio) than the regional standard, on facilities where the regional standards apply. In addition, facilities that are under the jurisdiction of ODOT or Washington County would have precedence over the City standard. However, for remaining transportation facilities in Sherwood under the City's jurisdiction, the local City standard would apply.

The mobility standards should be applied based on facility type and location in the following manner and precedence:

- Regional - For all streets designated on the Arterial and Throughway Network in the Metro Regional Transportation Plan[11], intersections should comply with the mobility targets included in the Regional Transportation Functional Plan (RTFP)[12].
  - All streets within the Sherwood Town Center boundary (1.1 v/c in the highest p.m. peak hour and 0.99 v/c in the second hour).
  - All streets not in the Town Center, but on the Arterial and Throughway Network (0.99 v/c in both the highest and second hour in the p.m. peak hour). These streets include Tualatin-Sherwood Road, Roy Rogers Road, Tonquin Road, Sunset Boulevard, Murdock Road, Oregon Street (east of Murdock Road), Elwert Road, Main Street, and Ladd Hill Road.

[11] 2035 Regional Transportation Plan, Metro, June 2010.

[12] Regional Transportation Functional Plan, Chapter 3.08, Metro, Effective August 2010.

- Other Agency - For county-owned streets not on the Arterial and Throughway Network and not within the Town Center, intersections should comply with the Washington County TSP[13] (0.99 v/c in the highest hour in the p.m. peak and 0.90 in the second hour). Most county facilities are on the Arterial and Throughway Network, however. ODOT controlled streets (OR 99W) outside the Town Center should meet the appropriate mobility target designated in the Oregon Highway Plan[14] (currently 0.99 v/c for OR 99W outside the Town Center in both the highest and second hour in the p.m. peak).
- For city-owned streets not on the Arterial and Throughway Network and not within the Town Center, intersections should comply with Sherwood's standard. The City standard for signalized, all way stop, or roundabout intersections is level of service D or a volume to capacity ratio equal to or less than 0.90. The standard for unsignalized two way stop control intersections is level of service D or a volume to capacity ratio equal to or less than 0.90. Mobility should be evaluated by methods approved by the City Engineering Department (e.g., Highway Capacity Manual or Sidra). For all intersections, level of service performance would first be assessed and if it is not met the v/c target would be considered. Information for both measures should be provided with traffic studies for the consideration of City staff review.

[13] Washington County 2020 Transportation System Plan, Washington County, November 2003.

[14] 1999 Oregon Highway Plan, OHP Policy 1F Revision, ODOT, Adopted December 2011.

Truck Routes

Truck routes are designated in Sherwood to ensure trucks can efficiently travel through and access major destinations in the city. 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 maintaining neighborhood livability, public safety, and minimizing maintenance costs of the roadway system.

Truck routes should provide mobility for freight movement and therefor are generally located on facilities that are classified as mobility-focused corridors (collectors and arterials). These facilities typically include design elements (such as managed access and sufficient lane width) to accommodate trucks. Such design and signing to identify these routes will help maintain freight movement and keep through trucks off of the local street system.

Washington County identifies through truck routes in the Sherwood area as OR 99W and Tualatin-Sherwood Road-Roy Rogers Road, as shown in Figure 17. In addition, ODOT has several designations for OR 99W (a Statewide facility) related to mobility and goods movement, including:

- National Highway System
- National Network
- Freight Route
- Reduction Review Route

These designations can limit reductions to vehicle-carrying capacity and (under the Reduction Review Route designation) subjects proposed reductions to review (ORS 366.215).

Washington County is currently in the process of updating their TSP, which is proposing the 124th Avenue extension as a truck route. This route would connect Tualatin-Sherwood Road with Tonquin Road and Grahams Ferry Road.

Transportation System Management & 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. The Sherwood TSMO plan incorporates planned improvements and strategies detailed in the Metro Regional TSMO Plan[15].

Transportation System Management

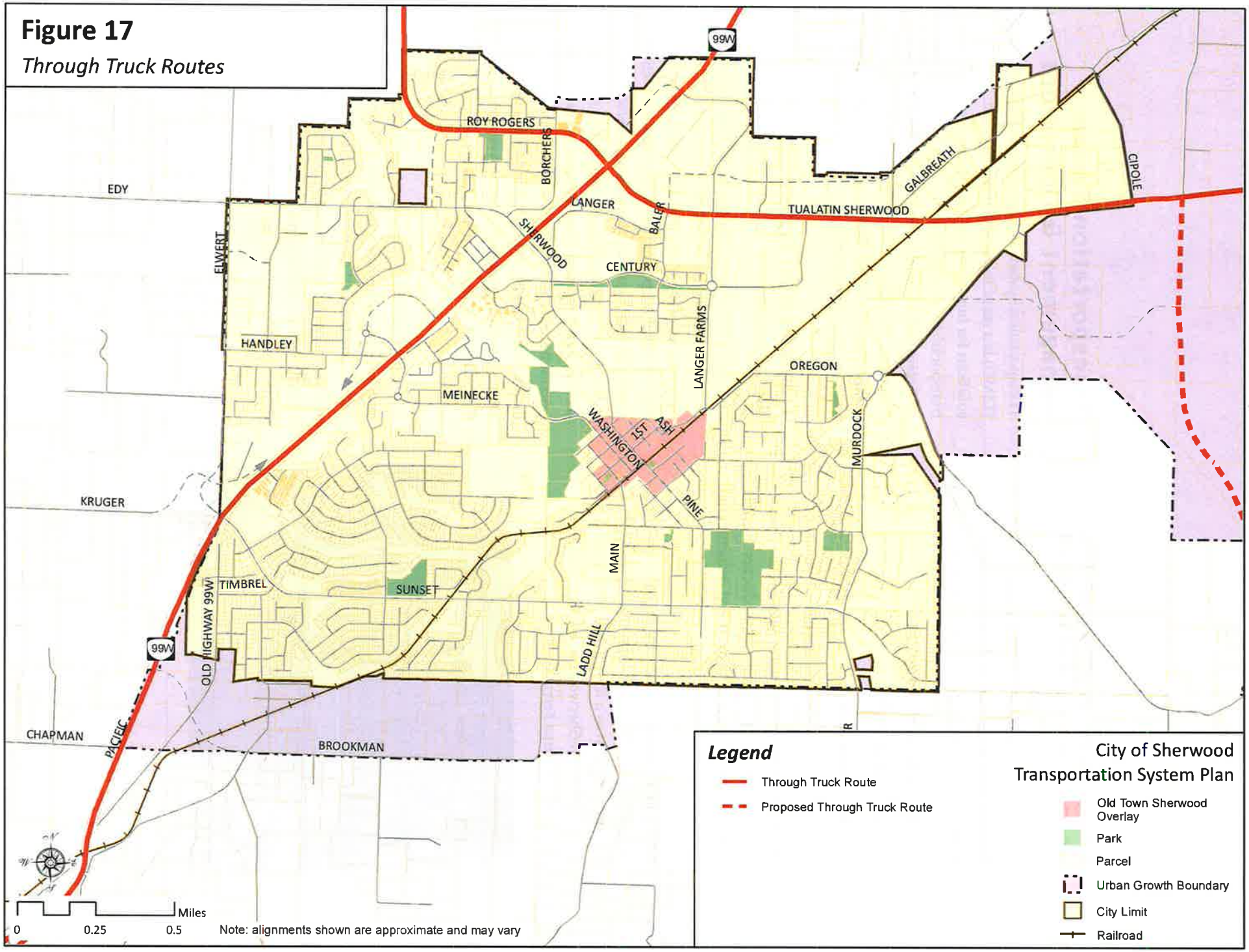
Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system. Measures that can optimize performance of the transportation system include signal improvements, intersection channelization, access management (noted in prior section), 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.

In developing a set of improvements for Sherwood's motor vehicle system, the TSP took a TSM approach, prioritizing low cost improvements that provide significant operational and safety benefits. These projects include traffic signal modifications, traffic control enhancements, or additional turn lanes.

[15] 2010 – 2020 Regional Transportation System Management and Operations Plan, Metro, June 2010.

Figure 17

Through Truck Routes



Transportation Demand Management

Transportation Demand Management (TDM) solutions encourage travelers to choose alternatives to driving alone in their car by providing services, incentives, supportive infrastructure and awareness of travel options. These strategies improve the performance of the existing system by having fewer vehicles on the roadway system.

State and regional policy both call for encouraging and promoting transportation demand management. The policy of this plan calls for the city to support TDM. Unlike the motor vehicle, pedestrian, and biking projects, implementation of this policy does not require capital infrastructure. The TDM plan for Sherwood consists of:

- Support efforts by Washington County, Metro and ODOT to develop productive TDM measures that reduce commuter vehicle miles and peak hour trips. The City currently requires preferential carpool parking for new development with at least twenty employees.
- Encourage the development of high speed communication in all parts of the city (e.g., fiber optic). The objective would be to allow employers and residents the maximum opportunity to rely upon other systems for conducting business and activities than the transportation system during peak periods. Fiber optic broadband is currently provided through much of the city.
- Encourage developments that effectively mix land uses to reduce vehicle trips. These plans may include development of linkages (particularly non-auto) that support greater use of alternative modes. Mixed land use projects have demonstrated the ability to reduce vehicle trips by capturing internal trips between land use types, encouraging walk/bike trips and producing shorter vehicle trips.

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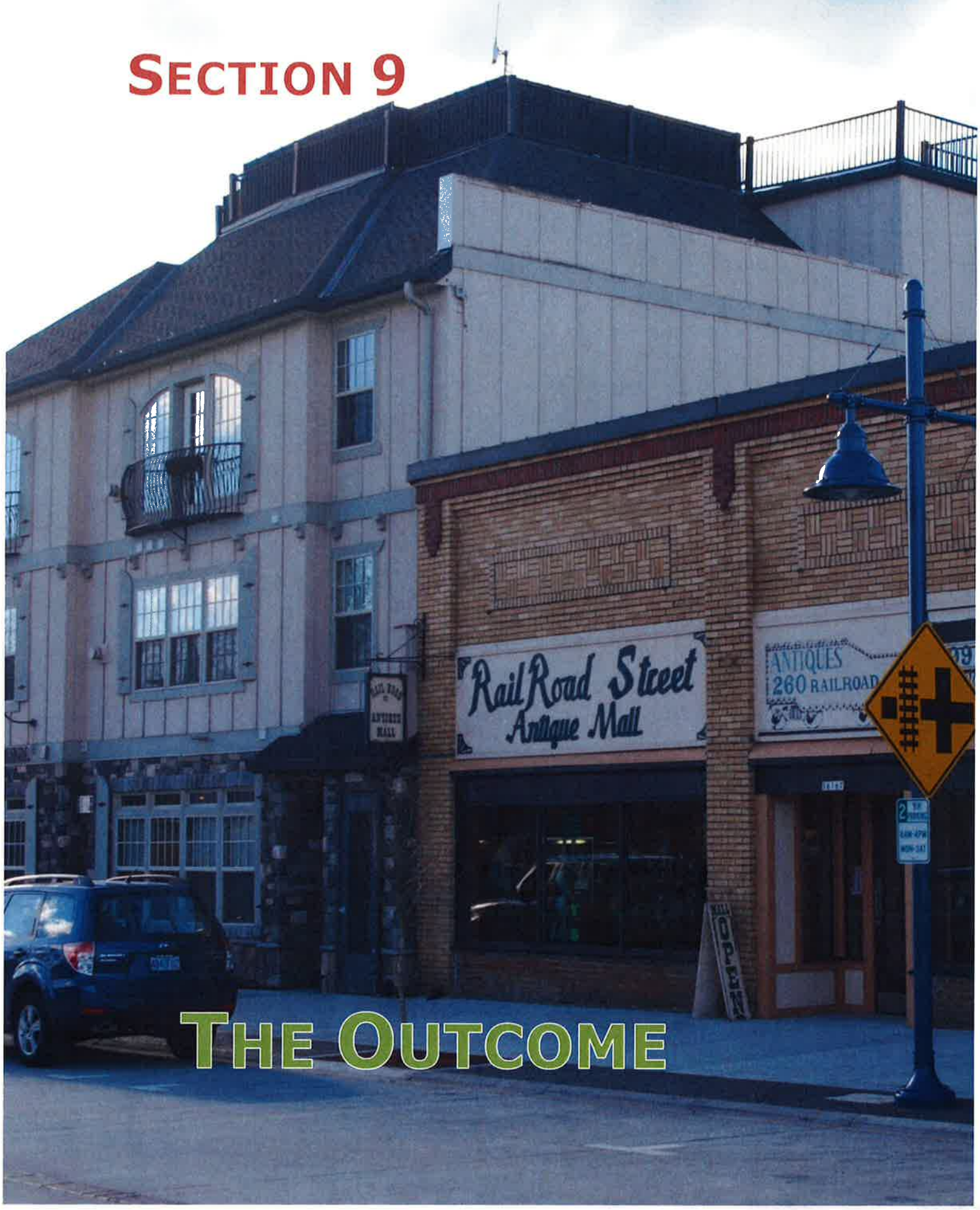
Section 9



The Outcome

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The Sherwood TSP employs a performance based approach, focusing on measurable outcomes of investments to the transportation system. The approach allows the City to measure the degree to which its investments support regional and city-wide priorities. In this manner, the City is able to track how its investment decisions impact a set of performance objectives through 2035. While the performance objectives do not represent the complete picture, they do offer a baseline against which to assess how the policies, investments, and planning decisions made in this plan may affect the future.

Tracking Performance of Transportation System Investments

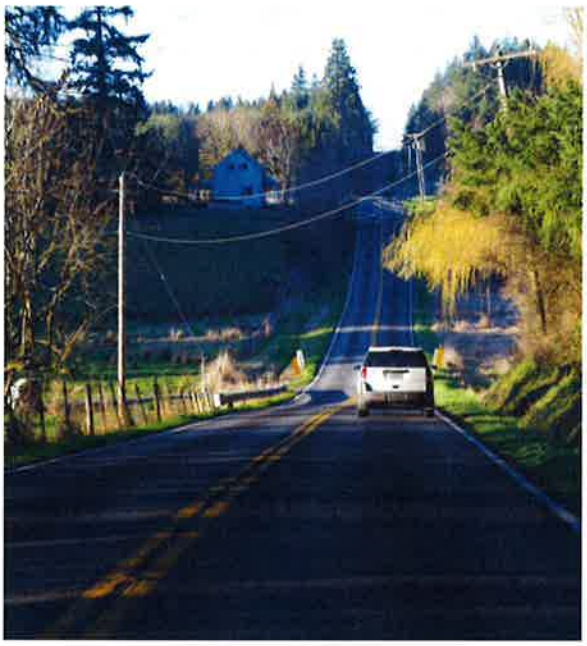
The Metro 2035 Regional Transportation Plan (RTP)[16] identifies performance targets for the Portland Metropolitan region to work towards a multi-modal transportation system that meets the goals and objectives of the regional plan. These measures focus on "high level" area-wide trends based on overall strategies, rather than focusing on minute details of specific locations (such as an individual property or intersection). The intent of these measures is to determine if local agency planning efforts are consistent with making progress towards the overall regional strategies related to transportation and the region's vision for the future. The performance measures include:

Economy

- **Safety:** Reduce fatalities and serious injuries by 50 percent.
- **Congestion:** Reduce vehicle hours of delay (VHD) per person by 10 percent, and work towards meeting intersection mobility targets.
- **Freight Reliability:** Reduce delay for truck trips by 10 percent.

Environment

- **Travel:** Reduce the vehicle miles traveled (VMT) per person by 10 percent.
- **Active Transportation:** Work towards achieving the non-single occupant vehicle (SOV) mode share targets.



[16] 2035 Regional Transportation Plan, Metro, June 2010.

Putting the Plan to the Test

To understand how the investment decisions of the TSP (the projected funding of $60 million worth of projects), improve the performance of the transportation network in Sherwood, the plan's transportation system improvements were evaluated against the performance measures to determine long-term trends through 2035. The results of the individual measures are presented in the following sections.

> *Overall, Sherwood meets or is making progress towards meeting each of the performance requirements of the RTFP and is therefore consistent with regional planning requirements and the RTFP.*

Collision Severity is Expected to Remain Low

Over the past five years of available collision data (between 2008 and 2012), there have been zero fatalities and ten serious injury-collisions within the City, averaging two serious injury-collisions a year. This equates to 1.5% of the collisions involving a serious injury. With investments in improved street crossings, multimodal facilities, and improvements to high collision locations, the severity of collisions in the city is expected to remain low.

Progress is expected to be made towards Mitigating Future Congestion

Regional strategies that focus on low-cost improvements to better manage existing transportation infrastructure will allow a better return on investment for capital expenses. The transportation system management and operations projects (which include intersection traffic control and intersection lane geometry) have relatively lower impact and lower cost than corridor widening projects, yet can provide efficiency benefits by targeting system bottlenecks (which typically are located at intersections).

Vehicle Hours of Delay (VHD): The RTP objective envisions decreasing delay by approximately ten percent through 2035 (measured from an existing year point of 440 VHD in the evening peak hour). However, without transportation improvements beyond those that already have committed funding, the future trend for delay along Sherwood streets during the evening peak hour is expected to increase. The VHD is projected to triple (1,420 VHD) by year 2035 without additional investments to the transportation system, which is largely due to the rapid growth expected in the Sherwood area, including the urban reserves.

With the $60 million worth of planned transportation investments, the total VHD during the evening peak hour would decrease to 1,250 VHD. This reduction would not meet the overall target due to funding limitations, however it would present progress towards the targets and an improvement over the conditions that would exist without the planned projects. Figure 20 shows projected levels of delay with projected funding levels of $60 million.

Intersection Mobility: Following a similar trend to the overall system VHD, intersection mobility would make progress towards improvement for year 2035 conditions with the additional investments. The motor vehicle project list focused on improving system efficiency through TSMO projects, which include intersection traffic control and lane channelization at several locations. Intersections that would require additional

improvements beyond the projected $60 funding package are primarily located along Roy Rogers Road and Tualatin Sherwood Road, where intersection management options would be exhausted and additional corridor widening would be needed.

Progress is Expected to be made Towards Reducing Freight Delay

Like the overall system VHD, progress for reducing delay along freight routes is projected to occur with the projected $60 million funding package. Total delay (VHD) in year 2035 along the freight corridors (Highway 99W, Roy Rogers Road, and Tualatin-Sherwood Road) is projected to decrease from 870 VHD with only the committed investments to 780 VHD (a 10% reduction) with the projected funding package. While this is an increase from present levels (estimated at 240 VHD), this represents improved progress towards meeting the target. In addition, widening the Tualatin-Sherwood Road and Roy Rogers Road arterial corridors to five lanes would make significant strides in reducing freight delay in Sherwood.

Motor Vehicle Travel is Expected to Outperform the Travel Target

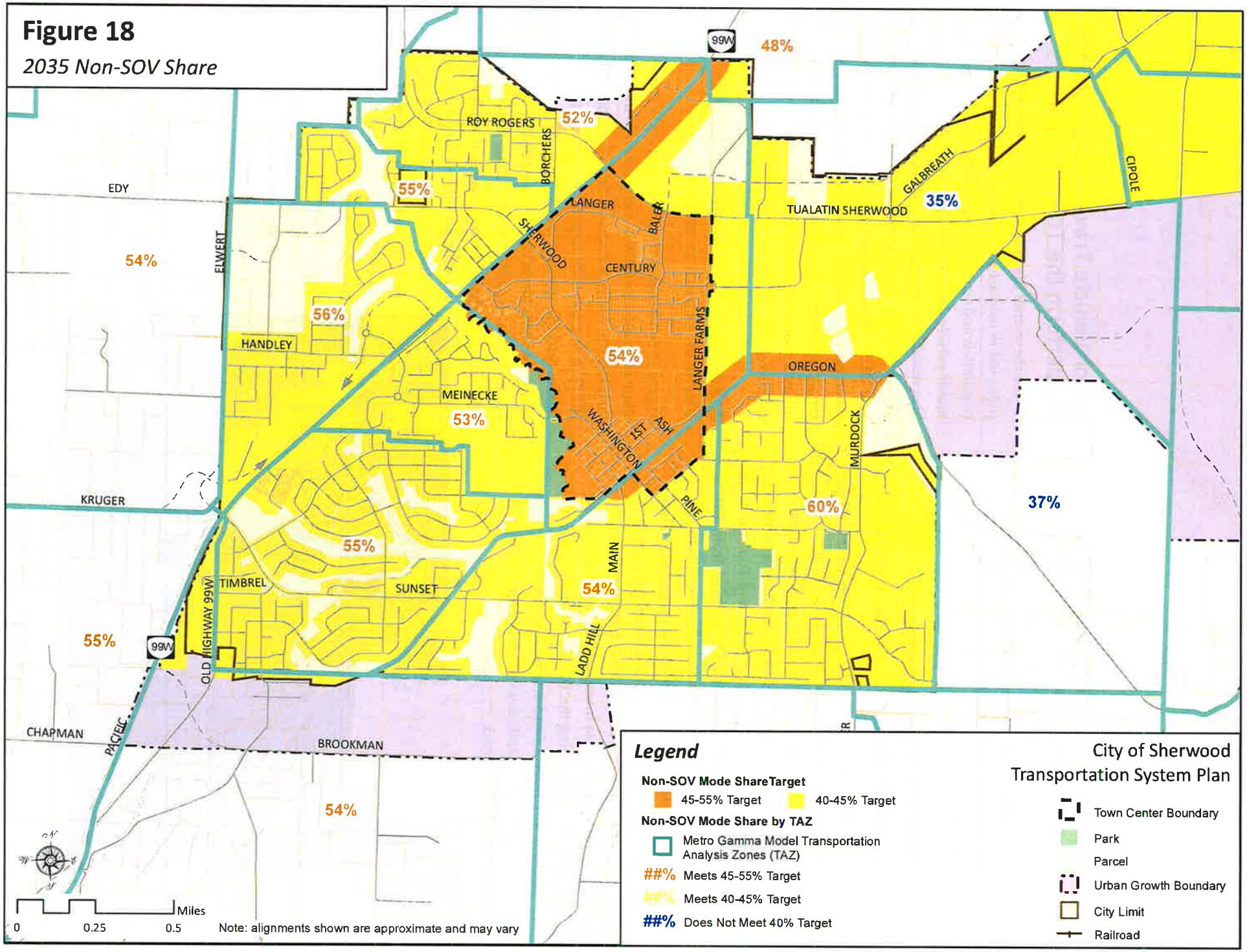
While the overall distance traveled by vehicles is projected to increase in the future along with future population and employment growth, the average motor vehicle distance traveled per person in Sherwood is projected to decrease from 1.4 vehicle miles traveled (VMT) / capita to 1.3 VMT/capita in year 2035. This decrease represents a reduction of seven percent, which nearly meets the ten percent target. In general, this decrease is consistent with Metro's goals related to reducing reliance on the motor vehicle.

A Reduction in Single Occupant Vehicle Travel is expected

Figure 18 summarizes the level of non-SOV mode share estimated for 2035 in comparison to the modal targets set in Metro's Regional Transportation Plan (RTP). These non-SOV targets are aggregated by design type groupings and colored in Figure 2 as orange (45-55% target) and yellow (40-45% target). For each area, the 2035 non-SOV share is listed. The 2035 non-SOV share for each zone is also colored to indicate the highest target that is satisfied (orange for 45-55% target, and yellow for 40-45% target). Based on the model data, it appears that the targets are typically achieved for the western areas but not met for areas east of Langer Farms Parkway. As these areas develop, a continued focus on multimodal amenities and availability of travel options may further reduce the reliance on SOV.

Figure 18

2035 Non-SOV Share



Areas for further Refinement

In addition to the investment decisions of the 2014 Sherwood TSP, several areas have been identified through the TSP Update process that will need to be explored through 2035 and beyond. These items have been identified as requiring more attention and detail beyond the scope of a local TSP effort and/or the greater involvement and coordination with other stakeholders or agencies

Function and Design of Brookman Road

Brookman Road is a rural corridor that sits on the southern edge of the Urban Growth Boundary (UGB). Through the Brookman Addition Concept Plan, it was identified that the road was needed to provide access to areas south of Sunset Road. The I-5 to 99W Connector project had conceptually identified the "Southern Arterial" as the primary east-west mobility route through the area, with an alignment along or just south of Brookman Road. Since the time of those planning efforts, additional planning efforts in the Basalt Creek area have refined the eastern portion of the "Southern Arterial". To establish additional clarity about the western portion of the facility, a coordinated multiagency effort is needed to determine the future function and general capacity and design needs for Brookman Road and the Southern Arterial. These efforts will help ensure that appropriate right of way can be reserved as the area is urbanized while providing accessibility to future development. Consistent with the Brookman Plan, an interim project in the TSP is included that identifies Brookman Road as a three-lane collector with right of way preservation for a potential five-lane arterial in the event that future refinement planning efforts identify the Brookman Road corridor as the appropriate location for the Southern Arterial.

Highway 99W Cross-Sections

The cross section for Highway 99W through Sherwood currently identifies sidewalks and bike lanes for the extent of the highway. Additional refinement to the planned location, width, and elements that comprise the multimodal components would help to address pedestrian and bicycle needs through the area. This process would potentially identify segments where it may be advantageous to provide multimodal facilities with more of a barrier from the highway and would include collaboration with ODOT.

Capacity Allocation Program (CAP)

The City's CAP currently sets a trip density limit on new development (with some exceptions) of 43 net trips per acre. This program was established as an alternate means to preserve transportation mobility on Highway 99W prior to the adoption of the City's 2005 TSP. This program has been observed to result in challenges for new development and does not result in an efficient use of land, particularly in commercial areas. Since subsequent plans and actions have been taken to address and preserve mobility in Sherwood (TSP implementation, Town Center Plan, etc.), the CAP should be revisited to determine if it is still needed.

Local Service Enhancements

Sherwood's location at the edge of the Portland Metropolitan area limits the current availability of transit service as a travel options. Limited route coverage and long headways between buses both challenges ridership. As further development occurs in the Town Center and other areas urbanize,

the need for improving transit connectivity within the City for residents will increase. A placeholder project has been identified to provide local transit service to enhance regional service.

Parking Management Plan

The City should pursue implementation of the parking management plan for the Sherwood Town Center as the opportunity arises. This will help ensure that development within the Town Center aligns with the objectives of the TSP and region as a whole.

Bypass Route Support

The City may consider additional policies to support and explore future options for potential bypass routes that would remove regional through trips from Sherwood. These policies could include continued support and development of previous regional efforts (including I-5 to 99W Connector projects such as the Southern Arterial and northern arterial components including the extension of Herman Road from Cipole Road to Langer Farms Parkway) as well as participation in future endeavors such as Washington County's Westside Solution Study. Due to the regional nature of bypass routes, multi-agency coordination would be needed and it is not anticipated that this effort would be led by Sherwood.

Geological Hazards

All proposed street extensions included in this plan are shown with conceptual alignments. These conceptual street alignments represent a planning-level illustration that street connectivity enhancements are needed in these areas. Before construction of any of the projects can begin, more detailed surveys will need to be undertaken to identify hydrological, topographical, or other geological constraints that could hinder the alignment of the planned streets. Final street alignments will be identified after these surveys have been completed.

TRANSPORTATION

A. INTRODUCTION

The purpose of the Transportation element of the Comprehensive Plan is to describe a multi-modal system which will serve the future transportation needs of Sherwood. The plan for the future transportation system should be capable of effective implementation, responsive to changing conditions and be consistent with plans of adjoining jurisdictions. The Plan seeks to foresee specific transportation needs and to respond to those needs as growth occurs. The original Transportation Network Plan was created in 1979. The original transportation policy element was created in 1980 as part of the first Comprehensive Plan acknowledged by the Oregon Department of Land Conservation and Development. The plan policies were updated in 1989 and a new Transportation Plan Update was completed in 1991. The most recent Transportation element has been revised substantially to reflect changes in a new Transportation System Plan (TSP) begun in 2003 and completed in March 2005. The newest TSP is attached as an appendix and technical reference to this Comprehensive Plan, including an analysis of the existing transportation system, changes to the functional classification of streets, an update of various inventory and plan maps, and changes to the street design standards.

NOTE: The following types of capital facilities are not present within the City: 1) air transportation, and 2) water transportation. Therefore, they are not addressed in this plan.

B. GOALS, POLICIES, AND STRATEGIES

Goal 1: Provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes serving all neighborhoods and businesses.

Policy 1 – The City will ensure that public roads and streets are planned to provide safe, convenient, efficient and economic movement of persons, goods and services between and within the major land use activities. Existing rights of way shall be classified and improved and new streets built based on the type, origin, destination and volume of current and future traffic.

Policy 2 – Through traffic shall be provided with routes that do not congest local streets and impact residential areas. Outside traffic destined for Sherwood business and industrial areas shall have convenient and efficient access to commercial and industrial areas without the need to use residential streets.

Policy 3 – Local traffic routes within Sherwood shall be planned to provide convenient circulation between home, school, work, recreation and shopping. Convenient access to major out-of-town routes shall be provided from all areas of the city.

Policy 4 – The City shall encourage the use of more energy-efficient and environmentally-sound alternatives to the automobile by:

- The designation and construction of bike paths and pedestrian ways;

- The scheduling and routing of existing mass transit systems and the development of new systems to meet local resident needs; and
- Encouraging the development of self-contained neighborhoods, providing a wide range of land use activities within a single area.

Policy 6 – The City shall work to ensure 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.

Policy 7 – The City of Sherwood shall foster transportation services to the transportation-disadvantaged including the young, elderly, handicapped, and poor.

Policy 8 – The City of Sherwood shall consider infrastructure improvements with the least impact to the environment.

Policy 9 – The City of Sherwood shall develop a transportation demand management program to complement investments in infrastructure (supply).

Strategies

1. Make traffic safety a continuing effort through effective law enforcement and educational programs.
2. Adopt an acceptable level of service for the roadway network that is consistent with regional transportation policies.
3. Develop an array of transportation assets and services to meet the needs of the transportation-disadvantaged.
4. Evaluate, identify, and map existing and future neighborhoods for potential small scale commercial businesses to primarily serve local residents.
5. Adopt a strategy for reducing impacts of impervious surfaces to stormwater management.
6. Identify and adopt a transportation demand management strategy to provide incentives to employers who develop transportation options for employees.

Goal 2: Develop a transportation system that is consistent with the City's adopted comprehensive land use plan and with the adopted plans of state, local, and regional jurisdictions.

Policy 1 – The City shall implement the transportation plan based on the functional classification of streets shown in Table 8-1.

Policy 2 – The City shall maintain a transportation plan map that shows the functional classification of all streets within the Sherwood urban growth area. Changes to the functional classification of streets must be approved through an amendment to the Sherwood Comprehensive Plan, Part 2, Chapter 6 - Transportation Element.

Policy 3 – The Sherwood transportation system plan shall be consistent with the city's adopted land use plan and with transportation plans and policies of other local jurisdictions, especially Washington County, Clackamas County, City of Wilsonville, and the City of Tualatin.

Policy 4 – The City will coordinate with Metro regarding implementation of the Regional Transportation Plan and related transportation sections of the Metro Functional Plan.

Policy 5 – The City shall adopt a street classification system that is compatible with Washington County Functional Classification System for areas inside the Washington County Urban Area Plan and with Washington County 2020 Transportation Plan (Ordinance 588).

Policy 6 — The City will work with Metro and other regional transportation partners to implement regional transportation demand management programs where appropriate.

Policy 7 — The City shall work cooperatively with the Port of Portland and local governments in the region to ensure sufficient air and marine passenger access for Sherwood residents.

Policy 8 - Establish local non-Single Occupant Vehicle (SOV) modal targets, subject to new data and methodology made available to local governments, for all relevant design types identified in the RTP. Targets must meet or exceed the regional modal targets for the 2040 Growth Concept land use design types as illustrated in the following table:

2040 Regional Modal Targets
Non-single Occupancy Vehicles

2040 Design Type	Modal Target
Regional centers Town centers Main streets Station communities Corridors	45 to 55 percent
Industrial areas Employment areas Inner neighborhoods Outer neighborhoods	40 to 45 percent

Strategies

1. Develop an intergovernmental agreement between Sherwood, Washington County and the City of Tualatin, consistent with ORS 195.065, to establish urban service boundaries and responsibilities for transportation facilities within and adjacent to the City of Sherwood.

2. Work cooperatively with ODOT, Washington County, and Metro to develop an interchange area management plan for the Pacific Highway 99-W and Tualatin-Sherwood Highway intersection.
3. Work cooperatively with ODOT, Metro, Washington County, and Tualatin to develop a corridor management plan for Pacific Highway 99W and Tualatin-Sherwood Road to preserve existing access to the highway for the city's arterial and collector streets.
4. Participate in regional planning efforts, including the development of the Regional Transportation Plan (RTP), to secure funding for safety and capacity improvements to the City of Sherwood's arterial and collector street system that are necessary to maintain acceptable levels of service for local and through traffic.
5. Define transportation corridors in advance through long range planning efforts
6. Coordinate the transportation network with adjacent governmental agencies, such as Washington County, Metro, and the State. Coordinate with ODOT in implementing their Six-Year Plan and the State Highway Improvement Program.

Goal 3: Establish a clear and objective set of transportation design and development regulations that addresses all elements of the city transportation system and that promote access to and utilization of a multi-modal transportation system.

Policy 1 – The City of Sherwood shall adopt requirements for land development that mitigate the adverse traffic impacts and ensure all new development contributes a fair share toward on-site and off-site transportation system improvement remedies.

Policy 2 – The City of Sherwood shall require dedication of land for future streets when development is approved. The property developer shall be required to make full street improvements for their portion of the street commensurate with the proportional benefit that the improvement provides the development.

Policy 3 – The City of Sherwood shall require applicable developments (as defined in the development code), to prepare a traffic impact analysis.

Policy 4 – The City of Sherwood shall adopt a uniform set of design guidelines that provide one or more typical cross section associated with each functional street classification. For example, the City may allow for a standard roadway cross-section and a boulevard cross-section for arterial and collector streets.

Policy 5 – The City shall adopt roadway design guidelines and standards that ensure sufficient right-of-way is provided for necessary roadway, bikeway, and pedestrian improvements.

Policy 6 – The City shall adopt roadway design guidelines and standards that ensure sidewalks and bikeways be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicyclists between residential areas, schools, employment, commercial and recreational areas.

Policy 7 – The City of Sherwood will generally favor granting property access from the street

with the lowest functional classification, including alleys. Additional access to arterials and collectors for single family units shall be prohibited and use access from frontage roads and local streets. Frontage roads shall be designed as local streets.

Policy 8: The City will adopt access control and spacing standards for all arterial and collector streets to improve safety and promote efficient through street movement. Access control measures shall be generally consistent with Washington County access guidelines to ensure consistency on city and county roads.

Policy 9 - The City will establish guidelines and standards for the use of medians and islands for regulating access and providing pedestrian refuge on arterial and collector streets.

Policy 10 – The City of Sherwood will establish a set of guidelines and standards for traffic calming measures to retrofit existing streets and as part of land use review.

Policy 11 - The City will develop uniform traffic control device standards (signs, signals, and pavement markings) and uniformly apply them throughout the city.

Policy 12 - The City of Sherwood will adopt parking control regulations for streets as needed. On-street parking shall not be permitted on any street designated as an arterial, unless allowed by special provision within the Town Center (Old Town) area or through the road modifications process outlined in the Sherwood Development Code.

Policy 13 – The City of Sherwood shall adopt new development codes to fill in gaps in existing sidewalks to achieve a consistent pedestrian system.

Strategies

1. Incorporate typical street cross section guidelines in the City's public works design standards that address vehicular, bicycle, pedestrian, and transit needs.
2. Include a Road Modification Process in the Sherwood Development Code to provide a procedure for granting variances from street design standards for parking, pedestrian facilities, signals, and other roadway features.
3. Consider the Metro 2040 Plan Regional Street Design Elements when planning for improvements to City transportation facilities, including those built by ODOT or Tri Met.
4. Incorporate guidelines in the City's development code that establish when a local street refinement plan must be prepared and the process for preparing such a plan.
5. Amend the city development code as necessary to regulate vehicular access, spacing, circulation, and parking consistent with plan policies.
6. Amend the city development code as necessary to include specific guidelines for determining the proportional benefit contribution associated with requirements for street dedication and the construction of off-site transportation improvements.
7. Amend the development code to include standards and procedures for a transportation impact analysis (TIA). Refer to Appendix for example.

8. Develop a list to prioritize refinement plan needs, such as corridor plans and interchange area management plans.
9. Amend development code to include provisions for implementing traffic calming mechanisms.
10. Create a map that identifies locations targeted for on-street parking, such as in neighborhood commercial areas and the town center that support multi-modal options.
11. Regularly update the development code to ensure consistency with regional parking requirements.
12. Develop a "conceptual new streets plan" map for all contiguous areas of vacant and redevelopable parcels of 5 (five) or more acres planned or zoned for residential or mixed-use development, and adopt the map as part of the TSP.
13. Consider a "mixed-use" overlay zone in the development code that will apply to the Six Corners area. Include design standards that will encourage a vibrant, pedestrian friendly environment through the implementation of boulevards, medians, mixed-use development and site design.

Goal 4: Develop complementary infrastructure for bicycles and pedestrian facilities to provide a diverse range of transportation choices for city residents.

Policy 1 – The City of Sherwood shall provide a supportive transportation network to the land use plan that provides opportunities for transportation choices and the use of alternative modes.

Policy 2 – Sidewalks and bikeways shall be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicyclists between residential areas, schools, employment, commercial and recreational areas.

Policy 3 – The City of Sherwood will pursue development of local and regional pedestrian trail facilities, especially a trail system connection between the city and the Tualatin National Wildlife Refuge.

Policy 4—The City of Sherwood shall provide design standards for roadway traffic calming features such as traffic circles, curb extensions, bulb-outs, and speed humps.

Policy 5 – The City of Sherwood shall include requirements for the provision of bicycle parking on large commercial, industrial, and multi-family residential projects.

Policy 6 – The City of Sherwood will coordinate the bikeway system with adjacent jurisdictions, especially Tualatin, Wilsonville, Clackamas and Washington County.

Policy 7 – The City will work to eliminate architectural barriers from buildings and public improvements, which limit elderly and handicapped use of the transportation system.

Strategies

1. Include pedestrian and bike projects in the capital improvement plan to ensure investment in alternative modes;
2. Use intergovernmental agreements with Tualatin and Washington County for the coordination of urban services per ORS 196.065 to coordinate the bikeway system and trail system;
3. Include design standards for sidewalk and bikeway facilities in the city's roadway design guidelines;
4. Include provisions for planning the location of pedestrian and bike routes for connecting residential, school, commercial, employment and recreational areas in the development code guidelines for preparing local street refinement plans;
5. Include a system of bikeways along collector and arterial roadways as illustrated on the Transportation Plan Map;
6. Include requirements in the development code for private development to provide bike and pedestrian facilities as indicated on the Transportation Plan Map;
7. Include design standards for sidewalks and bicycle facilities in the city's roadway design guidelines;
8. Pursue traffic calming techniques for neighborhood and local streets so as to provide safe passage for pedestrians and bicyclists, and a more pleasant neighborhood environment for residents.
9. Construct and install infrastructure, including storm drain inlets, which are pedestrian and bicycle-friendly.

Goal 5: Provide reliable convenient transit service to Sherwood residents and businesses as well as special transit options for the city's elderly and disabled residents.

Policy 1 – Public transportation shall be provided as an alternative means of transportation in Sherwood.

Policy 2 – The City of Sherwood will work with Tri-Met to expand transit services to all parts of the City through additional routes, more frequent service, and transit oriented street improvements.

Policy 3 – Park-and-ride facilities should be located with convenient access to the arterial system to facilitate rider transfer to transit and car pools.

Policy 4 – Encourage the construction of bus shelters and park-n-ride lots in the vicinity of planned transit corridors.

Policy 5 – The City of Sherwood will support the establishment of a "feeder" transit route from downtown Sherwood to Tualatin employment centers.

Policy 6 – The City of Sherwood will support park and ride facilities that are sited for the maximum convenience of commuters and transit riders.

Policy 7—The City of Sherwood will support regional efforts for the preservation and development of appropriate rail rights-of-way for passenger rail service, in particular for serving local and regional commuter rail needs in Washington County, Clackamas County, and Yamhill County.

Policy 8 – The City of Sherwood will encourage the provision of special transportation services (i.e., van pools, or car pools, dial-a-ride, etc.) to transportation disadvantaged by Tri-Met and community-based service providers.

Policy 9 – Fully integrate the City into the regional transit system by expanding hours and destinations served by transit providers.

Policy 10 – The City will meet RTP goals of providing a safe and convenient pedestrian circulation system.

Strategies

1. Develop design standards to separate buses from the arterial roadway while transferring passengers. Establish a bus turnout design for stops on arterial streets.
2. Update development code to include design guidelines that require transit stops to be accessible to transit riders, especially the elderly and handicapped.
3. Amend development code to require development on sites at major transit stops (defined by the City of Sherwood) to do the following:
   - Locate within 20 feet of (or provide a pedestrian plaza) at the major transit stop;
   - Provide reasonably direct pedestrian connections between the transit stop and building entrances on the site;
   - Provide a transit service passenger landing pad accessible to disabled persons;
   - Provide an easement or right-of-way dedication for a passenger shelter and underground utility connection from the new development to the transit amenity if requested by the public transit provider; and
   - Improve public safety by providing lighting at transit stops.
4. Work with Tri-Met and Metro to extend transit options to Sherwood, which may include:
   - High capacity transit service along 99W terminating near Six Corners;
   - Potential extension of commuter rail line from Lake Oswego to Sherwood on the existing rail line with service to Newberg or McMinnville; and
   - Other regional transit service connections, such as frequent bus, interurban bus, as appropriate.

Goal 6: Provide a convenient and safe transportation network within and between the Sherwood Old Town (Town Center) and Six Corners area that enables mixed use development and provides multi-modal access to area businesses and residents.

Policy 1 – The City of Sherwood shall continue to refine and develop existing and new design guidelines and special standards for the Old Town and Six Corners areas to facilitate more pedestrian and transit friendly development.

Policy 2 – The City of Sherwood shall work to provide connectivity, via the off-street trail system and public right-of-way acquisitions and dedications, to better achieve street spacing and connectivity standards.

Strategies

1. Provide handicap ramps at all intersections with landings connected to sidewalk improvements, especially within Six Corners and Old Town areas.
2. Design transit stops in Six Corners and Old Town areas to meet ADA requirements for transit accessibility.
3. Adopt design and development guidelines for the Old Town areas that facilitate pedestrian use and a mix of commercial and residential development.
4. Adopt parking guidelines for the Old Town areas that are compatible with the parking guidelines established in Title 2 of the Metro Urban Growth Management Functional Plan.

Goal 7: Ensure that efficient and effective freight transportation infrastructure is developed and maintained to support local and regional economic expansion and diversification consistent with City economic plans and policies.

Policy 1 — The City of Sherwood will collaborate with federal, state and neighboring local governments and private business to ensure the investment in transportation infrastructure and services deemed necessary by the City to meet current and future demand for industrial and commercial freight movement.

Policy 2 — The City of Sherwood will adopt implementing regulations that provide for safe and convenient access to industrial and commercial areas for commercial vehicles, including freight loading and transfer facilities.

Policy 3 — The City of Sherwood will work cooperatively with local, regional and state agencies to protect the viability of truck and freight service routes within, through, and around the City of Sherwood, especially for Pacific Highway 99-W, the Tualatin-Sherwood Highway, and the planned I-5/Hwy 99-W Connector corridor.

Policy 4 — The City of Sherwood will work cooperatively with local, regional and state governments to ensure there is adequate air transportation infrastructure to serve local needs at regional airport facilities, including the Hillsboro Airport and Portland International

airport.

Policy 5 — The City of Sherwood will strongly encourage the preservation of rail rights-of-way for future rail uses, and will work with appropriate agencies to ensure the availability of rail services to its industrial lands.

Policy 6 — The City of Sherwood will cooperate with local, regional and state governments to provide for regional marine freight infrastructure sufficient to serve local needs.

Policy 7 — The City of Sherwood will cooperate with the Portland Development Commission, Port of Portland, Washington County, and other economic development agencies to ensure the availability of inter-modal connectivity facilities deemed necessary to facilitate seamless freight transfer between all transport modes.

Strategies

1. Revise the Sherwood Development Code as necessary to include clear and objective standards for the provision of freight loading and handling facilities, such as restricted on-street parking, loading docks, truck access ways, and rail spurs, in all industrial and commercial development districts.
2. Participate in regional economic development planning efforts related to inter-modal transportation facilities.
3. Adopt appropriate standards to ensure the preservation of rail access corridors to Sherwood's industrial land base.

Goal 8: The Sherwood transportation network will be managed in a manner that ensures the plan is implemented in a timely fashion and is kept up to date with respect to local and regional priorities.

Policy 1 – The City of Sherwood shall develop a systematic approach to implementing the transportation network.

Policy 2 – The City of Sherwood shall pursue a diversified funding strategy to implement the transportation system plan including private, public and regional sources.

Policy 3 – The City of Sherwood shall use its adopted capital improvement plan to prioritize and schedule transportation projects based upon need as shown in the Transportation System Plan. Incorporate the transportation system priorities from the TSP into the city's capital improvement planning process.

Policy 4 – Project scheduling shall be performed in a systematic manner based on the priority rating process outlined in the Transportation System Plan and available financial resources.

Policy 5 – The Transportation System Plan shall be periodically updated, preferably on a five-year cycle, to assure consistency with changing ideas, philosophies, and related policies.

Strategies

1. Participate in MPAC, JPACT and other Metro advisory bodies to promote Sherwood transportation system improvements.
2. Local private financing resources will include right of way dedication and developer contributions to street improvements, and local improvement districts. Public resources will include local system development charges and bonding authority. Regional sources will include Washington County Traffic Impact Fees (TIF) and projects bonded through the County MSTIP program. Regional sources will also include Metro Transportation Improvement Plan (MTIP) resources and other state and federal grant assistance programs.
3. Adopt a comprehensive local system development charge (SDC) ordinance to either augment or replace CAP and collector street SDC.
4. Develop a method for scheduling improvement projects based on priority and funding sources.
5. Assign city staff and elected officials to participate in regional transportation planning processes.
6. Secure intergovernmental agreements between Sherwood and adjoining communities and regional service providers that outline cooperative measures for coordinating transportation investment and regulation per ORS 195.065.

C. THE TRANSPORTATION SYSTEM PLAN

The Transportation System Plan stresses the improvement of the existing system of transportation facilities before new facilities are built. Existing conditions have been analyzed in the Study Area (lands within UGB) and are contained in Chapter 3 of the TSP. Transportation analysis zones were created for each part of the city based on types of land use in the Comprehensive Plan Map. Future traffic volumes were projected based on expected build out of those zones. Future traffic volumes with trip origins or destinations in the Study Area were then calculated for selected subareas or zones in this case. Future locally generated traffic volumes were then distributed onto the street system based on assumption as to major directional movements. From this process future locally generated traffic volumes were calculated for major roads. Future traffic volumes within the Study Area represent only locally generated traffic. Reduction in traffic volumes over time on certain major streets assumes the progressive improvement of alternative major street routes, which have the effect of shifting traffic from existing to improved routes in satisfying major directional movements. To determine total volumes on major streets with significant through traffic (i.e. Highway 99W) locally generated volumes should be added to through traffic volumes determined by Washington County, Metro or ODOT.

The above analysis taken together with the application of the goals, objectives and policies

described in Section B were used in the development of Transportation System Plan. A map for each existing and planned transportation system is included in the TSP. Each map, several street classifications, and the above policies were updated as well. The TSP (2005) is a technical reference to the Transportation element of the Comprehensive Plan.

The following information is included in the TSP and is included below for reference. Table 1 is a list of functional classifications and definitions for each street followed by Figure 1 Transportation Plan Map that illustrates the location and functional classification of each street. Table 2 is a list of major transportation improvements planned for the next twenty years based on the transportation system analysis of expected traffic levels, a performance standard Level of Service "D", and projected costs. Generally, most of the improvements are upgrades and connections to existing streets while some improvements are proposed new streets.

Table 1. Functional Classification Definitions

Principal Arterials	Typically, freeways and state highways that are access controlled and provide the highest level of connectivity. These routes connect over the longest distance and are less frequent than other arterials or collectors. These highways generally span several jurisdictions and usually have statewide importance (as defined in the State Highway Classification System).[1] In Sherwood, OR 99W is the only route designated as a Statewide Highway.
Arterial Streets	Interconnect and support the principal arterial highway system. These streets link major commercial, residential, industrial and institutional areas. Arterial streets are typically spaced about one mile apart to assure accessibility and reduce the incidence of traffic using collectors or local streets for through traffic in lieu of a well placed arterial street. Access control is the key feature of an arterial route. Arterials are typically multiple miles in length. Many of these routes connect to cities surrounding Sherwood. Tualatin-Sherwood Road is a designated arterial street.
Collector Streets	Provide both access and circulation within and between residential and commercial/industrial areas. Collectors differ from arterials in that they provide more of a citywide circulation function and do not require as extensive control of access (compared to arterials). Serve residential neighborhoods, distributing trips from the neighborhood and local street system. Collectors are typically greater than 0.5 to 1.0 miles in length.
Neighborhood Routes	Usually long relative to local streets and provide connectivity to collectors or arterials. Because neighborhood routes have greater connectivity, they generally have more traffic than local streets and are used by residents in the area to get into and out of the neighborhood, but do not serve citywide/large area circulation. They are typically about a quarter to a half-mile in total length. Traffic from cul-de-sacs and other local streets may drain onto neighborhood routes to gain access to collectors or arterials.
Local Streets	Sole function of providing access to immediate adjacent land. Service to "through traffic movement" on local streets is deliberately discouraged by design.

[1] *1999 Oregon Highway Plan*, An Element of the Oregon Transportation Plan, Adopted by the Oregon Transportation Commission, March 18, 1999.

The proposed functional classification of streets in Sherwood shown in Figure 1 (TSP: 8-1). Any street not designated as an arterial, collector or neighborhood route is considered a local street.

DKS Associates

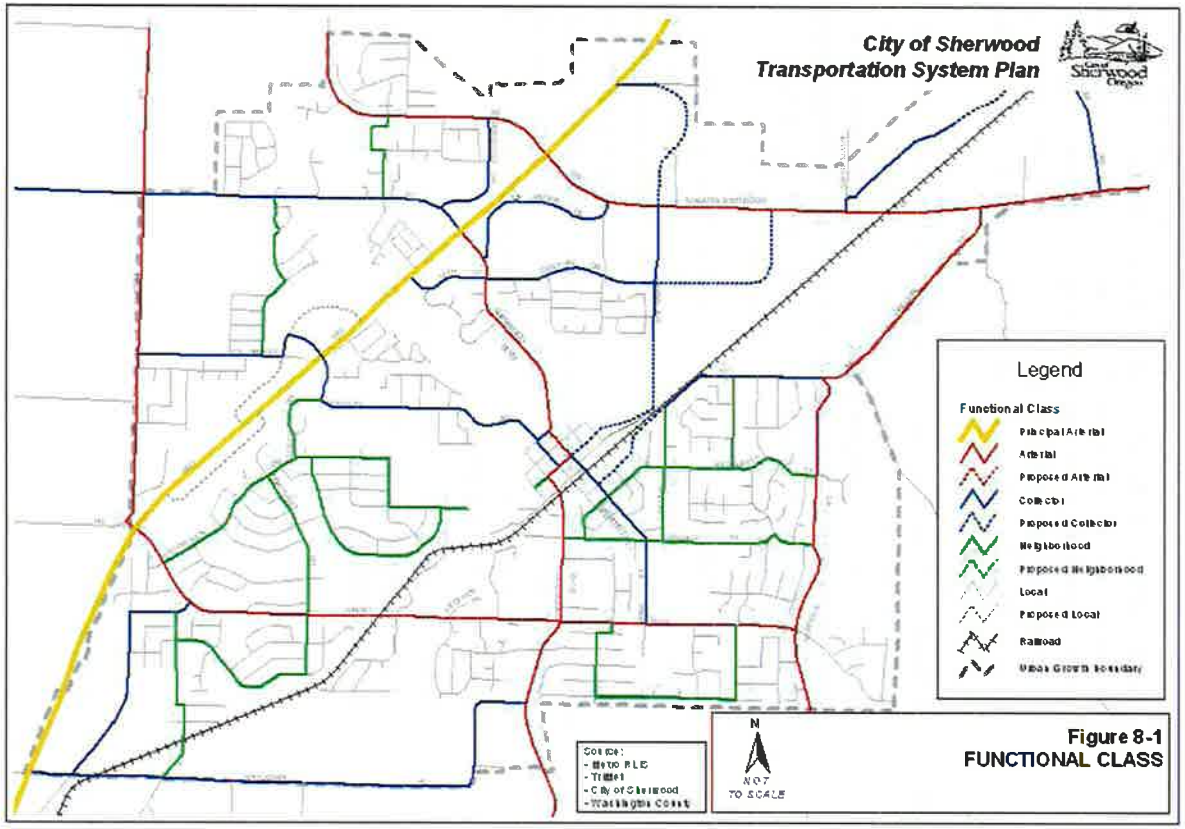


Figure 8-1
FUNCTIONAL CLASS

Table 2. Transportation Improvement Plan

ID	Location	From	To	Project	Source*	Cost ($1,000's)
			City Funded Motor Vehicle Projects			
1	Adams Avenue	Pine Street	Tualatin-Sherwood Road	Construction of 3 lane road	CIP/TSP	$5,900
2	Adams Avenue	Tualatin-Sherwood Road	Home Depot	Construction of 3 lane road	CIP/TSP	$2,100
3	Century Drive	Adams Avenue	Tualatin-Sherwood Road	Construction of 3 lane road	TSP	$2,700
4/5	Tualatin-Sherwood Road	Cipole Road	Borchers Drive	Signal timing/interconnect project	TSP	$50
6	Oregon Street	Lincoln Street	Pine Street	Extension/realignment (3 lanes)	CIP	$2,700
7	Pine Street	Willamette	Sunset	Extension across rail road tracks	CIP	$2,500
8	Old Town Streets			Phase 1 of the Downtown Sherwood Streetscape Master Plan	City	$10,400
9	Cannery Arterials*			Phase 2 of the Downtown Sherwood Streetscape Master Plan	City	$2,500
10	Future Phases*			Phase 3-6 of the Downtown Sherwood Streetscape Master Plan	City	$4,500
11	I-5/Hwy 99W Connector	Highway 99W	Interstate 5	Specific alignment to be determined	RTP	N/A
Subtotal (City)						*$33,350*
			County Funded Motor Vehicle Projects			
12	Tualatin-Sherwood Road	Hwy 99W	Cipole Road	Widen existing road to 5 lanes	RTP/Washington County TSP	$15,300
13	Roy Rodgers Road	Borchers Drive	Hwy 99W	Widen existing road to 5 lanes	RTP/Washington County TSP	$1,400
14	Elwert Road	ORE 99W	Kruger	Intersection safety improvement	TSP	$1,500
15	Brookman Road	ORE 99W	Ladd Hill Road	Improve to collector standards	TSP	$8,700
Subtotal (County)						*$26,900*

Development Related Projects						
ID	**Location**	**From**	**To**	**Project Description**	**Source***	**Cost ($1,000's)**
23	Galbreath Drive	Gerda Lane	Cipole Road	Construction of 2 lane road	TSP	$1,500
24	Cedar Brook Way	ORE 99W	ORE 99W	Construction of 2 lane road	TSP	$3,600
25	Connection	Meinecke Road	Woodhaven Drive	Construction of 2 lane road	TSP	$550
26	South Loop Road	ORE 99W	ORE 99W	Construction of 2 lane road	TSP	$1,800
27	Baler Way	Century Drive	Langer Drive	Construction of 2 lane road	TSP	$1,000
28	Handley Street	Aldridge Terrace	Elwert Road	Construction of 2 lane road	TSP	$1,200
9	Cannery Arterials**			Phase 2 of the downtown Sherwood Streetscape Master Plan	City	$1,100
10	Future Phases**			Phase 3-6 of the Downtown Sherwood Streetscape Master Plan	City	$1,000
Subtotal (Development Related Projects)						*$11,750*

Traffic Control Enhancements (City Funded)				
ID	**Location**	**Project Description**	**Source***	**Cost ($1,000's)**
16	Edy Road/Borchers Drive	Additional traffic control measure	TSP, CIP	$300
17	Langer Drive/Tualatin-Sherwood Road	Remove Traffic Signal. Install raised median	TSP	$100
18	Sherwood Boulevard/Langer Drive	Remove Traffic Signal. Allow lefts in only (no lefts from Langer to Sherwood)	TSP	$150
19	Sherwood Boulevard/Century Drive	Install Traffic Signal or Roundabout	TSP	$275
20	Oregon Street/Tonquin Road	Traffic Control Enhancement (consider roundabout)	TSP	$1,000
21	Adams Street/Tualatin-Sherwood Road	Install Traffic Signal	TSP	$250
22	Sherwood Blvd/Sunset Blvd	Traffic Control Enhancement	TSP	$250
Subtotal (Traffic Control Enhancements)				$2,325

Total (City Funded)	***$29,225***
Total (Other Funding: State, Region, Development)	*$26,900*

* Source: RTP=Metro's Regional Transportation System Plan, TSP=Mitigation Required Based on Sherwood TSP Analysis, CIP=City of Sherwood Capital Improvement Plan.

** Project costs paid through public/private partnership.

APPROVED MINUTES

City of Sherwood, Oregon
Planning Commission
Work Session Meeting Minutes
May 13, 2014

Planning Commission Members Present:
Chair Jean Simson
Vice Chair James Copfer
Commissioner John Clifford
Commissioner Beth Cooke
Commissioner Russell Griffin
Commissioner Sally Robinson
Commissioner Lisa Walker

Staff Present:
Julia Hajduk, Community Development Director
Brad Kilby, Planning Manager
Bob Galati, city Engineer
Kirsten Allen, Planning Dept. Program Coordinator

Council Members Present:
Mayor Bill Middleton

Others Present:
Chris Maciejewski, DKS Associates
Darci Rudzinski, Angelo Planning Group

1. Transportation System Plan Update Overview

Chair Simson called the meeting at 7:03 pm and welcomed the new Planning Commissioner, Sally Robinson.

Brad Kilby, Planning Manager, announced upcoming meetings for the Budget Committee on May 14, 2014, a DEQ Informational meeting regarding the Ken Foster Farms Site, the Charter Review Committee Meeting and the Cedar Creek Trail Local Trail Advisory Committee (LTAC) were meeting on May 15, 2014.

Brad explained to the Commission the different chapters of the Sherwood Comprehensive Plan, how it tied in with the Transportation System Plan (TSP), and that the last TSP update was in 2005.

Brad turned the time over to Chris Maciejewski, from DKS Associates, and Darci Rudzinski, from Angelo Planning Group; the consultants for the City's Transportation System Plan (TSP) Update. Mr. Maciejewski gave a presentation (see record, Exhibit 1) recapping the Transportation System Plan update process to date. He said the update addresses the city's transportation needs to the year 2035 and folded in Concept Plans and Plan Amendments that have been approved since the last update.

Ms. Rudzinski discussed code and policy amendments to the Comprehensive Plan and commented that they were intended to make sure the policy language reflected language that was wanted and that most of the changes were refinements of existing language. She explained that text language that was struck out was removed language, underlined was added language, and text with nothing was existing language.

Discussion followed with the Commission going through work session packet page by page indicating questions they had regarding the text. The Commission was cautioned in discussing proposed language or

making decisions. Staff was directed to fix scrivener's errors and provide a new draft prior to the public hearing so that the Commission could focus on the content of the draft.

Chair Simson called a recess at 8:35 pm and reconvened at 8:42 pm.

Upon reconvening Chair Simson explained the project list contained in the Draft TSP and explained how the list was ranked and classified as Conservatively Funded, Projected Fundable, or Aspirational. She asked regarding Figure 5 on page 18 of the draft that showed projections of jobs or households through 2035. The Commission was informed that the projections were based on potential build out and the analysis assumed the highest case scenario.

A draft of the update is available online at http://www.sherwoodoregon.gov/engineering/project/transportation-system-plan-tsp-update-project a public hearing with the Planning Commission is scheduled for May 27, 2014 at 7 pm.

3. Adjourn

The meeting adjourned the meeting at 8:58 pm.

Submitted by:

Kirsten Allen

Kirsten Allen
Planning Department Program Coordinator

Approval Date: May 27, 2014