

# Appendices

**Appendix A:** Sherwood Town Center Plan Project Goals, Objectives and Evaluation Criteria

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## Appendix A:

# Sherwood Town Center Plan Project Goals, Objectives and Evaluation Criteria

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# MEMORANDUM

**DATE:** July 16, 2012

**TO:** Sherwood Town Center Plan Project Management Team

**FROM:** Darci Rudzinski, Angelo Planning Group  
Shayna Rehberg, Angelo Planning Group

**SUBJECT: Sherwood Town Center Plan  
Project Goals, Objectives, and Evaluation Criteria**

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The primary purpose of this memorandum is to identify draft goals, objectives, and evaluation criteria for the Sherwood Town Center Plan. The first section of the memorandum presents goals and objectives. These are used to guide the planning process and provide a framework for the evaluation measures that will be used to assess potential development and redevelopment scenarios. The second section of the memorandum proposes evaluation criteria that address both land use and transportation elements in evaluating development and redevelopment scenarios.

## Project Goals and Objectives

The proposed project goals and objectives reflect good planning practice and the goals and objectives identified in the project scope of work.

**Goal 1 – Community Involvement.** Provide meaningful opportunities for community members to be involved in the Sherwood Town Center Plan process, including those most directly affected by the outcomes, as well as the community at large.

### Objectives

- Involve major employers, property owners, institutions, and business groups that will be impacted by and/or benefit from the plan.
- Establish technical and stakeholder advisory groups to review and comment on project deliverables to inform the work of the Project Management Team and to make recommendations to the Steering Committee.
- Inform and involve other established community groups and surrounding residents.

- Provide a variety of tools to allow all community members of Sherwood the opportunity to learn about and participate in the planning process, including opportunities at events or locations they already attend.
- Regularly update the City's Planning Commission (the Steering Committee for the project) and City Council about the project and seek their advice on key decision points.

**Goal 2 – Town Center Vision.** Develop an overarching vision that guides the development and redevelopment in the Town Center; evaluation of land use, transportation, and design alternatives; and agency coordination and plan implementation.

#### Objectives

- Establish a vision statement that specifically describes the uses, activities, look, and feel of the future Sherwood Town Center.
- Determine boundaries for the Town Center, whether existing boundaries, expanded boundaries to include Old Town, or modified boundaries to encompass just Old Town.
- Consider the vision statements from the 2007 Economic Opportunities Analysis and other City planning documents in developing the Sherwood Town Center Vision.
- Create opportunities for public/private partnerships within the Sherwood Town Center to achieve the vision.

**Goal 3 – Land Use and Transportation.** Develop a plan for the Sherwood Town Center that supports economic development and urban vibrancy, encourages active transportation, and improves safety and efficiency for all modes of transportation.

#### Objectives

##### Urban Vibrancy

- Examine whether existing and planned land uses implement the Town Center Vision, or whether changes may be needed.
- Capitalize on the Town Center's identified attributes, such as proximity to OR 99W, the grid street system in Old Town, the potential for future high capacity transit, and other identified or planned improvements.
- Consider reasonable funding streams in balancing land use, planning transportation improvements, and system performance.

**Transportation Safety and Efficiency**

- Determine whether changes are needed to better balance proposed land uses with transportation choices and improvements, with the goal of increasing the safety and efficiency of the transportation system.
- Identify strategic solutions to existing highway capacity issues.
- Identify transportation system improvements and standards within the Town Center boundary that enhance community livability, improve access and safety for all modes of transportation, and balance regional mobility needs with the Town Center Vision.

**Economic Development**

- Use the 2007 Economic Opportunities Analysis findings and updated market analysis developed for the project to target investments in the Town Center.
- Identify opportunities for public/private partnerships in developing and redeveloping the Town Center.

**Active Transportation**

- Include land use and implementation measures that promote transit-supportive and transit-oriented development, as well as increased local transit service and service to outlying communities.
- Identify transportation system improvements and standards within the Town Center boundary that enhance community livability, improve access and safety for all modes of transportation, and balance regional mobility needs with the Town Center Vision.

**Goal 4 – Plan Coordination.** Ensure consistency with existing local and regional plans and land use regulations, particularly recent updates to plans and regulations. Coordinate efforts with planning processes in progress.

**Objectives**

- Create a plan that is consistent with Metro’s Urban Growth Management Functional Plan Title 6 regarding actions and investments for Town Centers.
- Determine whether to designate the Sherwood Town Center as a Multimodal Mixed Use Area (MMA) pursuant to OAR 660-012-0060 (the Transportation Planning Rule) and, thus, allow for exceptions to existing mobility standards and potential changes in zoning in the center.
- Coordinate with the Southwest Corridor Plan, both in terms of influencing and being influenced by that planning process. The Southwest Corridor Plan and Sherwood Town Center Plan are intended to work together to improve the

transportation system and create the basis for complementary development patterns in the town center.

- Create a plan that is consistent with adopted local plans, such as the Sherwood Transportation System Plan, as well as with State requirements, such as the goals of the Oregon Highway Plan and requirements of the Transportation Planning Rule.

**Goal 5 – Implementation.** Develop an appealing, cost-effective, and politically achievable plan to implement project recommendations.

#### Objectives

- Prepare a Sherwood Town Center Plan for adoption as an element of, or ancillary document to, the Sherwood Comprehensive Plan.
- Ensure that the Plan is consistent with applicable regional and state requirements, including Urban Growth Management Functional Plan and the Transportation Planning Rule.
- Prepare comprehensive plan and zoning code amendments to update existing City zones in the Town Center to implement the Sherwood Town Center Plan. The plan may also require amendments to the City's transportation system plan (TSP).
- Collaborate with the City's Planning Commission and Council to ensure that the proposed plan meets the community's goals and can be adopted in a timely manner.

#### Evaluation Criteria

Sherwood Town Center Plan alternatives will be developed as part of this planning project, once existing conditions are documented for the project area. Evaluation criteria are needed in order to compare the alternatives and assess them against project goals and objectives. The following proposed evaluation criteria are based upon project goals and objectives:

1. Reflects input from the community involvement process.
2. Builds on and promote the unique characteristics of the study area for the community members of Sherwood.
3. Allows for a mix of future land uses that meets the City's economic, housing, and other needs. This mix of uses will be informed by the findings of an existing conditions evaluation and consistent with the vision developed in the early phases of this planning process.
4. Promotes economic growth and vitality, informed by the findings of the market analyses conducted in the first phase of this planning process.

5. Promotes and/or is consistent with other regionally and locally adopted plans and policies.

6. Creates an integrated land use and transportation system that is well-connected internally and to other parts of the city, incorporates a full range of ways to travel, and is safe, efficient and sustainable. Potential transportation performance measures are listed below.

Livability:

- Average daily traffic (ADT) on local streets
- Study area vehicle hours of delay (VHD)
- Duration of congestion on OR 99W and Tualatin-Sherwood Road

Access:

- Parcel access to non-arterial roadways
- Vehicle miles traveled (VMT) per trip within the study area (internal trip ends)
- Walking/Biking access to key generators, including transit and potential high capacity transit (HCT)

Safety:

- Pedestrian level of service (LOS) (segments and crossings) [not currently within the scope/budget]
- Bicycle LOS (segments and crossings) [not currently within the scope/budget]
- Congestion/volume increases at Safety SPIS locations

Mobility:

- Study intersection v/c ratio, delay, and LOS
- Study area VHD
- Duration of congestion on OR 99W and Tualatin-Sherwood Road

Growth:

- Trip-end growth within the study area
- Cost of transportation system improvements

6. Includes strategies for successful, efficient, and cost-effective implementation of the plan, including careful coordination with pertinent planning projects and regulations.

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## Appendix B:

# Sherwood Town Center Public Involvement Plan

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# DRAFT-6/01/12

## Sherwood Town Center Public Involvement Plan

### Introduction and overview

The Sherwood Town Center Plan (Plan) project will determine the boundaries of the City's designated Town Center, identify opportunities and constraints for the successful development of the Town Center, and create a strategy for development, redevelopment and enhancement of the area. The Plan will likely establish modifications to land uses and multimodal transportation options, which support Metro's 2040 Plan implementation.

The Plan will outline steps to bring the Town Center into compliance with the Metro Title 6 guidance, provide recommendations pertaining to "multimodal mixed use area" (MMA) designations, as allowed in the Transportation Planning Rule (TPR) 0060, and include other evaluation and recommendations to implement a Town Center designation. Specifically, the Plan will recommend local comprehensive plan and map, as well as development code amendments to implement the Town Center designation.

### Communication goal

Communication efforts will engage the Sherwood community of residents, business owners and development interests within the study area early and often. Some of the City's efforts will be targeted towards those most directly affected by the outcomes of the planning process: major employers, property owners, institutions, and business groups. However, the Public Involvement Plan will ensure that all interested parties will have the opportunity to participate in the Town Center planning. The City will be seeking to share project information and understand community concerns and preferences so the community can inform the identification of land use and transportation investment options with a Town Center designation resulting in a final strategy for the future development of the area.

### Objectives and outcomes

In order to achieve these goals there will be multiple opportunities to engage, including through:

**Early involvement:** stakeholder interviews will be the primary strategy for early outreach in the study area enabling the project team to understand the development potential within the study area from a local level – its opportunities and challenges. As each stakeholder or group of stakeholders is interviewed, new stakeholders may be identified and then contacted.

**Information sharing:** project updates will be available on the City web site and from links on project partner web sites, as well as by project postcards, newsletters and fact

sheets. City will share project information at key milestones via a number of methods depending on the desired audience, information to be shared, feedback needed and timing. Other outreach opportunities include open houses, area events, farmer's markets, or other community gathering places or events as needed. The project team will hold targeted meetings with business and property owners as needed.

**Input from local experts:** Stakeholder interviews will also result in identification of key community members to engage in the planning process. The Stakeholders may include membership from Sherwood Chamber, Sherwood Main Streets and other Home Owner Associations.

**A Stakeholder Advisor Committee (SAC):** membership includes a balance of representatives from the project study area will be formed to advise the project Steering Committee. The primary task of the SAC will be to identify the Town Center boundary, opportunities and barriers to development, transportation improvements and land uses that will aid in the development of the area, and a strategy for achieving the objectives of the Town Center Plan. Recommendations from the SAC would be shared directly with the Steering Committee along with the Technical Advisory Committee and project management team recommendations.

**Coordinated two-way communication:** Throughout the development of the Town Center Plan, a public process will allow interested parties to engage with the project and affect the analysis and outcomes of the plan in a coordinated way. The communication process will provide the public with easy access to project information, the ability to get questions answered and the ability to influence the plan and planning process. In addition, the communication process will comply with local, state and federal policies for public involvement and notice requirements, as applicable to different portions of the work.

The Team will know they have been successful if all stakeholders have had an opportunity to comment and engaged in defining community-supported land use and transportation investments for development, and when elected officials are confident with public support for those land use and transportation investments strategies are developed for the Town Center.

## **Target audiences**

Businesses, property owners, developers, any institutions and service providers – those who operate businesses, work and/or provide services in the study area: Six Corners, SW Sherwood Blvd. corridor and Old Town.

Residents – primarily those who live in the study area of Six Corners, SW Sherwood Blvd. and Old Town area, especially those that might be traditionally under-represented (e.g. minority or low income). All outreach materials advertising public meetings will include language indicating that accommodations will be made if advance notice is provided. All meetings will be open and accessible to persons of all abilities.

## **Actions desired**

Target audiences will be asked to read project information, share it with those they know, engage with each other and the project to talk through tradeoffs and provide comments and preferences in writing or at public meetings.

## **Key messages**

The following messages will be consistently delivered to target audiences.

### Project messages:

- The Town Center Plan will develop an overarching Town Center vision that guides the development and evaluation of land use, transportation options, and design alternatives as well as agency coordination, compliance and plan implementation.
- The Town Center Plan will develop a strategy that supports economic development and vitality, encourages active transportation, transit alternatives, and improves safety and efficiency for all modes of transportation.
- The Plan will develop implementation strategies that will be appealing, cost-effective and politically achievable in the short and long term involving the private and public sector.
- There will be tradeoffs with improving the multimodal transportation network and vehicular congestion along Highway 99W intersections within the study area.
- The Plan will preserve and honor the unique, local identity of Sherwood.

### Communication messages:

- Improving transportation and development opportunities are key goals for the project and the City looks forward to learning from and working with the stakeholders in the process.
- The project team will make every effort to provide timely information and answer questions.
- Interaction and engagement will improve the quality of the plan, especially constructive comments and ideas to improve land uses and transportation options in a way that addresses community desires or concerns.

### Community messages:

- People on the ground are the best source of ideas about important investments and will have a strong voice in this process.

- Establishing an implementation plan for the Town Center will help gauge where tax dollars can best be used to capitalize on private development potential.

As the project advances, a set of key project messages, as well as tactics and messengers for delivering them will be identified to support overall project communication. Messages will be adjusted in preparation for project milestones and to address the information needs of target audiences.

### **Project milestones and public engagement milestones, key products, tools and tactics**

See Appendix A for descriptions of public engagement tools and tactics.

#### **June 2012-Project Kick Off-Goals, Objectives, and Evaluation Criteria**

*Project milestone 1: City Council appoints Steering Committee, Technical Advisory Committee and Stakeholder Advisory Committee*

Public engagement milestone to launch project:

- Stakeholder interviews
- Factsheet
- Website initiation
- Community Events
- TAC and SAC Meeting Number #1

#### **July-October 2012- Existing Conditions, and Market Analysis**

*Project milestone 2: Existing Conditions Report*

Public engagement milestone to inform and receive input on project:

- Notification: email, newsfeed, press release, community groups, website update
- Property owner notification postcard
- Factsheet
- Community and business group events and presentations
- Stakeholder Advisory Meeting #2
- Open House Number # 1

#### **October 2012- February 2013- Develop and Evaluate Town Center Plan Alternatives**

*Project milestone 3: Developing and Evaluating Town Center Plan Alternatives*

Public engagement milestone to inform and receive feedback on project:

- Notification: email, press release, community groups, website update
- Property owner notification postcard for open house
- Factsheet
- Community and business group events and presentations as needed
- Stakeholder Advisory Meeting #3, #4

- Steering Committee Meeting # 2
- Open House Number # 2

### **February – June 2013 Finalize Town Center Plan**

Project milestone 4: Draft Town Center Plan and Adoption

Public engagement milestone to inform and receive feedback on project:

- Notification: email, newsfeed, press release, community groups, website update
- Property owner notification postcard
- Factsheet
- Community and business group events and presentations as needed
- Stakeholder Advisory Meeting #5
- Steering Committee Meeting #3
- Public Hearing Notice
- Public Hearings with Planning Commission and City Council

### **Timeline**

Public engagement will be ongoing throughout the entire Town Center process outlined generally in the timeline in Appendix B. (TBD)—To Follow

### **Measurement and evaluation**

Successful communication will be evidenced by a clear understanding of the project alternatives and timeline and participation in opportunities for engagement and the decision-making process. Community consensus around a Town Center Boundary and development strategy will indicate that the project has heard from stakeholders and incorporated their perspectives, resulting in an integrated land use and transportation investment strategy that leverages public and private investments to achieve the land use goals and transportation needs for the development of the Town Center. The project will achieve its mission when a Town Center Plan and comprehensive plan and development code amendments are adopted by the City Council.

## Appendix A: Public engagement tools and tactics

**Stakeholder interviews** – to improve the baseline understanding of target audiences in the study area and inform communication planning, the project team will conduct one-on-one or group interviews with a broad range of stakeholders (see Appendix B for an initial stakeholder list).

**Project initiation** – to start the project, establish website, establish stakeholder advisory committee, conduct stakeholder interviews and follow up with questions as needed.

**Stakeholder Advisory Committee** The Stakeholder Advisory Committee will be made up of a variety of stakeholders having an interest in the success of the community. Stakeholders include business owners, property owners, and residents.

**Web site**-information will be updated on project pages on City's web site and to provide people with an understanding of the current work of the project as well as background and next steps. Opportunities for public engagement will be clearly delineated. Frequently asked questions will be answered.

**Open House:** postcards will be sent to business and property within the study area to attend 2 open houses.

**Newsletters and fact sheets** – periodic updates will be provided to target audiences in the form of fact sheets, Frequently Asked Questions and newsletter updates. The City will utilize existing the city newsletter, the Archer, which is mailed monthly. As needed, additional newsletters may be provided. Documents will also be available on the web site and e-mailed to project partners and interested parties.

**Events, activities and presentations** – project partners will participate in community events and activities or present at community or business meetings to share and discuss project information as available and appropriate.

**Media** – the project team will proactively work with local and new media to describe the project, explain its timeline, highlight opportunities for involvement, discuss relevant issues and frame intended outcomes.

**Visual renderings, illustrations and simulations** - sketches, renderings, illustrations or still or animated visual simulations may be used to describe potential land use concepts or transportation improvements to increase public understanding and capability to provide meaningful input.

**Farmer's markets, community locations and events**, share information and request comments, City may participate in local farmer's markets or community events a. Participants will have an opportunity to ask questions and offer comments on project proposals

**Public hearing** – Public hearings provide another opportunity for citizens to comment on the map amendments, policy, and regulatory code language needed to implement the Town Center Plan. Amendment require legislative hearings, with Planning Commission recommendations forwarded to the City Council for final adoption.

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**Appendix C:**  
Open House Materials

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Home of the Tualatin River National Wildlife Refuge

# **SHERWOOD** **TOWN CENTER PLAN**



## **OPEN HOUSE**

**WHEN: OCTOBER 3, 2012**

**TIME: 6:00 PM TO 8:00 PM**

**6:15 PM: Presentation**

**7:00 PM: Discussion**

**WHERE: CITY HALL**

**COMMUNITY ROOM**

**22560 SW PINE STREET**

**Sherwood, OR**

*What is a Town Center?*

*What does it mean to designate a  
Town Center?*

*Where and how do you want to see a Town  
Center evolve in Sherwood?*

**Come learn about the project, join the  
discussion and help shape the  
alternatives that will be considered.**

- Review Existing Condition Report
- Help determine the boundaries of the Town Center
- Identify opportunities and constraints for the successful development of the Town Center

## **Contacts**

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Planning Manager

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Associate Planner

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503-625-4242

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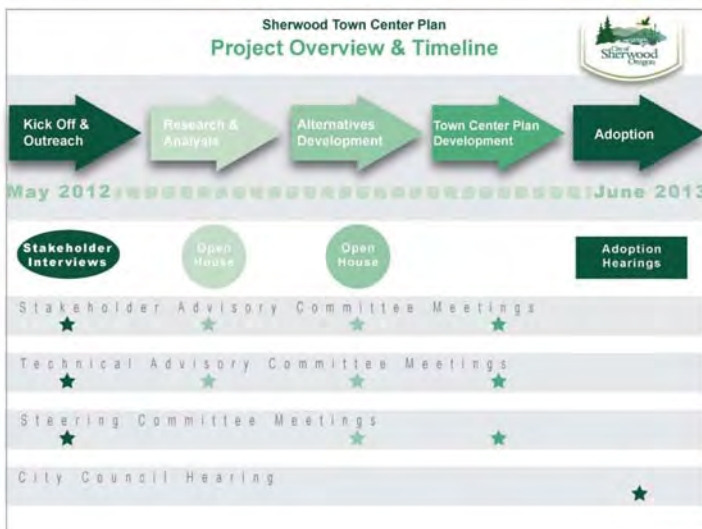
# SHERWOOD TOWN CENTER PLAN

Open House #1  
October 3, 2012



## PROJECT OVERVIEW

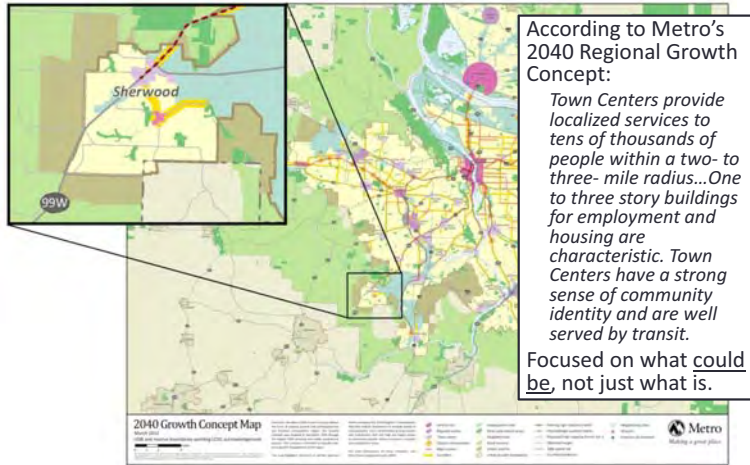
### Sherwood Town Center Plan Project Overview & Timeline



## Project Goals

- Goal 1 – Community Involvement: Provide **meaningful opportunities for community members to be involved** in the Sherwood Town Center Plan process, including those most directly affected by the outcomes, as well as the community at large.
- Goal 2 – Town Center Vision: **Develop an overarching vision** that guides the development and redevelopment in the Town Center; evaluation of land use, transportation, and design alternatives; and agency coordination and plan implementation.
- Goal 3 – Land Use and Transportation: Develop a plan for the Sherwood Town Center that supports **economic development** and **urban vibrancy**, encourages **active transportation**, and improves **safety and efficiency** for all modes of transportation.
- Goal 4 – Plan Coordination: **Ensure consistency** with existing local and regional plans and land use regulations, particularly recent updates to plans and regulations. **Coordinate efforts** with planning processes in progress.
- Goal 5 – Implementation: Develop an **appealing, cost-effective, and politically achievable** plan to implement project recommendations.

## Defining “Town Center”



## Defining “Town Center”

### • Some typical characteristics of a Town Center:

- Resident and employee density - 40 person per acre
- Mix of land uses - a variety of land uses including housing, institutional uses, civic and government uses, and neighborhood commercial uses like grocery stores, restaurants, bookstores, and coffee shops
- Housing variety - a mix of housing that meets the city's needs and that includes attached and detached single-family housing and multiple family housing for both owner and renter occupancy

## Study Area



## Draft Vision Statement

*Sherwood Town Center is a lively, safe, and beautiful place that embodies the best of Sherwood, a family friendly community with historic roots that enthusiastically plans for a bright future. The Town Center is the focal point of community life and commerce: neighbors and visitors come together here to eat, shop, work, and play. The mix of housing, restaurants, shops, parks, natural areas and public gathering spaces that front vibrant, tree-lined streets supports existing businesses and attracts new businesses and visitors. Getting to and getting around the Town Center is easy, whether you are traveling on foot, by bike, by skateboard, on a bus, or in a car.*

## Land Use & Zoning

[illegible]

Attribute	Project Study Area	Study Area +1 mile	Average for all Metro Town Centers
Net Area (acres)	419	5,288	222
Total Population	2,766	17,569	2,326
Total employees	2,392	4,590	1,745
People per acre	12.3	4.2	20.1
Dwelling units per acre	3.0	1.2	5.0
Total businesses per acre	0.64	0.11	0.73
Home ownership	43.2%	74.5%	47.4%
Median household income	\$56,266	\$80,693	\$60,133
Average Household Size	2.36	2.80	2.42
Median Age	31.1	32.3	36

The map displays the Six Corners area with various land use and density zones. The legend includes the following categories:

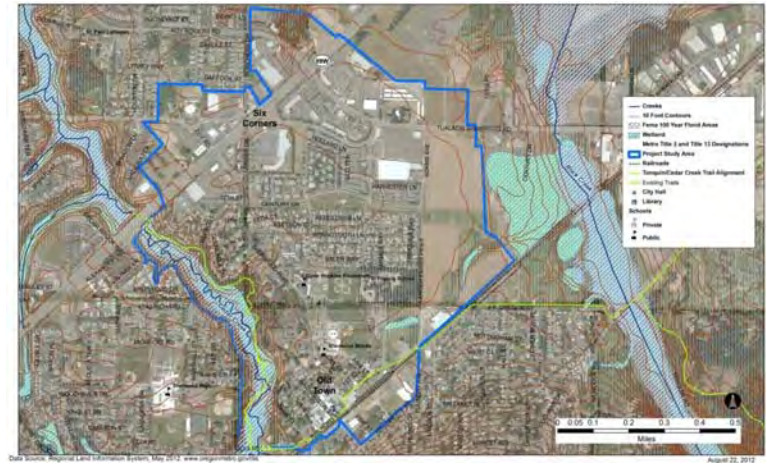
- Infrastructure:**
  - Railroad
  - City boundary
  - Project Study Area
  - Transit/Carer Creek Trail Alignment
  - Existing Roads
- Schools:**
  - Private
  - Public
  - City Hall
  - Library
  - Taxi
- Land Use and Density:**
  - Lithium Reveal Overlay
  - Old Town Overlay
  - Very Low Density Residential - VLDR
  - VLDR-PUD
  - Low Density Residential - LDR
  - LDR-PUD
  - Medium Density Residential Low - MCDL
  - MCDL-PUD
  - Medium Density Residential High - MCDH
  - MCDH-PUD
  - High Density Residential - HCR
  - HCR-PUD
  - Neighborhood Commercial - NC
  - General Commercial - GC
  - Office Commercial - OC
  - OC-PUD
  - General Commercial - RGC
  - RGC-PUD
  - Industrial and Public - IP
  - Large Industrial - LI
  - LI-PUD
  - Office Industrial - OI
  - Open Space

The map includes a scale bar from 0 to 0.5 miles and a north arrow.

## Key Zoning Opportunities and Challenges

- Retail Commercial (RC) zone, which covers much of Six Corners, allows auto-oriented uses that may not be appropriate in a Town Center
- Only the High Density Residential (HDR) zone allows outright residential density consistent with “town center”-type land use
- All development (except single-family homes) subject to site plan review and design standards; development review for proposals in Old Town requires public hearing and approval by Planning Commission for all site plans
- Old Town overlay district includes design standards and reduced parking requirements that encourage a more pedestrian-oriented environment
- Development in the Langer Farms PUD will include retail commercial uses
- Cannery Square PUD will include retail buildings, an apartment complex, and two multi-family, 3-story buildings

## Environmental Context



## EXISTING CONDITIONS

### Market Overview

## Market Conditions

- The built form is one characteristic of a Town Center
- Sherwood should see strong growth and demand
- Potential for infill and redevelopment





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# EXISTING CONDITIONS

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## Transportation

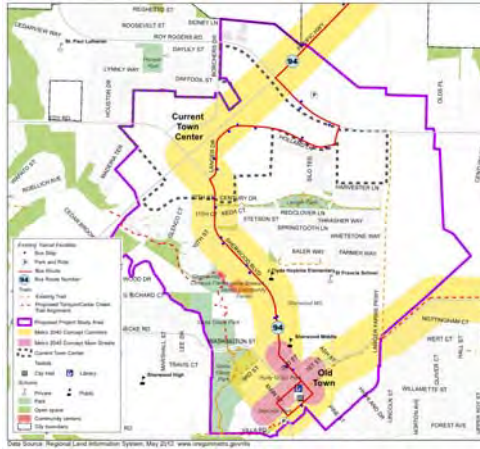
## Transportation

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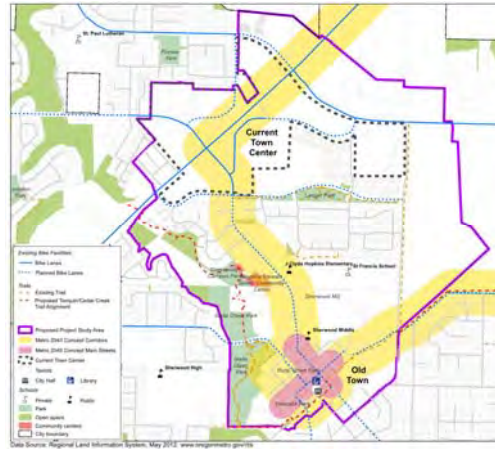
- Constraints
  - OR 99W Congestion and Barrier
  - T-S Road Congestion
  - CAP Ordinance
- Opportunities
  - T-S Road Improvements
  - Intersection Improvements along Sherwood Blvd (Gateways?)
  - Other Local Street Extensions

## Existing Transit Service



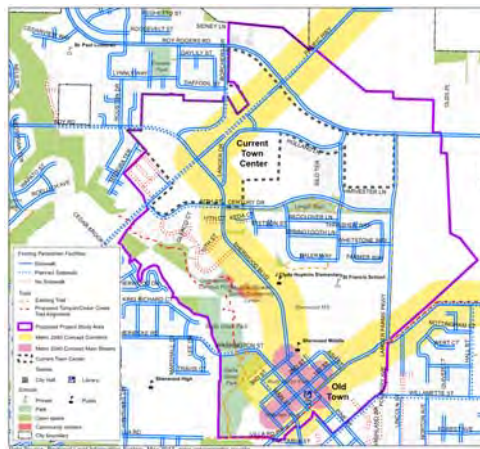
- Constraints
  - Reduced TriMet Service
  - Limited Stop Amenities
  - Local Service
- Opportunities
  - Southwest Corridor High Capacity Transit
  - Commuter Rail to Sherwood?

## Existing Bike Facilities



- Constraints
  - OR 99W Barrier
  - Limited Long-Distance Routes
  - Lack of Local Network Bike Lanes
  - Limited Connections Across the Study Area
- Opportunities
  - Tonquin Trail / Cedar Creek Trail Connections

## Existing Pedestrian Facilities



- Constraints
  - OR 99W Barrier
  - Limited Crossing of OR 99W
  - Limited Connections Across the Study Area
- Opportunities
  - Tonquin Trail / Cedar Creek Trail Connections

QUESTIONS?

## SUMMARY OBSERVATIONS

### In summary...

- Conditions in the Project Study Area are conducive to realizing a Town Center
- Two existing (+ one emerging) activity areas exist within the Project Study Area
- Market conditions show strong growth and demand
- There is potential for infill and redevelopment
- Zoning and development requirements generally consistent with the types, mix, intensity of uses expected in a Town Center
- Issues related to Highway 99W could inhibit future growth
- Opportunities exist for enhanced non-motorized connectivity, including the Cedar Creek Trail, despite a few identified barriers
- Public transit serves the area

## NEXT STEPS

### Next Steps...

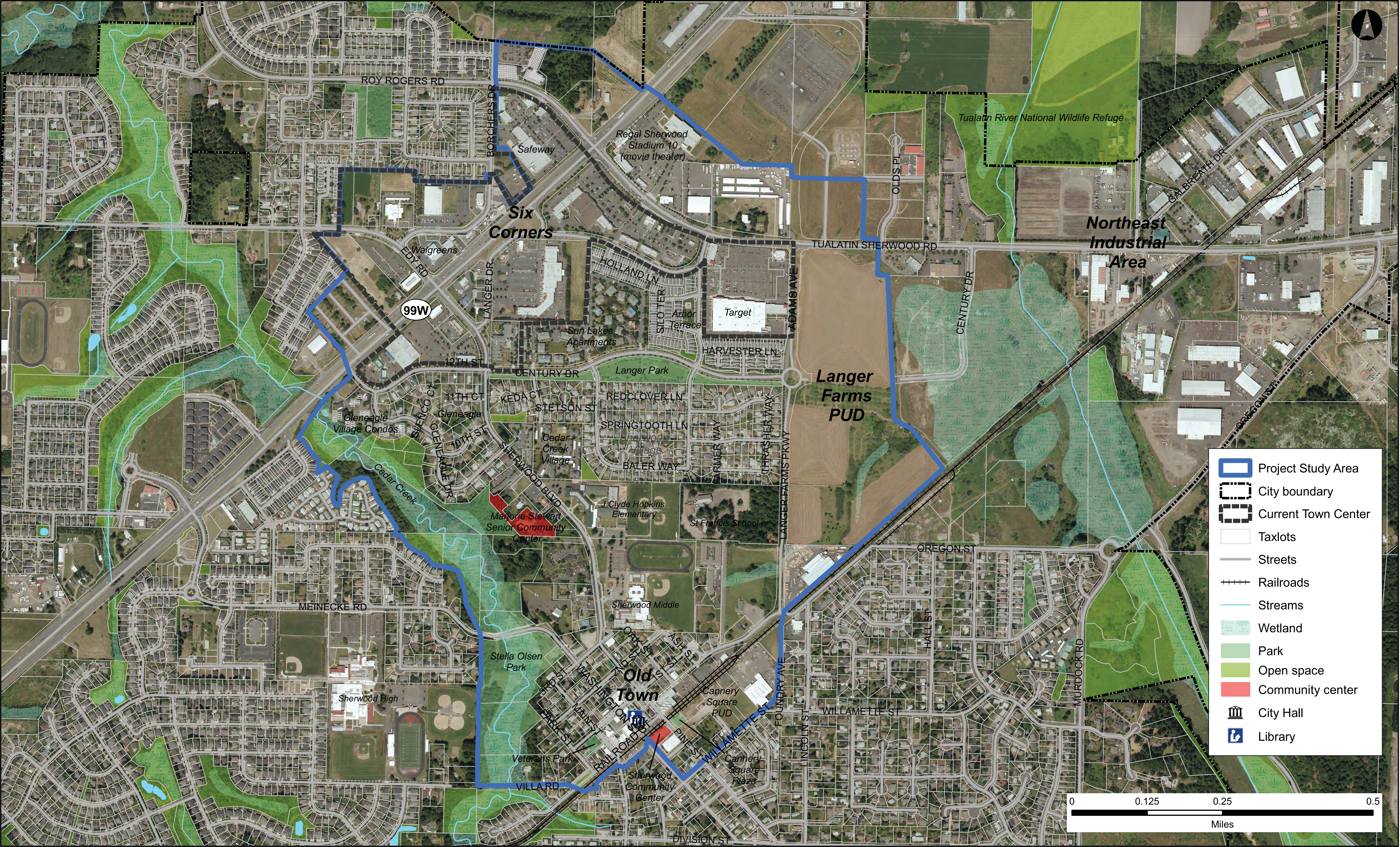
- **Tonight:** Workshop to guide development of Town Center alternatives
  - Boundaries
  - Key considerations
- Develop 2 to 4 alternatives, addressing:
  - Town center boundaries
  - Land use densities and mix
  - Transportation improvements
- Share with SAC and TAC in November
- Evaluate alternatives in detail
- Review with public, SAC, and TAC in January 2013

Project website:

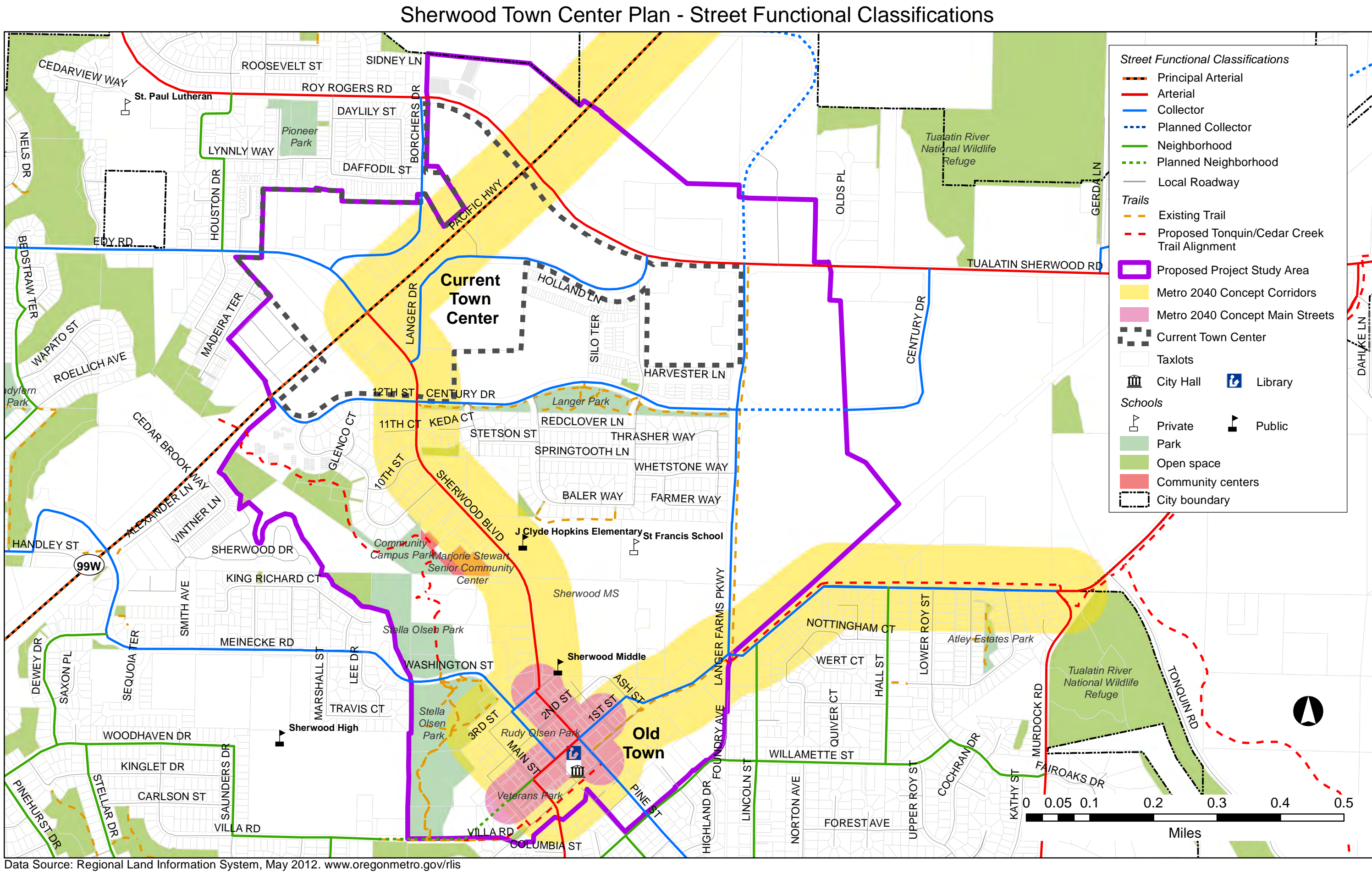
<http://www.sherwoodoregon.gov/sherwood-town-center-plan>

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Sherwood Town Center Plan - Study Area Base Map



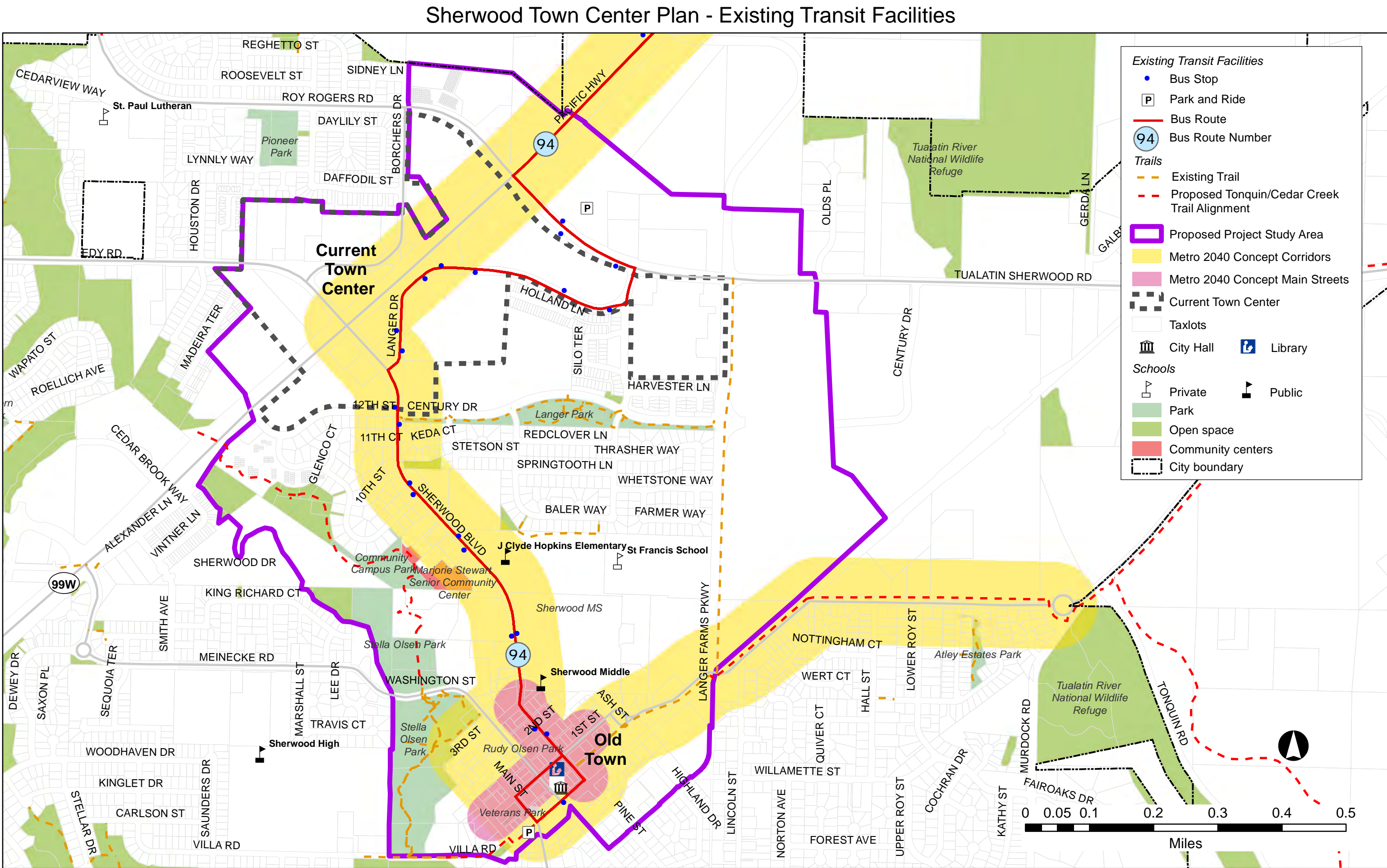
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Key Opportunities & Constraints related to Street Network:

- All major intersections in Study Area meet standards for congestion today
- Recurring congestion along Tualatin-Sherwood Road near 99W
- Planned transportation improvements will increase capacity, including:
  - Widening Tualatin-Sherwood Road to five lanes
  - Extending Langer Farms Parkway north of Tualatin-Sherwood Road to Highway 99W
  - Intersection improvements (primarily along Edy Road and Sherwood Boulevard)
- Some intersections will be less congested in 20 years due to the planned improvements above; many will have a longer average delay
- Most intersections will continue to meet standards in 20 years, but three intersections on 99W will not meet standards and could restrict growth (Home Depot, Roy Rogers Road / Tualatin-Sherwood, and Edy Road/ Sherwood Boulevard)
- Sherwood currently limits new development intensity based on the amount of new peak hour traffic that it is projected to generate (development in Old Town is exempt)
- The planned intersection improvement at Century Drive/Sherwood Boulevard and City owned property adjacent to Pine Street/3rd Street could allow for design of potential gateway treatments to welcome people to the area
- Highway 99W acts as a barrier for cars as well as bikes and pedestrians
- Old Town has an established, well-connected street grid

Other issues and concerns related to Street Network?



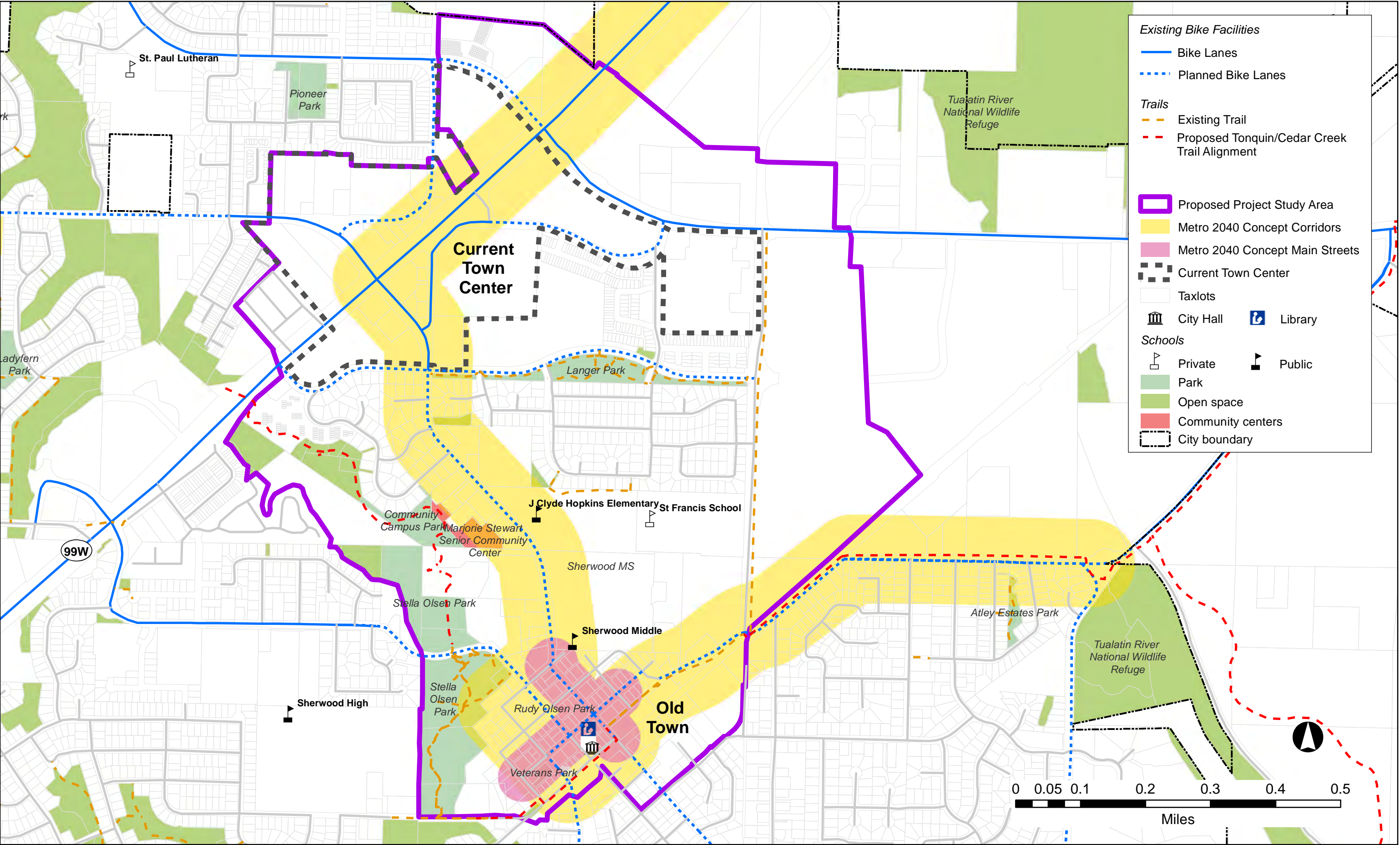
Key Opportunities & Constraints related to Transit:

- Area transit service includes:
  - TriMet Line 94 (local service between Sherwood and Tigard before and after the morning peak hours; local service to Tigard as well as express trips into Downtown Portland from Tigard 5:45-8:30 AM)
  - Park & Ride lot near the Regal Cinema
  - Yamhill County Transit Area line 44 (service to Newberg, Dundee, Dayton, Lafayette, McMinnville, and Tigard; every 1-2 hours from 6:00 AM to 7:00 PM) - originates at SW Langer Drive (Shari's) and travels onto Highway 99W
  - Yamhill County Transit Area line 45X (two trips every weekday to Newberg, Dundee, Dayton, Lafayette, McMinnville, and Tigard; southbound at 7:00 AM southbound and northbound at 5:45 PM)- originates at SW Langer Drive (Shari's) and travels onto Highway 99W
- Some transit stops lack infrastructure, such as shelters and benches
- The Southwest Corridor Plan is exploring the possibility of high capacity transit along the Barbur Boulevard/Highway 99W/I-5 corridor between Portland and Sherwood
- Existing rail corridor could provide a potential future commuter rail opportunity

Other issues and concerns related to Transit?



Sherwood Town Center Plan - Existing Bike Facilities



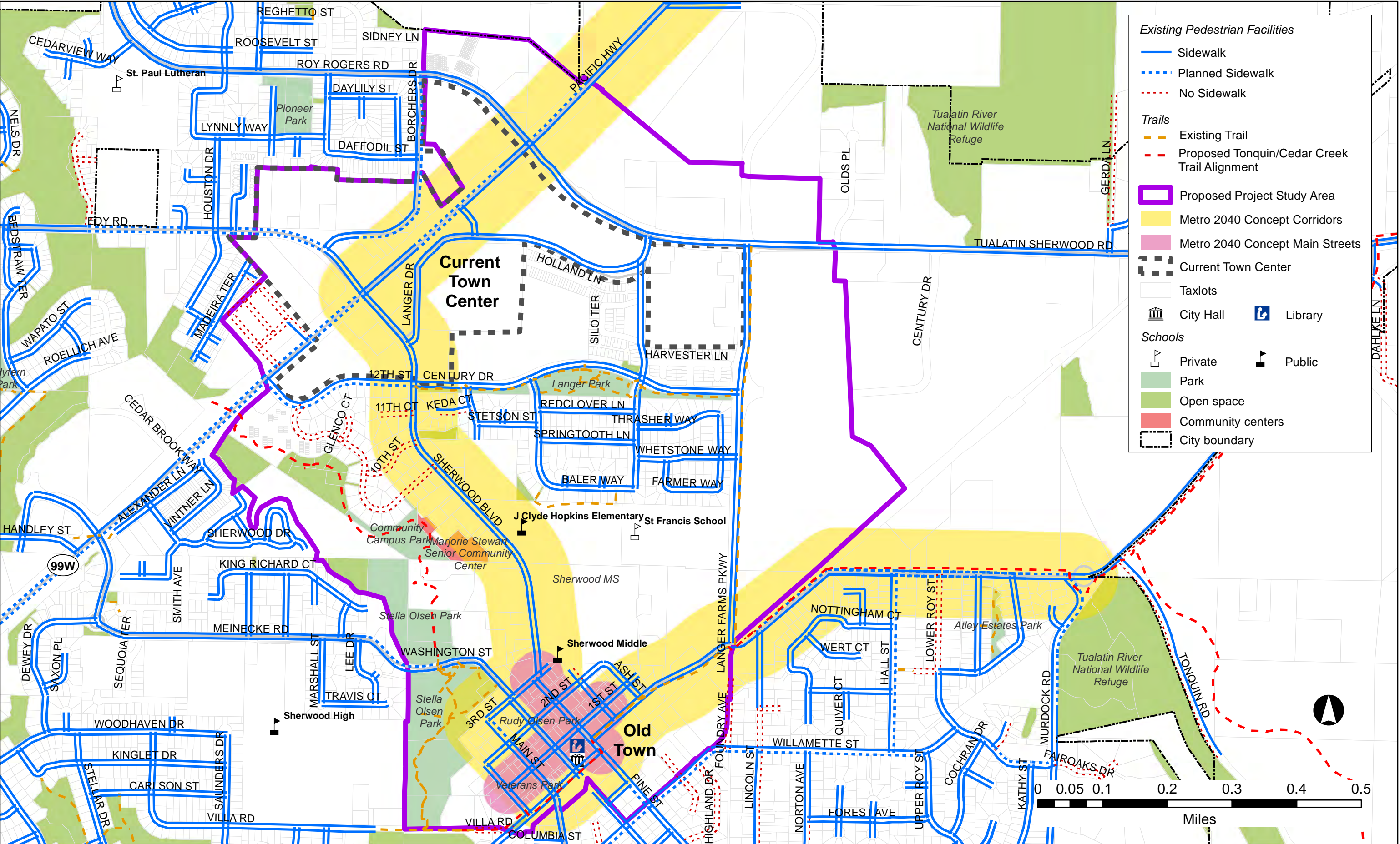
Data Source: Regional Land Information System, May 2012. www.oregonmetro.gov/rliis

Key Opportunities & Constraints related to Bike Facilities:

- Existing trails do not provide opportunities for long distance bike commutes to places outside the Study Area
- The proposed Tonquin Trail / Cedar Creek Trail will provide regional connections, including connecting Old Town to 99W, Tualatin, Wilsonville and the Willamette River
- Many collector roads and some sections of arterial roads through the Project Study Area lack dedicated bike lanes
  - Roy Rogers Road lacks bike lanes northwest of Highway 99W
  - Sherwood Boulevard - a key connection - does not have bike lanes south of Century Drive
- There are no designated crossings of Highway 99W between Edy Road and Tualatin-Sherwood Road
- Lack of east/west bicycle connections in the area north of Old Town
- Limited connectivity on local streets provides few bicycling alternatives to major street corridors
- There is no continuous bike route paralleling Highway 99W on either side of the highway
- The public school grounds provide informal walking trails

Other issues and concerns related to Bike Facilities?

Sherwood Town Center Plan - Existing Pedestrian Facilities



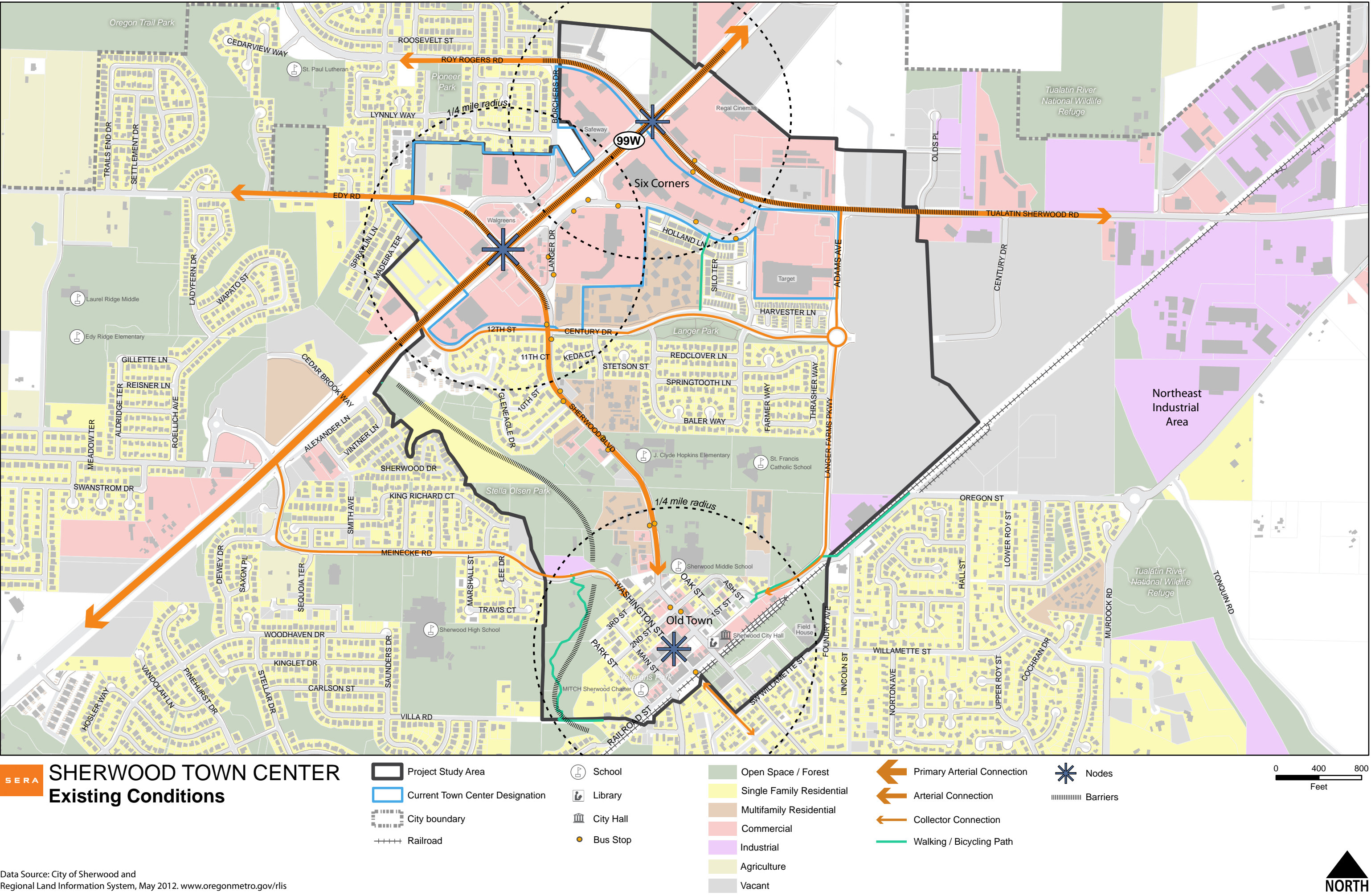
Data Source: Regional Land Information System, May 2012. www.oregonmetro.gov/rliis

Key Opportunities & Constraints related to Pedestrian Facilities:

- A large portion of the Project Study Area is well-connected by sidewalks
- There are significant gaps in sidewalks on certain major roads, including:
  - A large portion of Highway 99W south of Sherwood Boulevard
  - Edy Road west of Borchers Drive
  - 12th Street (south side)
- Pedestrian crossings are provided at all major intersections, but some crossings are closed on Highway 99W intersections, requiring pedestrians to go out of the way to cross the street at those points
- Limited connectivity on local streets increases out-of-direction travel
- Lack of designated crossings of Highway 99W between Edy Road and Tualatin-Sherwood Road makes crossing the highway difficult and may result in more dangerous illegal crossings

Other issues and concerns related to Pedestrian Facilities?

# Existing Land Use and Development Potential

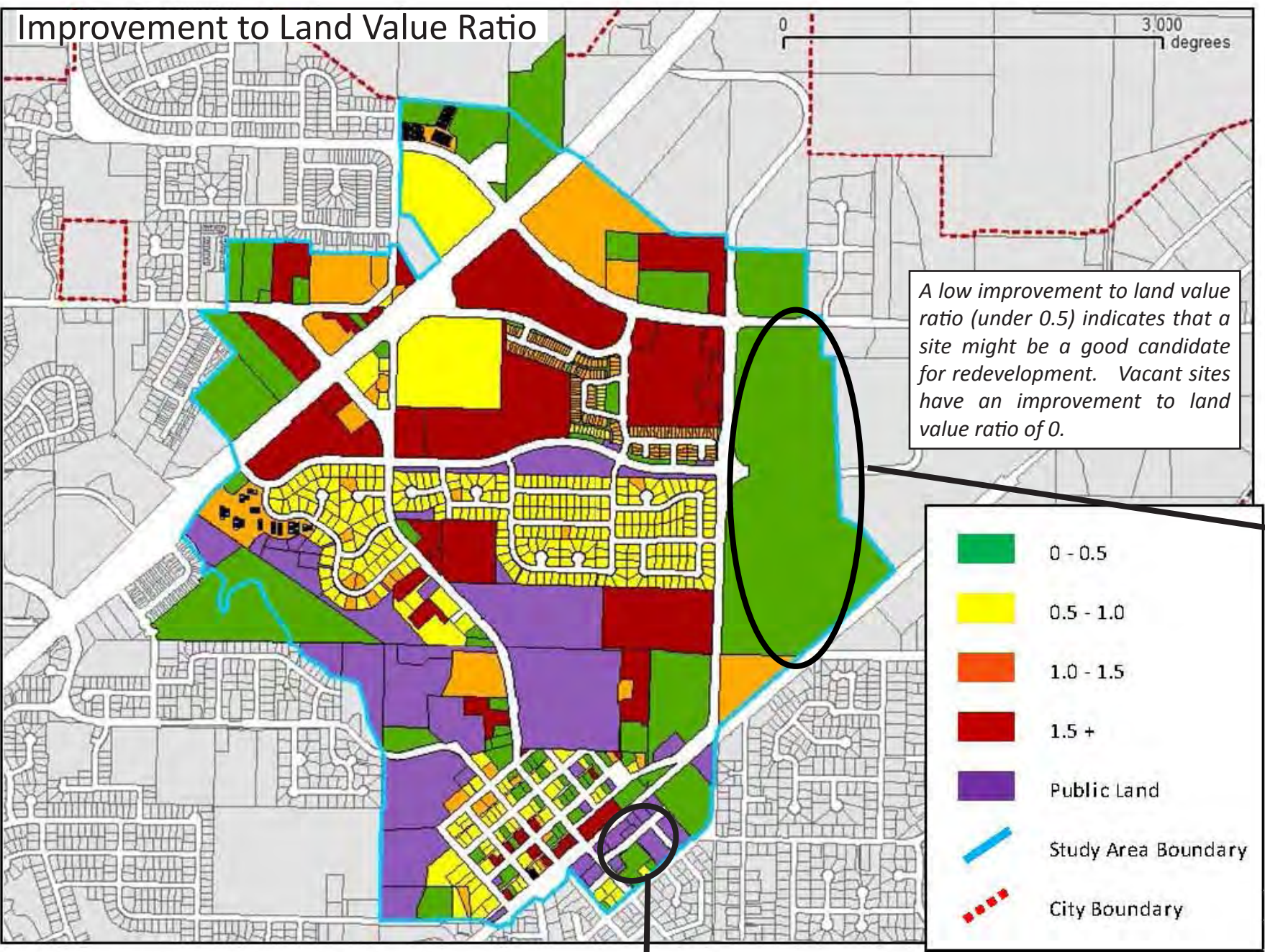


Data Source: City of Sherwood and Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

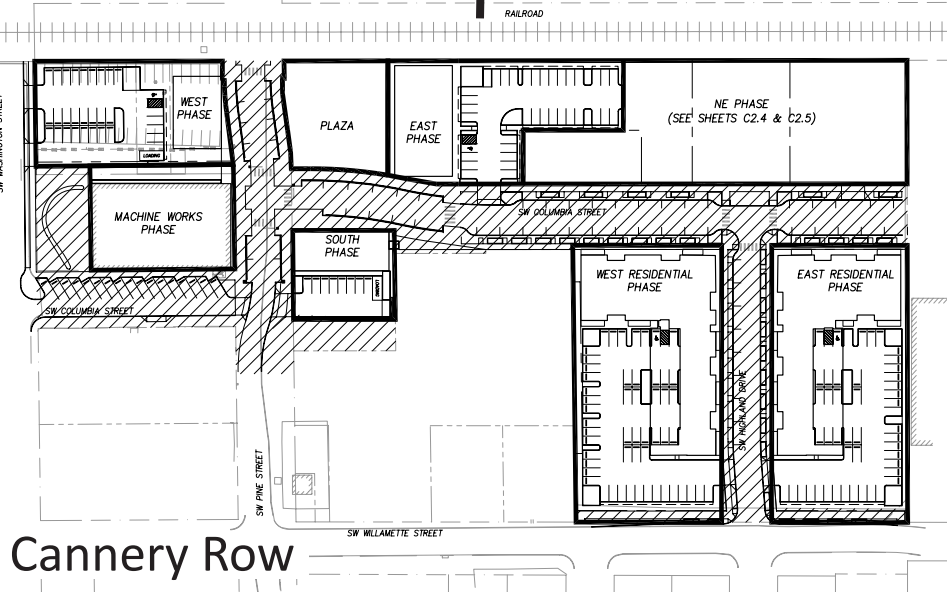
## Key Opportunities & Constraints related to Existing Development:

- Two major activity centers within the Study Area - Six Corners (along 99W) and Old Town (and potential new activity center at Langer Farms)
- Six Corners:
  - Exemplifies auto-oriented retail with single-story businesses set far back from the street and fronted by large surface parking lots
  - Serves as the regional shopping destination for many area residents
  - Businesses are generally performing well as a result of high-visibility and access from Highway 99W
  - Major businesses include Target, Safeway, Albertsons, and Regal Cinemas
- Old Town:
  - Focused around “Main Streets” on 1st and Pine Streets
  - Characterized by a small core of 2-3 story mixed office and retail buildings with some housing above commercial space
  - Home to City Hall and the Sherwood Public Library, historic buildings, and independent retailers, as well as a new plaza built as part of Cannery Square
  - Offers a walkable street grid and historic character
- Cluster of civic/institutional uses just north of Old Town, including senior center, several schools and churches, and Stella Olsen Park
- Several residential subdivisions and multi-family apartment complexes south of Six Corners area, ranging from low to fairly high density; all have internally focused streets
- Cannery Row development in Old Town includes new plaza (constructed), 101-unit apartment complex (in development review), and Sherwood Community Center (approved but not yet built)
- Langer Farms PUD allows retail commercial as well as light industrial; current development applications for commercial subdivision (approved with conditions), mini-storage, and a large retail development

## Other issues and concerns related to Existing Development?



SOURCES: Metro RLIS, Johnson Reid LLC



Cannery Row



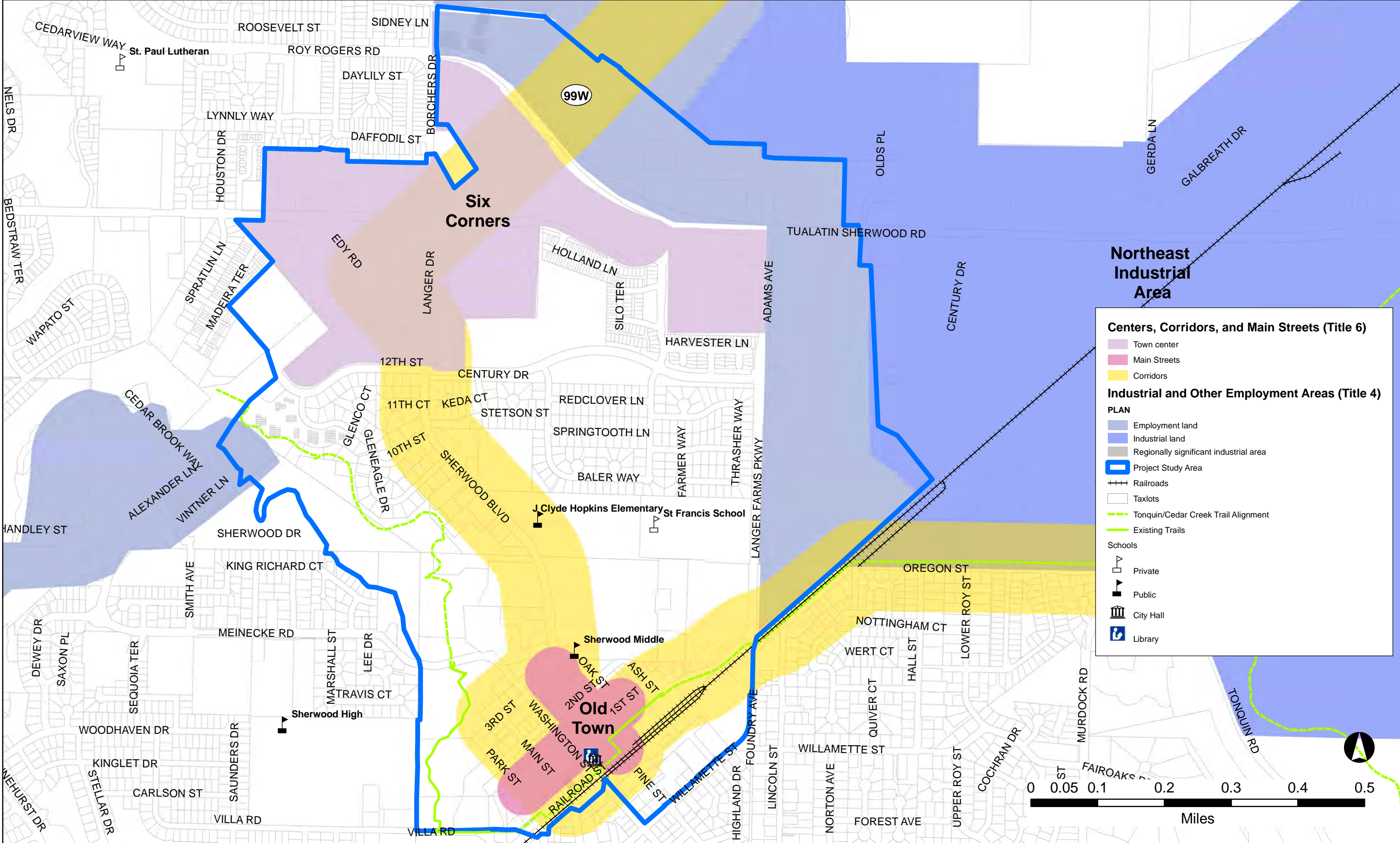
## Key Opportunities & Constraints related to Development Potential:

- A low relative value for the built improvement on a site can demonstrate that the value of a particular building has deteriorated to the point where it might be a good candidate for redevelopment; properties with an improvement to land value ratio of 0.5 or higher may be poor candidates to fully redevelop in the near to mid-term, however expansions and infill are possible.
- Excluding the Langer PUD, there are very few properties within the Study Area that would be considered good candidates for development or redevelopment in the next 10 to 20 years; “development ready” sites are mostly on the periphery of the Study Area.
- Public Works yard in Old Town area could provide development opportunity (publicly owned)
- There are few other large redevelopment sites in the Old Town area
- Sherwood has experienced strong growth in population over the last two decades. It enjoys a high average income and many family households. The City can expect strong growth to continue over the coming decades.
- Sherwood can expect continued growth in all of the major land use categories: Residential, Retail, Office and Industrial. This demand will not all be captured in the Study Area, but provides flexibility in planning for the Study Area.
- As Sherwood and the region face economic, political, and environmental constraints to boundary expansion, infill and redevelopment will play a key part in the future growth of the city.
- The lower rents achievable in the suburban environment will limit the feasible development types in the area somewhat. However, significant increases in density can be achieved even with “low-rise” construction, such as two- to three-story buildings with higher building coverage and reduced parking.

## Other issues and concerns related to Development Potential?



Sherwood Town Center Plan - Metro Designations: 2040 Design Types and Employment Areas



Data Source: Regional Land Information System, May 2012. www.oregonmetro.gov/rilis August 22, 2012

Metro Designations and Definitions:

Metro’s Regional Framework Plan includes 10 design types, including Central City, Main Streets, Regional Centers and Town Centers, as the conceptual building blocks of the region. The Study Area includes designations for a Town Center (which may be modified through this project), Main Streets (on 1st and Pine in Old Town), and Corridors (on parts of 99W, Sherwood Blvd, and Oregon St)

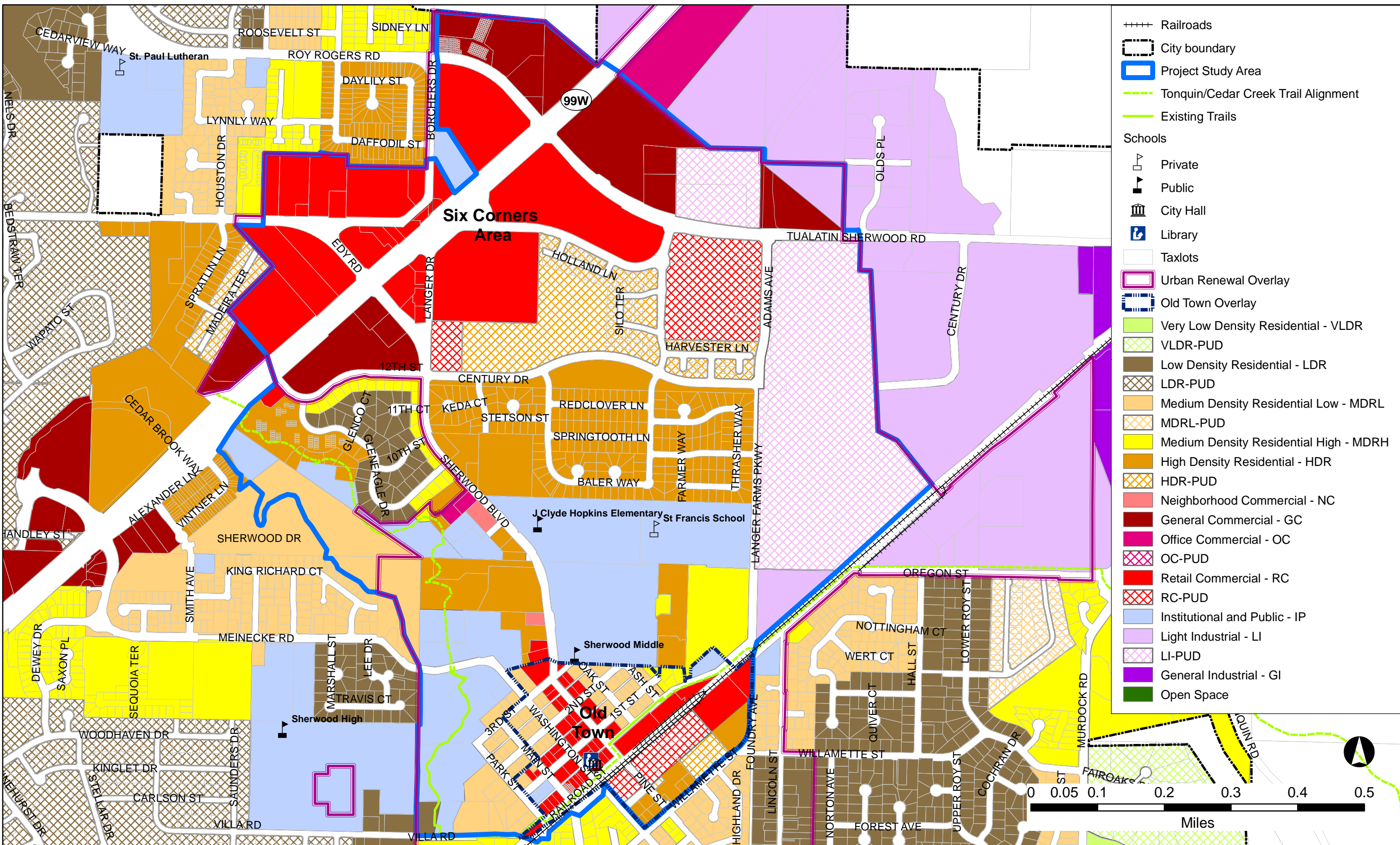
- Town Centers provide localized services to tens of thousands of people within a two-to three- mile radius...One to three story buildings for employment and housing are characteristic. Town Centers have a strong sense of community identity and are well served by transit.
- Similar to Town Centers, main streets have a traditional commercial identity, but are on a smaller scale with a strong sense of the immediate neighborhood...Main streets feature good access to transit.
- Corridors are major streets that serve as key transportation routes for people and goods...Corridors are served extensively by transit.

There are regional expectations for land use and density in designated centers and corridors.

- Resident and employee density – A specified density of residents and employees per acre is recommended for each place type in order to make them vibrant and viable:
  - Corridors: 45 persons per acre
  - Town Centers: 40 person per acre
  - Main streets: 39 persons per acre
- Mix of land uses – a variety of land uses including housing, institutional uses, civic and government uses, and neighborhood commercial uses like grocery stores, restaurants, bookstores, and coffee shops
- Housing variety – a mix of housing that meets the city’s needs

Questions or concerns related to Metro designations?

Sherwood Town Center Plan - Zoning



Data Source: Regional Land Information System, May 2012. www.oregonmetro.gov/rilis August 22, 2012

Key Opportunities & Constraints related to Zoning:

- Retail Commercial (RC) zone, which covers much of Six Corners, allows for a variety of uses, but also allows auto-oriented uses that may not be appropriate in a Town Center
- The Study Area includes land zoned High Density Residential (HDR), which allows 16.8 to 24 units per acre. Existing areas zoned HDR lie in close proximity to both Old Town and Six Corners.
- Multi-family/apartment uses are allowed secondary to permitted commercial uses in the General Commercial (GC) and RC zones
- Approved Langer Farms PUD allows retail commercial uses
- All proposed development over 15,000 square feet (except single-family homes) subject to site plan review and design standards
- Old Town overlay district includes design standards and reduced parking requirements that encourage a more pedestrian-oriented environment
- Old Town development review requires public hearing and approval by Planning Commission for all site plans
- Grants are available for façade improvements within the Old Town overlay

Other issues and concerns related to Zoning?

# Project Goals and Objectives



## Sherwood Town Center Plan Open House #1: October 3, 2012

### Project Goals

#### **Goal 1 – Community**

**Involvement:** Provide meaningful opportunities for community members to be involved in the Sherwood Town Center Plan process, including those most directly affected by the outcomes, as well as the community at large.

#### **Goal 2 – Town Center Vision:**

Develop an overarching vision that guides the development and redevelopment in the Town Center; evaluation of land use, transportation, and design alternatives; and agency coordination and plan implementation.

#### **Goal 3 – Land Use and**

**Transportation:** Develop a plan for the Sherwood Town Center that supports economic development and urban vibrancy, encourages active transportation, and improves safety and efficiency for all modes of transportation.

### Objectives

- Involve major employers, property owners, institutions, and business groups that will be impacted by and/or benefit from the plan.
- Establish technical and stakeholder advisory groups to review and comment on project deliverables to inform the work of the Project Management Team and to make recommendations to the Steering Committee.
- Inform and involve other established community groups and surrounding residents.
- Provide a variety of tools to allow all community members of Sherwood the opportunity to learn about and participate in the planning process, including opportunities at events or locations they already attend.
- Regularly update the City's Planning Commission (the Steering Committee for the project) and City Council about the project and seek their advice on key decision points.

- Establish a vision statement that specifically describes the uses, activities, look, and feel of the future Sherwood Town Center.
- Determine boundaries for the Town Center, whether existing boundaries, expanded boundaries to include Old Town, or modified boundaries to encompass just Old Town.
- Consider the vision statements from the 2007 Economic Opportunities Analysis and other City planning documents in developing the Sherwood Town Center Vision.
- Create opportunities for public/private partnerships within the Sherwood Town Center to achieve the vision.

#### Urban Vibrancy

- Examine whether existing and planned land uses implement the Town Center Vision, or whether changes may be needed.
- Capitalize on the Town Center's identified attributes, such as proximity to OR 99W, the grid street system in Old Town, the potential for future high capacity transit, and other identified or planned improvements.
- Consider reasonable funding streams in balancing land use, planning transportation improvements, and system performance.

#### Transportation Safety and Efficiency

- Determine whether changes are needed to better balance proposed land uses with transportation choices and improvements, with the goal of increasing the safety and efficiency of the transportation system.
- Identify strategic solutions to existing highway capacity issues.
- Identify transportation system improvements and standards within the Town Center boundary that enhance community livability, improve access and safety for all modes of transportation, and balance regional mobility needs with the Town Center Vision.

#### Economic Development

- Use the 2007 Economic Opportunities Analysis findings and updated market analysis developed for the project to target investments in the Town Center.
- Identify opportunities for public/private partnerships in developing and redeveloping the Town Center.

#### Active Transportation

- Include land use and implementation measures that promote transit-supportive and transit-oriented development, as well as increased local transit service and service to outlying communities.
- Identify transportation system improvements and standards within the Town Center boundary that enhance community livability, improve access and safety for all modes of transportation, and balance regional mobility needs with the Town Center Vision.



# Sherwood Town Center Plan

## Open House #1: October 3, 2012

### Project Goals

#### **Goal 4 – Plan Coordination:**

Ensure consistency with existing local and regional plans and land use regulations, particularly recent updates to plans and regulations. Coordinate efforts with planning processes in progress.

#### **Goal 5 – Implementation:**

Develop an appealing, cost-effective, and politically achievable plan to implement project recommendations.

### Objectives

- Create a plan that is consistent with Metro's Urban Growth Management Functional Plan Title 6 regarding actions and investments for Town Centers.
  - Determine whether to designate the Sherwood Town Center as a Multimodal Mixed Use Area (MMA) pursuant to OAR 660-012-0060 (the Transportation Planning Rule) and, thus, allow for exceptions to existing mobility standards and potential changes in zoning in the center.
  - Coordinate with the Southwest Corridor Plan, both in terms of influencing and being influenced by that planning process. The Southwest Corridor Plan and Sherwood Town Center Plan are intended to work together to improve the transportation system and create the basis for complementary development patterns in the town center.
  - Create a plan that is consistent with adopted local plans, such as the Sherwood Transportation System Plan, as well as with State requirements, such as the goals of the Oregon Highway Plan and requirements of the Transportation Planning Rule.
- 
- Prepare a Sherwood Town Center Plan for adoption as an element of, or ancillary document to, the Sherwood Comprehensive Plan.
  - Ensure that the Plan is consistent with applicable regional and state requirements, including Urban Growth Management Functional Plan and the Transportation Planning Rule.
  - Prepare comprehensive plan and zoning code amendments to update existing City zones in the Town Center to implement the Sherwood Town Center Plan. The plan may also require amendments to the City's transportation system plan (TSP).
  - Collaborate with the City's Planning Commission and Council to ensure that the proposed plan meets the community's goals and can be adopted in a timely manner.

# Sherwood Town Center Plan

## Open House #1: October 3, 2012

### Project Background

The City of Sherwood recently received a grant from the Oregon Department of Transportation to develop a Town Center Plan for the city. A “Town Center” is a designation of a place that Metro, the regional government, categorizes as the center of activity for a community. To give you some background, “town centers provide localized services to tens of thousands of people within a two- to three-mile radius.” Examples include small city centers such as Lake Oswego, Tualatin, West Linn, Forest Grove and Milwaukie and large neighborhood centers such as Hillsdale, St. Johns, Cedar Mill and Aloha. Town centers have a strong sense of community identity and people can travel by foot easily and access transit. Years ago, the Council voted to designate the Six Corners area as the Town Center for Sherwood; however, there was

not much study involved other than to recognize it was the main retail commercial area within the City. That compares to our Old Town area, which many see as the center and heart of the community, a unique, walkable place that defines the City with its own set of small businesses and civic buildings.

With this grant, we are able to look more in depth at where the Town Center should be located, whether to expand the Center, move it to a new location like Old Town or keep it where it is. We also will be determining how it should be developed or redeveloped in the future. Once the area is designated a Town Center, it will provide an opportunity to help lead future development, focus limited public resources and get other grant funding opportunities for the implementation of that particular plan.

### How you can help

The project team would like your input to help come up with alternatives for where and how the Sherwood Town Center should develop. The team will evaluate two to four alternatives considering different boundaries for the Town Center as well as various strategies to guide and support redevelopment within the Town Center boundary.

### Possible boundaries

The existing Town Center boundary and the project Study Area boundary are shown on the map on the reverse. Some other possibilities for a Town Center boundary might include:

- Keep the existing boundary in the Six Corners area
- Keep the existing Six Corners area, but also include Old Town
- Keep the existing Six Corners area, but expand to include Langer Farms and/or the high-density residential neighborhoods to the south and/or additional commercial along 99W
- Switch the Town Center to focus exclusively around Old Town
- Keep the Town Center at Six Corners but exclude the commercial area north of 99W due to the issues with straddling the highway
- Encompass the full Study Area, with Six Corners, Old Town, Langer Farms, and the residential neighborhoods and schools between Old Town and Six Corners

These options are intended to provide a starting point, but don't let us limit your creativity! You can use the map on the reverse to draw where you think the boundary of the Town Center should be.

### Some things to consider...

Consider the following when thinking about where a Town Center should be focused – how would a particular designation (above, or your own suggestion) impact...

- Existing residential neighborhoods?
- Non-motorized (e.g. bike and pedestrian) access ?
- Natural resources?
- Traffic congestion?
- Commercial growth & redevelopment?
- Support for transit service?
- Opportunities for new residential development?
- Timing (short-term vs. long-term change)?



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# SHERWOOD TOWN CENTER PLAN

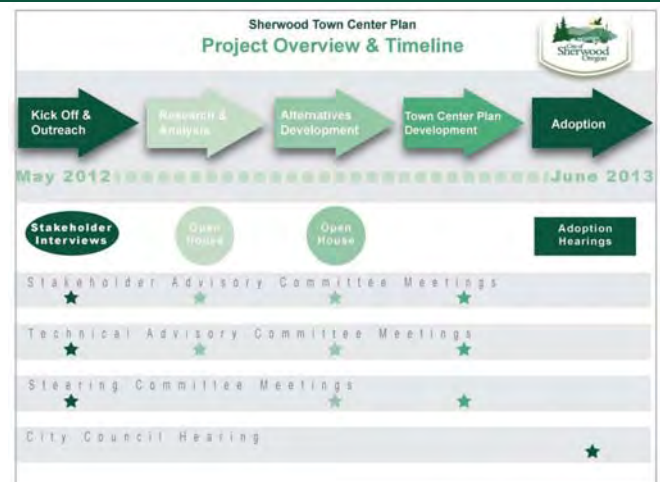
Open House #2  
January 17, 2013



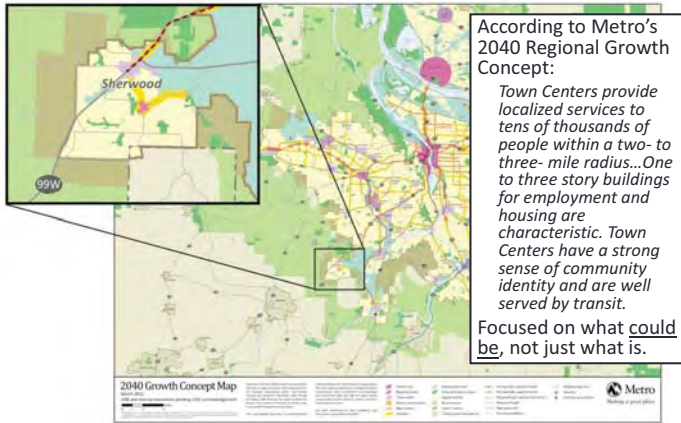
## PROJECT OVERVIEW

### Project Description

- The project will result in a Town Center Plan for the City of Sherwood
- Project outcomes will need to be consistent with a (draft) vision statement and five overarching goals (see Open House boards)
- A public involvement plan includes specific outreach objectives and strategies to engage citizens and business owners
- A Stakeholder Advisory Committee meets regularly to provide input; a Technical Advisory Committee provides information from other jurisdictions and agencies



## Defining “Town Center”



## Defining “Town Center”

### • Some typical characteristics of a Town Center:

- Mix of land uses - a variety of land uses including housing, institutional uses, civic and government uses, and neighborhood commercial uses like grocery stores, restaurants, bookstores, and coffee shops
- Housing variety - a mix of housing that meets the city's needs and that includes attached and detached single-family housing and multiple family housing for both owner and renter occupancy

### • Sherwood's Town Center:

- Is one of 30 Town Centers in the Metro area
- Does not have to be a prescribed size or in a predetermined location
- Will be uniquely “Sherwood” in character
- Will grow and develop guided by an adopted long-range plan

## Existing Population & Employment

Attribute	Project Study Area	Study Area +1 mile	Average for all Metro Town Centers
Net Area (acres)	419	5,288	222
Total Population	2,766	17,569	2,326
Total employees	2,392	4,590	1,745
People per acre	12.3	4.2	20.1
Dwelling units per acre	3.0	1.2	5.0
Total businesses per acre	0.64	0.11	0.73
Home ownership	43.2%	74.5%	47.4%
Median household income	\$56,266	\$80,693	\$60,133
Average Household Size	2.36	2.80	2.42
Median Age	31.1	32.3	36

## OPEN HOUSE OBJECTIVES

## Open House Objectives

- Introduce three Town Center Alternatives and characteristics unique to each
- Review evaluation criteria, which are consistent with project goals and objectives
- Discuss how the Alternatives, or elements of a proposed Town Center, meet the evaluation criteria
- Get feedback regarding a preferred location and the desired characteristics of a Sherwood Town Center

## RESEARCH AND ANALYSIS

## Summary Findings

- Conditions in the Project Study Area are conducive to realizing a Town Center
- Two existing activity areas exist within the Project Study Area (+ one emerging, at Langer Farms)
- Market conditions show strong growth and demand
- There is potential for infill and redevelopment

## Summary Findings

- Zoning and development requirements generally consistent with the types, mix, intensity of uses expected in a Town Center
- Issues related to Highway 99W could inhibit future growth
- Opportunities exist for enhanced non-motorized connectivity, including the Cedar Creek Trail, despite a few identified barriers
- Public transit serves the area

## DEVELOPING ALTERNATIVES

## Developing the Alternatives

### Public input informed the development of alternatives:

- Committee members discussed opportunities and challenges related to achieving a Town Center within the Study Area in September.
- Participants at an October Open House discussed:
  - Focusing future activity in Old Town and enhancing connections to/from residential areas to the south;
  - The regional draw of commercial in Six Corners;
  - The relationship of residential areas south of Century Drive to 99W and the need for strong connections to Old Town;
  - The need for better east-west transportation connections.

## Developing the Alternatives

Based on citizen feedback, three general concepts began to take form, each with a different approach to accommodate development and transportation connections in a future Town Center.

## Developing the Alternatives

Based on the three general concepts, the consultant team:

- Made assumptions about the location, type, and intensity of future development for each concept.
- Geographically delineated three Town Center alternatives: "Old Town," "All Study Area," and "Edges."
- Identified transportation improvements to support the level of activity for each alternative.
- Analyzed the trip generation implications of each alternative, given the increase in development over what is currently expected.

## Developing the Alternatives

All of the Town Center Alternatives assume:

- An increase in commercial and residential land use intensity within the identified Town Center boundary from development on vacant land, as well as from infill and redevelopment
- High Capacity Transit service to the identified Town Center
- New and enhanced facilities for pedestrians and bicyclists
- Roadway improvements to accommodate the level of growth reflected in the land use assumptions

## Developing the Alternatives

• Under all of the Alternatives:

- Key Highway 99W signalized intersections are near/over capacity
- Langer Farms Parkway/Oregon Street intersection is near/over capacity
- Old Town experiences additional traffic, which may cause additional congestion

## EVALUATING THE ALTERNATIVES

## Evaluating the Alternatives

- The location of the Town Center and associated increases in development and infill influences:
  - The type and character of supportive transit
  - The need for increased non-motorized connections
  - The type and location of roadway improvements

## Evaluating the Alternatives

- The Old Town alternative focuses development intensity and improvements in Old Town, assumes HCT on Langer Farms, and generates the least amount of additional traffic on the roadway system.
- The All Study Area alternative shifts the focus to commercial areas around Six Corner and how to connect across the highway, with HCT on 99W and changes to the roadway configuration.
- The Edges alternative assumes enhanced (re)development south of 99W, around a Langer Drive “main street” and in Old Town, with enhanced transportation connections between the commercial areas.

## Evaluating the Alternatives

An Alternatives Evaluation Report is available for public review that :

- Summarizes the characteristics of each Town Center Alternatives
- Reviews the project Goals, Objectives, and Evaluation Criteria
- Evaluates and compares/contrasts the Alternatives against the criteria

Public Open House display boards include summary information and provide an opportunity for discussion and comment.

## NEXT STEPS

## Next Steps...

- **Tonight:** Please provide your feedback on the location and the desired characteristics of a Sherwood Town Center!
- **SAC and TAC Meetings - Late January 2013**
- **Traffic Analysis and Implementation Report – February/March 2013**
- **Draft Town Center Report – April 2013**

Project website:

<http://www.sherwoodoregon.gov/sherwood-town-center-plan>

# Town Center Alternatives: Key Characteristics



		Alternative 1	Alternative 2	Alternative 3
Element		“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
Land Use Character and Development Assumptions	Overall	<ul style="list-style-type: none"> <li>❖ Highest level of (re)development in and around Old Town</li> <li>❖ No change for Six Corners</li> </ul>	<ul style="list-style-type: none"> <li>❖ Highest level of (re)development for Six Corners area</li> <li>❖ Least change in and around Old Town</li> </ul>	<ul style="list-style-type: none"> <li>❖ Some intensification of commercial and residential development in both the southern portion of Six Corners and Old Town</li> </ul>
	Intensity in Old Town	<ul style="list-style-type: none"> <li>❖ Numerous infill projects on underused and vacant lots within Old Town, including retail, offices, multi-family condominiums and apartments, and townhomes.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Infill on vacant parcels scattered throughout Old Town allow for small-scale mixed-use development.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Infill on vacant parcels scattered throughout Old Town allow for small-scale mixed-use development, along with some slightly larger redevelopment projects.</li> </ul>
	Other Opportunity Sites	<ul style="list-style-type: none"> <li>❖ The city-owned Public Works property (bounded by the railroad track, Foundry Avenue, and the Cannery Square PUD to the southwest) provides an opportunity for redevelopment with multi-family dwellings and a mix of office and retail.</li> <li>❖ The residential neighborhood south of Old Town allows for a gradual increase in density as duplexes, townhomes and accessory dwelling units (ADUs) are constructed over time.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Increased activity and development on the northwest side of Highway 99W, including new multi-family housing and new retail/commercial uses.</li> <li>❖ The north side of Tualatin-Sherwood Road provides opportunities for new office, retail, and light industrial development.</li> <li>❖ A gradual increase in density in established subdivisions north of Old Town occurs as accessory dwelling units (ADUs) are constructed over time.</li> <li>❖ Redevelopment and property upgrades along the west side of Sherwood Boulevard south of Gleneagle provide gradual increases in residential and/or commercial density and sites that better accommodate pedestrians, bicyclists and access to transit.</li> <li>❖ Vacant land northeast of Old Town provides an opportunity for additional multi-family housing adjacent to Old Town.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Existing shopping centers along Langer Drive add new “liner” buildings or modify to existing buildings to re-orient or better connect pedestrian entrances to Langer Drive, helping to create a “Main Street” feel.</li> </ul>
Transit	HCT	<ul style="list-style-type: none"> <li>❖ High-capacity transit (HCT) to connect Old Town with the greater Portland region could be routed down Langer Farms Parkway to quickly move people in and out of the Town Center.</li> <li>❖ An HCT station or transit center would be located within Old Town, with few or no other stops in the City of Sherwood for high capacity transit use.</li> </ul>	<ul style="list-style-type: none"> <li>❖ High-capacity transit connections along Highway 99W and Sherwood Boulevard connect Old Town and Six Corners to the region along the Southwest Corridor.</li> <li>❖ A primary HCT station could be provided in the Six Corners area with local/feeder service to Old Town.</li> </ul>	<ul style="list-style-type: none"> <li>❖ High-capacity transit connections could be provided along Langer Farms Parkway to connect Old Town and the Langer PUD to the region along the Southwest Corridor.</li> </ul>
	Local	<ul style="list-style-type: none"> <li>❖ Local transit routes could include connections along Sherwood Boulevard, Langer Drive, and Langer Farms Parkway.</li> </ul>		
Roadway Improvements		<ul style="list-style-type: none"> <li>❖ Enhanced bike/pedestrian facilities in parts of the Old Town street grid</li> <li>❖ Increased redevelopment in Old Town could help implement planned alleyway improvements</li> </ul>	<ul style="list-style-type: none"> <li>❖ Highway 99W would be narrowed to two through-lanes (from the current four through-lanes) in each direction between approximately Tualatin-Sherwood Road and Sherwood Boulevard. This design reduces the crossing distance and improves safety for pedestrians. The modified roadway design could also provide right of way for exclusive HCT use along Highway 99W.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Enhanced streetscape along Langer Drive supports its transformation to a “Main Street” feel.</li> </ul>
		<ul style="list-style-type: none"> <li>❖ “Complete Streets” (calm roadways safe for all users featuring stormwater and landscape features, attractive streetscapes, and easy access for people on foot and bicycle) improvements on Sherwood Boulevard complement recent improvements on Langer Farms Parkway to provide for welcoming access to Old Town from Highway 99W.</li> </ul>	<ul style="list-style-type: none"> <li>❖ The “complete streets” improvements on Sherwood Boulevard and Century Drive, as well as the recently improved Langer Farms Parkway, connect districts and residential neighborhoods and make walking and biking within the Town Center pleasant and safe.</li> </ul>	
Gateways		<ul style="list-style-type: none"> <li>❖ Sherwood Boulevard and Langer Farms Parkway are the primary gateways where the majority of travelers will enter into Old Town.</li> <li>❖ Additional, secondary gateways include Meinecke Road / Washington Street, Pine Street, and Main Street.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Primary gateways along Highway 99W, Tualatin-Sherwood Road, and Oregon Street mark the transition to the Town Center area, where development and street character will differ from the surrounding area.</li> <li>❖ Secondary gateways at the intersections of Highway 99W / Sherwood Boulevard and Tualatin-Sherwood Road / Langer Farms Parkway, as well as other entry points to Old Town, help direct all modes of travelers to Old Town.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Gateways where key roadways cross the “edges” mark the transition to the Town Center area, where development and street character will differ from the surrounding area.</li> </ul>
Key Bike/Ped Connections		<ul style="list-style-type: none"> <li>❖ Improved connections from Old Town to residential and commercial areas to the north through existing school properties.</li> </ul>		
		<ul style="list-style-type: none"> <li>❖ Connections to Old Town from the neighborhoods south of the railroad tracks.</li> </ul>	<ul style="list-style-type: none"> <li>❖ New north/south bike and pedestrian connections in the area between Sherwood Boulevard and Langer Farms Parkway.</li> <li>❖ Crossing improvements along Highway 99W to help reduce the “barrier” effect and better connect residential and commercial uses on both sides of the highway.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Connections to and from Cedar Creek Trail adjacent to Langer Farms Parkway, Washington Street and pedestrian access at Sherwood Boulevard.</li> </ul>

# Alternative 1: Old Town Development Characteristics



## Sherwood Town Center Plan Open House #2: January 17, 2013



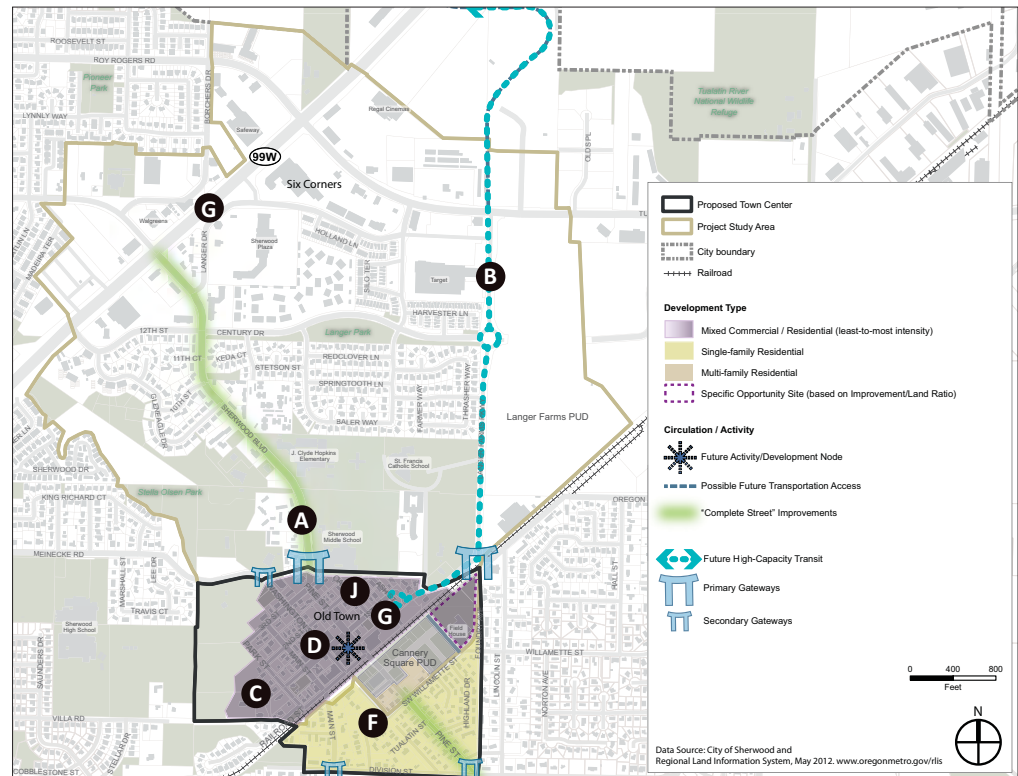
"Complete Streets" along 99W, Sherwood Blvd., and in Old Town support calm roadways safe for all users, stormwater and landscape features, attractive streetscapes, and easy access for people on foot and bicycle.



Bus-rapid-transit (BRT) provides quick connections between urban centers without the costs of infrastructure of rail transit. The guideways and stations can be tastefully integrated in Sherwood.



Medium-scale multi-family residential can coexist next to single-family detached homes in well-connected neighborhoods around Old Town.\*



More intense mixed-use commercial and residential in Old Town in Alternative 1 provides employment and living options that blends with Old Town's character.



Accessory-dwelling units are a practical, attractive way of slowly adding housing in residential neighborhoods and providing a broader mix of housing options of various prices and sizes.



Local circulator transit service provides connections between bus-rapid transit, Old Town, Six Corners, and other local destinations.



Ground floor retail and offices with multi-family residential above will enliven the area with more employees, business patrons, and residents.

\*Note: This photo depicts development scale. Actual building design would be regulated by Old Town Design Standards.

## Alternative 2: All Study Area Development Characteristics



## Sherwood Town Center Plan Open House #2: January 17, 2013



"Complete Streets" along 99W, Sherwood Blvd., and in Old Town support calm roadways safe for all users, stormwater and landscape features, attractive streetscapes, and easy access for people on foot and bicycle.



A multi-way boulevard calms traffic, provides access for through and local traffic, accommodates bus-rapid transit, and is easier to cross and travel along on bicycle and foot.



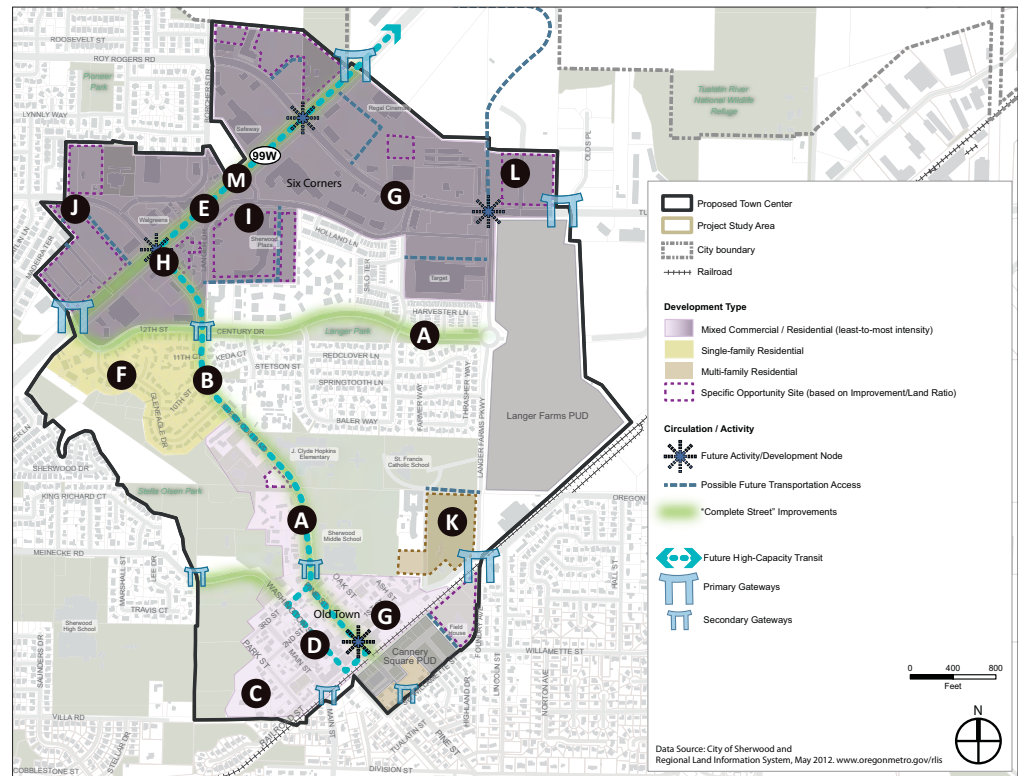
Bus-rapid-transit (BRT) provides quick connections between urban centers without the costs of infrastructure of rail transit. The guideways and stations can be tastefully integrated in Sherwood.



Townhomes and duplexes can fit suitably into single-family detached home neighborhoods, providing a wider range of housing options for families, professionals, retirees, and others.



Less intense mixed-use commercial and residential in Old Town in Alternative 2 provides employment and living options that blends with Old Town's character.



Accessory-dwelling units are a practical, attractive way of slowly adding housing in residential neighborhoods and providing a broader mix of housing options of various prices and sizes.



A development node can feature transportation and street improvements along with signature mixed-use development that enlivens a busy intersection area.



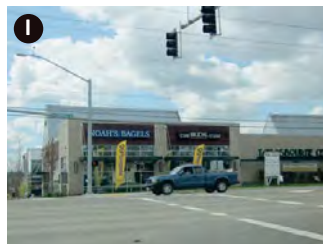
Ground floor retail and offices with multi-family residential above will enliven the area with more employees, business patrons, and residents.



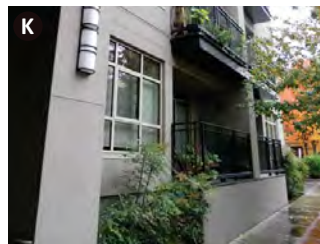
Medium-scale light industrial and office uses around Tualatin-Sherwood Rd. bolster the employment base in Sherwood.



Local circulator transit service provides connections between bus-rapid transit, Old Town, Six Corners, and other local destinations.



Liner retail buildings help activate otherwise underused parking lots and bring people out onto the streets.



High-density residential apartments or condominiums provide housing options near existing and new commercial uses and transit.



Traffic calming, improved pedestrian access, and transit service help make 99W a lively "main street" full of small retailers and businesses.

# Alternative 3: Edges Development Characteristics



## Sherwood Town Center Plan Open House #2: January 17, 2013



"Complete Streets" along 99W, Sherwood Blvd., and in Old Town support calm roadways safe for all users, stormwater and landscape features, attractive streetscapes, and easy access for people on foot and bicycle.



Medium intensity mixed-use commercial and residential in Old Town in Alternative 3 provides employment and living options that blends with Old Town's character.



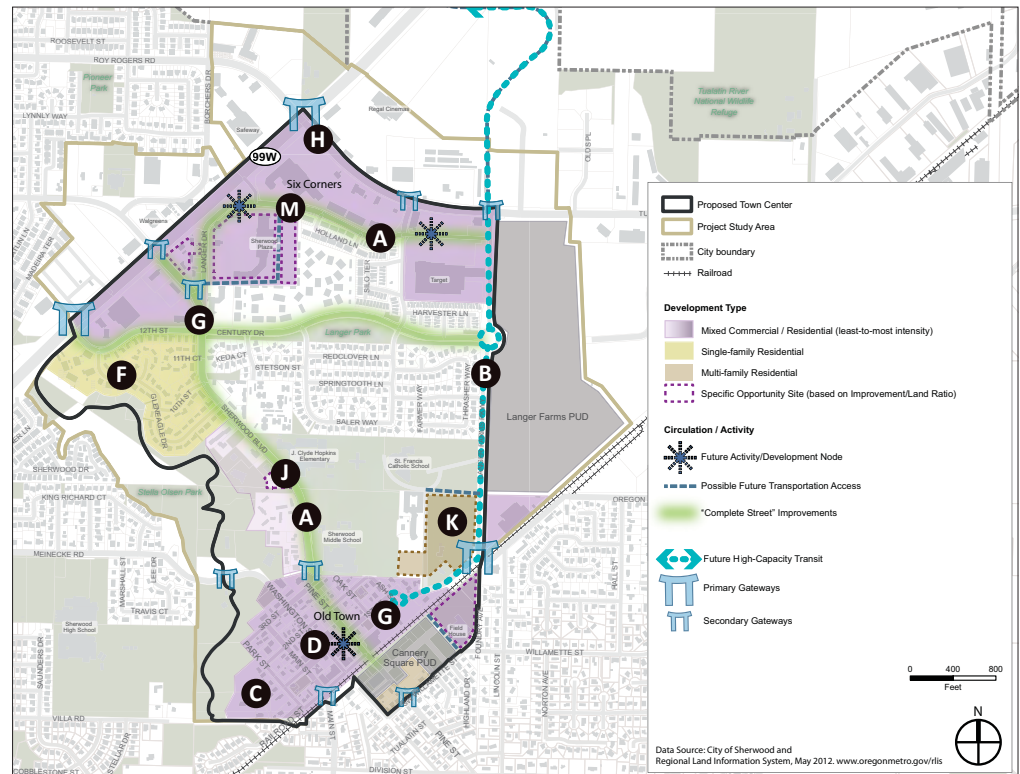
Bus-rapid-transit (BRT) provides quick connections between urban centers without the costs of infrastructure of rail transit. The guideways and stations can be tastefully integrated in Sherwood.



Townhomes and duplexes can fit suitably into single-family detached home neighborhoods, providing a wider range of housing options for families, professionals, retirees, and others.



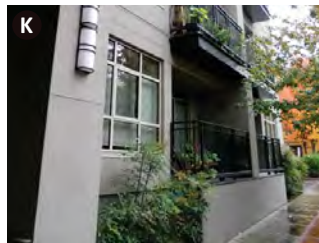
Medium-scale multi-family residential can coexist next to single-family detached homes in well-connected neighborhoods around Old Town.\*



Accessory-dwelling units are a practical, attractive way of slowly adding housing in residential neighborhoods and providing a broader mix of housing options of various prices and sizes.



A gateway can feature transportation and street improvements along with signature mixed-use development to enliven a busy intersection area.



High-density residential apartments or condominiums provide housing options near existing and new commercial uses and transit.



Langer Drive becomes a reinvented "main street" full of street-oriented retail, attractive landscaped spaces, and easy walking and bicycle connections.



Local circulator transit service provides connections between bus-rapid transit, Old Town, Six Corners, and other local destinations.



Ground floor retail and offices with multi-family residential above will enliven the area with more employees, business patrons, and residents.

\*Note: This photo depicts development scale. Actual building design would be regulated by Old Town Design Standards.

# Pedestrian / Bicycle Improvements Development Characteristics



## Sherwood Town Center Plan Open House #2: January 17, 2013



Improved crossings, calmer traffic, and a potential lane- or road-diet along Highway 99W will make it safer and a more attractive commercial corridor.



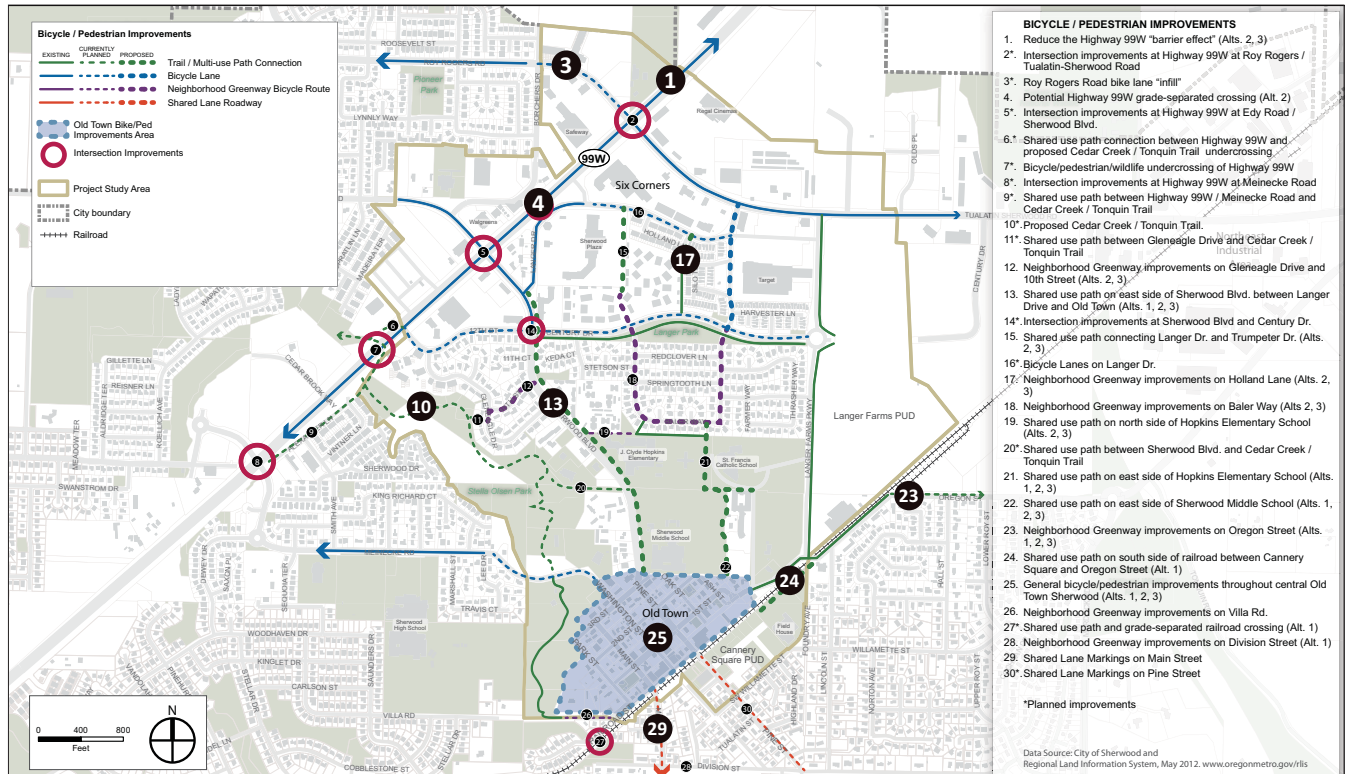
Additional bicycle lanes on Roy Rogers Rd. and elsewhere throughout Sherwood will improve access for people riding bicycles to, from, and within the Town Center.



In the long-term, a grade-separated crossing of Highway 99W can reduce the "barrier" effect of this large roadway.



The Cedar Creek / Ice Age Tonquin Trail will help connect Sherwood to Wilsonville and Tualatin.



Shared-use paths along several key roads, such as Sherwood Blvd., will make it easier to walk and bicycle between Old Town, Six Corners, and elsewhere in Sherwood.



Neighborhood Greenway streets connect residential areas and commercial districts with low-street bikeways.



Old Town streets can be given a "Complete Street" treatment (where currently lacking) with on-street parking, wide sidewalks, stormwater facilities, and shared roadways for autos and bicycles.



Wide sidewalks and open, attractive storefronts create a livelier "main street" for residents, visitors, and businesses in Old Town and around Sherwood.



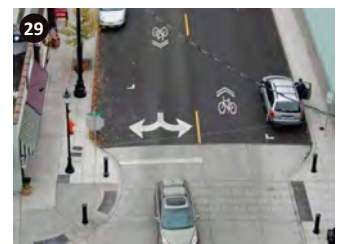
Neighborhood Greenways, featuring slow traffic, quality sidewalks, bicycle routes, and stormwater facilities, can be created on many residential streets.



Shared-use paths can coexist next to railroads and other utility corridors. A path along Oregon Street near Cannery Square will improve connections.



Benches, landscaping, and bicycle parking make for more attractive and functional streets, which can be very good for local businesses.



Shared-lane markings ("sharrows") on Main Street help create a safe route for bicyclists traveling from Old Town to neighborhoods to the south.

# Town Center Alternative Evaluation: Planning Considerations



## Overview

Evaluation criteria were developed early in the project to help guide selection of a preferred alternative. The evaluation criteria highlight the community's desire to promote economic growth and vitality, allow for a mix of uses, and build on desirable and unique characteristics, while maintaining the safety and functionality of the transportation system that serves the area.

Two of the evaluation criteria, shown below, relate to consistency with adopted plans and policies and the actions that would be required to ensure effective implementation of the Town Center Plan. Where a rating is assigned below, 3 stars represents the highest rating, 1 star is the lowest. The evaluation provided below is intended as a starting point for discussion with the community as well as the SAC, TAC and Steering Committee.

Evaluation Criterion / Element	Alternative 1	Alternative 2	Alternative 3
	"Old Town" Town Center	"All Study Area" Town Center	"Edges" Town Center
<b>Promotes and/or is consistent with other regionally and locally adopted plans and policies.</b>			
<b>Consistent with Elements of a Multi-Modal Mixed Use Area</b> <i>Designated multi-modal mixed use areas are exempt from certain state requirements to provide transportation facilities adequate to meet adopted mobility targets (i.e. greater levels of congestion are tolerated).</i>	<i>Most consistent</i>	<i>Least consistent</i>	<i>Less consistent</i>
<b>Consistent with state highway designation and intended function</b> <i>Highway 99W is classified as a Statewide Highway, Freight Route, and Truck Route and is part of the National Highway System. It is intended to provide safe, efficient, high-speed operation.</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>
<b>Consistent with City's existing Capacity Allocation Program</b> <i>The Capacity Allocation Program (CAP) in Sherwood's City Code limits development intensity as a strategy to minimize new trips on Highway 99W. The CAP requirement will be reexamined and possibly removed through TSP modifications associated with the designation of a Town Center.</i>	<i>Yes</i> <i>Development in the Old Town Overlay is excluded from the CAP.</i>	<i>No</i> <i>Would require modifications to CAP.</i>	<i>No</i> <i>Would require modifications to CAP.</i>
<b>Future estimated densities achieve targets for a regional Town Center designation</b> <i>The Town Center Plan will need to include revisions to local land use regulations to allow the intensity of development specified for a regional Town Center. Target density is 40 persons per acre. Estimated future densities at right are averaged across the proposed Town Center boundary and include both developable and undevelopable land. Excluding Stella Olsen Park may significantly affect the calculation.</i>	<i>20 persons/acre</i>	<i>17 persons/acre</i>	<i>20 persons/acre</i>
<b>Includes strategies for successful, efficient, and cost-effective implementation of the plan, including coordination with planning projects and regulations.</b>			
<b>Parking management considerations</b>	❖ Will likely require a parking management plan early in implementation	❖ May require lowering parking requirements in Six Corners	❖ May require lowering parking requirements in the part of Six Corners included in the Town Center boundary for this alternative
<b>Potential impacts of recommended changes to zoning, development regulations and allowed land uses</b>	❖ Recommended changes to zoning to allow increased residential density could impact existing residents within Old Town.	❖ May require restricting drive-throughs in Six Corners, which could create non-conforming uses. ❖ Rezoning Light Industrial property could create non-conforming uses.	❖ Recommended rezoning of St. Francis property would have little or no effect on existing church use.
<b>Cost of recommended bike &amp; pedestrian projects</b>	<i>\$4 million</i>	<i>\$15 million</i>	<i>\$4 million</i>
<b>Changes to state transportation plans &amp; policies</b>	<i>Less challenging</i> <i>Alternative Mobility Targets on Highway 99W may be pursued as part of implementation.</i>	<i>Most challenging</i> <i>Would require challenging state-level plan/policy modification for the modified lane configuration on Highway 99W.</i>	<i>Less challenging</i> <i>Alternative Mobility Targets on Highway 99W may be pursued as part of implementation.</i>

# Town Center Alternatives Evaluation: Integrating Transportation & Land Use



## Sherwood Town Center Plan Open House #2: January 17, 2013

### Overview

Evaluation criteria were developed early in the project to help guide selection of a preferred alternative. This section provides a comparison of the three alternatives using transportation performance measures under the heading "Integrated Land Use and Transportation System." This criterion articulates the community's desire to promote a well-connected, multi-modal, and safe transportation system that supports expected growth.

To better understand the traffic implications of assuming more intense land uses in specific locations, a traffic sensitivity analysis was performed.

The sensitivity analysis provided a preliminary comparison of the alternatives and identified potential traffic impacts. Under all of the alternatives,

- ❖ Key Highway 99W signalized intersections are near/over capacity
- ❖ Langer Farms Parkway/Oregon Street intersection is near/over capacity
- ❖ Old Town experiences additional traffic, which may cause additional congestion

The following table is a summary of additional findings that help distinguish between the alternatives.

Evaluation Criterion / Element	Alternative 1	Alternative 2	Alternative 3
	"Old Town" Town Center	"All Study Area" Town Center	"Edges" Town Center
<b>Livability</b>			
<b>Increase in traffic</b> <i>Percentage figure represents growth in average daily trips on local streets, as compared to baseline conditions.</i>	<b>15%</b>	<b>48%</b>	<b>18%</b>
<b>Roadways most impacted by increased traffic</b> <i>Excludes Highway 99W; impacts to the highway are addressed in the overview text above.</i>	<ul style="list-style-type: none"> <li>❖ Langer Farms Parkway</li> <li>❖ Oregon Street</li> <li>❖ Sherwood Boulevard</li> </ul>	<ul style="list-style-type: none"> <li>❖ Tualatin-Sherwood Road</li> <li>❖ Borchers Drive</li> <li>❖ Langer Drive</li> <li>❖ Century Drive</li> </ul>	<ul style="list-style-type: none"> <li>❖ Langer Drive</li> <li>❖ Sherwood Boulevard</li> </ul>
<b>Access / Connectivity</b>			
<b>Amount of new bike/pedestrian connections proposed within the Town Center boundary</b>	<b>Least</b>	<b>Most</b>	<b>More</b>
<b>Safety</b>			
<b>Increase in traffic growth at key safety site (Highway 99W &amp; Tualatin-Sherwood Road)</b> <i>A volume decrease would denote an improvement, while larger increases would denote potential negative impacts.</i>	<b>1%</b>	<b>-1%</b>	<b>3%</b>
<b>Improved bike/pedestrian crossings of Highway 99W</b>	<b>Less improved</b>	<b>Most improved</b> <i>Reduced cross section and the addition of a median refuge would improve crossings Hwy 99W at Tualatin-Sherwood Road</i>	<b>Less improved</b>
<b>Mobility</b>			
<b>Increase in total vehicle-hours of delay from baseline conditions</b> <i>Vehicle hours of delay measures ease of travel without delay in the study area. Lower levels indicate the ability for traffic to move more freely through the study area, while higher levels indicate more congestion.</i>	<b>11%</b>	<b>58%</b>	<b>18%</b>
<b>Access to Town Center by Bus Rapid Transit (BRT)</b> <i>Potential BRT routing is preliminary and will be refined through the Southwest Corridor Plan.</i>	<ul style="list-style-type: none"> <li>❖ Routing BRT down Langer Farms Parkway could provide a quicker way in and out of Old Town from Highway 99W</li> </ul>	<ul style="list-style-type: none"> <li>❖ Potential to provide a dedicated BRT lane on a portion of 99W could enhance BRT mobility and reliability</li> </ul>	<ul style="list-style-type: none"> <li>❖ Routing BRT down Langer Farms Parkway could provide a quicker way in and out of Old Town from Highway 99W</li> </ul>
<b>Growth</b>			
<b>Increase in trip-end growth from baseline conditions</b> <i>Trip ends generally increase as total land use intensity increases. For this measure, increases in trips are considered a positive indicator of future economic potential in the Town Center.</i>	<b>14%</b>	<b>37%</b>	<b>26%</b>

# Town Center Alternatives Evaluation: Your Turn!



## Which alternative best builds on and promotes the unique characteristics of the study area?

*Share your thoughts below.*

*We have identified some initial considerations to stimulate discussion. Please add your thoughts and comments in the space provided.*

*Vote with dots!*

*You have a total of 6 dots to allocate for this criterion.  
You may distribute them however you wish between the three alternatives.*

Alternative 1	"Old Town" Town Center	<ul style="list-style-type: none"><li>❖ Focuses even more energy and development in Old Town, which could support existing and new businesses and spur growth in Old Town</li><li>❖ Runs the risk of eroding the small-town feel and historic ambiance that make Old Town unique</li></ul>	
Alternative 2	"All Study Area" Town Center	<ul style="list-style-type: none"><li>❖ Public investments to implement a Town Center are spread over a larger area</li><li>❖ Changes to Highway 99W and Six Corners development could improve walkability</li><li>❖ Reduced capacity on Highway 99W may alter the conditions that have made the area desirable to the current businesses</li></ul>	
Alternative 3	"Edges" Town Center	<ul style="list-style-type: none"><li>❖ Accepts many of the unique features of the study area, including major roadways and the Cedar Creek corridor as edges that provide both opportunities and constraints for a Town Center</li><li>❖ Envisions Old Town and the southern portion of Six Corners as anchors on opposite sides of a unified Town Center with only modest changes in either area</li><li>❖ Does less to overcome the challenges in either Old Town or Six Corners than other alternatives, but has less risk of undermining what makes them successful today</li></ul>	

# Town Center Alternatives Evaluation: Your Turn!



Which alternative best allows for a mix of future land uses that meets the City's economic, housing, and other needs?

*Share your thoughts below.*

*We have identified some initial considerations to stimulate discussion. Please add your thoughts and comments in the space provided.*

*Vote with dots!*

*You have a total of 6 dots to allocate for this criterion.  
You may distribute them however you wish between the three alternatives.*

Alternative 1	"Old Town" Town Center	<ul style="list-style-type: none"><li>❖ Encompasses a diverse mix of civic uses, parks and gathering spaces, office uses, restaurants, coffee shops, and specialty shops within a walkable area.</li><li>❖ The most limited in the types of existing businesses within the boundary that provide day-to-day services for the Sherwood community.</li><li>❖ Little remaining vacant land zoned specifically for multi-family residential development, but potential for mixed use development that includes residential over commercial.</li></ul>	
Alternative 2	"All Study Area" Town Center	<ul style="list-style-type: none"><li>❖ Includes the widest array of existing retail options and services within the boundary.</li><li>❖ Not all within a single walkable area, but plan would improve pedestrian connections and walkability.</li><li>❖ Includes substantial existing multi-family housing as well as some vacant land zoned to allow multi-family housing either outright or in conjunction with commercial use.</li></ul>	
Alternative 3	"Edges" Town Center	<ul style="list-style-type: none"><li>❖ Falls in between Alternatives 1 and 2 in terms of the number of services included within the Town Center boundary and the walkability of the Town Center area.</li><li>❖ There are opportunities for additional commercial and multi-family residential development within this Town Center boundary, but not to the same extent as in Alternative 2.</li></ul>	

# Town Center Alternatives Evaluation: Your Turn!

## Which alternative best promotes economic growth and vitality?

**Share your thoughts below.**

*We have identified some initial considerations to stimulate discussion. Please add your thoughts and comments in the space provided.*

***Vote with dots!***

*You have a total of 6 dots to allocate for this criterion. You may distribute them however you wish between the three alternatives.*

Alternative 1 "Old Town" Town Center	<ul style="list-style-type: none"><li>❖ Emphasis on Old Town would capitalize on the trend towards walkable urban environments and build on recent development activity in this area.</li><li>❖ Vacant and underutilized parcels are small, scattered, and in multiple ownership.</li><li>❖ Redevelopment could mean loss of some of the buildings that give Old Town its historic feel.</li><li>❖ Six Corners area is excluded from the Town Center and would continue to attract major large-format retailers without a focus on pedestrian connections and improvements.</li></ul>	
Alternative 2 "All Study Area" Town Center	<ul style="list-style-type: none"><li>❖ Changes to Highway 99W in the Six Corners area could impact existing businesses that rely on easy access from the highway.</li><li>❖ Improved transit service and pedestrian access could bring new customers to Six Corners.</li><li>❖ Old Town would continue on current path – small but "authentic".</li><li>❖ Public Investments in Six Corners could divert resources away from Old Town.</li></ul>	
Alternative 3 "Edges" Town Center	<ul style="list-style-type: none"><li>❖ Focuses on both of the city's commercial/civic activity areas and the connections between the two.</li><li>❖ Langer Drive "Main Street" concept could provide a way for existing auto-oriented commercial centers to gradually re-orient towards a walkable, pedestrian-oriented street while maintaining auto access from major roadways.</li><li>❖ Could divert some investment from Old Town, but to a lesser extent than Alternative 2.</li></ul>	

# Town Center Alternatives Evaluation: Your Turn!

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**Share your thoughts below.**

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***Vote with dots!***

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Home of the Tualatin River National Wildlife Refuge

## MEMORANDUM

City of Sherwood  
22560 SW Pine St.  
Sherwood, OR 97140  
Tel 503-625-5522  
Fax 503-625-5524  
www.sherwoodoregon.gov

**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 18<sup>th</sup> Best Place to Live



**To:** Town Center TAC, SAC and Steering Committee members

**From:** Julia Hajduk, Community Development Director and  
Michelle Miller, Associate Planner

**RE:** Town Center Open House summary

**Date:** January 30, 2013

The second Town Center Open House was held on Thursday, January 17<sup>th</sup> from 5:30-7:30 pm. Public outreach included mailing invite postcards to over 1,000 residents and business owners within the Town Center Study area, web updates and notices, information in the "Archer," monument signage, and information on the Robin Hood reader board and email notices to interested parties.

At the open house, five "stations" were scattered around the Community Room to familiarize attendees with the project, the boundary alternatives developed for study, comparison of the alternatives using the evaluation measures and several interactive exercises to generate attendee feedback. Members of the consultant team and staff were stationed throughout to answer questions, engage in conversation and learn what the attendees thought about the alternatives. Overall, 44 people signed in at the welcome table, although it is estimated the actual number in attendance was slightly greater. Surveys were also available for attendees to provide comments about the project and learn about their preferences.

The following is a summary of the five stations and where applicable, the feedback we received:

**Welcome:** Visitors were greeted in the lobby and given a brief orientation to the open house. They were asked to sign in and were given a copy of the survey form. Forty-four participants signed in.

**Station 1** – This station included some of the background on the existing conditions analysis and opportunities and constraints for the study area as a whole. The maps and information from this station had been presented at the first open house that we ultimately included in the development of the three alternatives for further study. Another opportunity was provided for people to provide additional input on the opportunities and constraints (did we miss anything) at Station 1. While no feedback

was given directly at this station; input from the survey and notes taken from staff, indicated that we should also be considering:

- The former Sherwood tractor and rental property
- The existing rail line as a long-term option to create transportation and future development in and beyond Sherwood towards the Coast
- 2-3 smaller centers, so residents can more easily access them
- Sherwood Presbyterian Church community garden as an opportunity for a community gathering space

**Station 2** – Self guided PowerPoint slide show for participants who wanted more background from the previous reports and earlier open house materials that had been previously viewed by the Stakeholder Advisory Committee.

**Station 3** – This station provided more detail on the three boundary alternatives under consideration, including visual examples of what the land use and transportation concepts under review might look like. Feedback received at this station includes general support for the decorative elements, public art, and landscaping. A copy of the boards provided at Station 3 is included in the attachments.

**Station 4** – This station began the evaluation of the three alternatives and provided a comparison discussion of how each alternative stood in relation to the project goals and objectives. A copy of the boards provided at Station 4 is included in the attachments. The information provided at this station helped inform the follow-up responses at Station 5 and ultimately assisted in completion of the survey.

**Station 5** – This station was an interactive station where people received six dots each to “vote” for which alternative best met the more subjective or “value” and evaluation measures of the Town Center. They could disperse the dots in any fashion depending on how strong of preference they had for a particular alternative. The results of this exercise are discussed below in the survey summary.

**Survey Results Summary**- After people viewed the stations and learned more about the three alternatives, we asked them to complete a survey. The purpose of the survey was both to learn what attendees thought about the specific alternatives and to gain insight into how important certain general land use and transportation elements were to include and prioritize in the final town center plan. Twenty-one surveys were collected altogether, and therefore it may not be an accurate cross section of the entire community or express the variety or totality of all of the sentiments of those in attendance at the Open House. However, attendees that did complete the survey provided some interesting points of view that may help inform the decision-making process.

33% of the respondents indicate that they would walk at least 1-4 blocks for services and 55% indicated that they would walk at least ½ mile for services and fewer than 15% would walk a mile

or more. No one indicated a reluctance to walk at all to services. (Several respondents circled multiple distances, however) Given that alternative 2 and 3 are a larger boundary area, this indicates that we could have support for this size of a walkable distance or area. 48% felt it was important or very important to be able to walk or bike to services, compared to 33% who felt it was not important or not very important.

In response to the question of whether attendees had taken transit within the past year, it was split evenly, with 10 responding yes and 11 no's. While Portland represented the majority of the trips for those who had taken transit, when asked where people would want to see a high capacity transit connection, only 38% indicated Portland compared to 48% who indicated they would like a connection to Tualatin. Other places noted for desired connections include Tigard (29%), Wilsonville (33%), Beaverton (29%), Newberg (19%), Hillsboro (4%) and Salem (4%).

When asked about how we should prioritize resources and investments within the town center, 62% of the survey respondents felt that pedestrian amenities like benches and directional signage was an important or very important priority. Encouraging economic development was also seen as a high priority, with 57% of the respondents feeling this was important or very important. Interestingly, it was clear that people distinguish commercial development from economic development because only 38% of the respondents felt encouraging commercial development was important or very important compared to the 57% favorability for overall economic development. Open space, filling in sidewalk gaps and pedestrian amenities appear to be most supported priorities because 90% of the respondents indicated that it was important or very important to prioritize funding for these elements. The survey results are attached to this memo.

Interestingly, when asked on the survey which alternative best met the evaluation criteria; three out of a possible four evaluation measures were identified as best met by Alternative 2 (All Study Area). This is in contrast to the dot exercise described at **Station 5** which yielded more "dots" for alternative 3 on the "alternative that best promoted economic growth and vitality" and best "builds on and promotes unique characteristics of the study area." The evaluation criteria "best allows for a mix of future land uses that meets the City's economic, housing and other needs" had the most dots for alternative 1 (Old Town). Alternative 2 received the fewest dots overall. Of those that provided comments on which alternative they liked the best overall, the majority (6 out of 8) indicated that Alternative 3 provided the best balance. Many people provided additional comments on the survey form, which is included in the survey results.

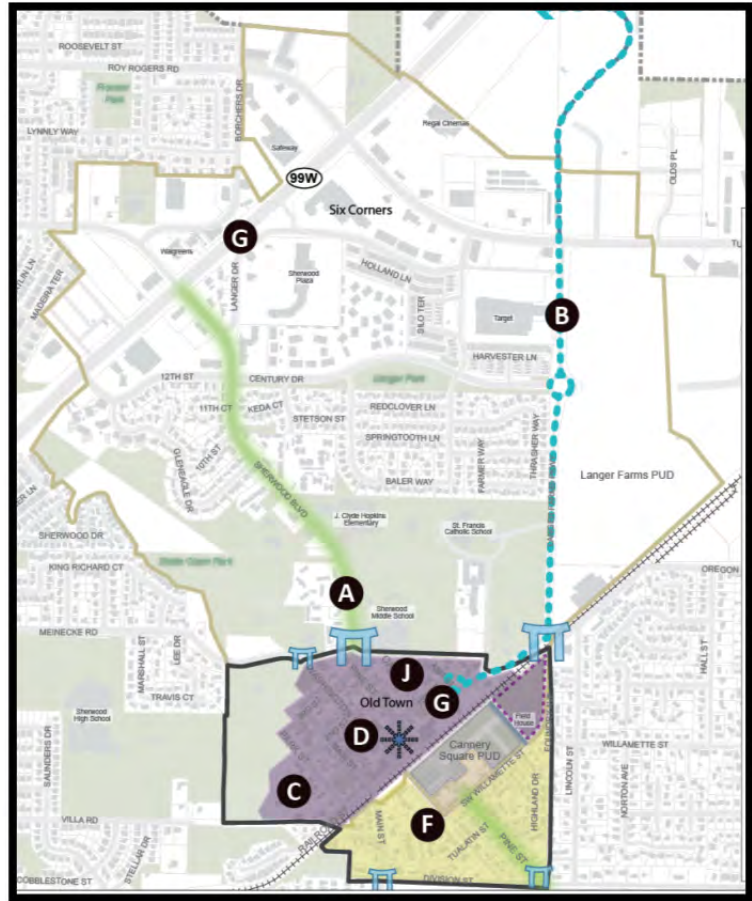
#### DOT EXERCISE RESULTS-Three Criteria

Criteria	Alt 1	Alt 2	Alt 3
Unique Character	41	16	31
Mix of Land Uses	29	17	40
Economic Growth & Vitality	36	11	40

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Thank you for attending tonight’s open house. Please take a moment to share your thoughts about the alternatives. Your comments will help shape the Town Center Boundary and how it develops over time.

Alternative 1: Old Town



This alternative focuses just on Old Town and the residential neighborhood immediately to the south with an emphasis on connections to other key destinations. It relies on infill and historic renovation to increase density to better support transit for more employment and living options specifically in Old Town.

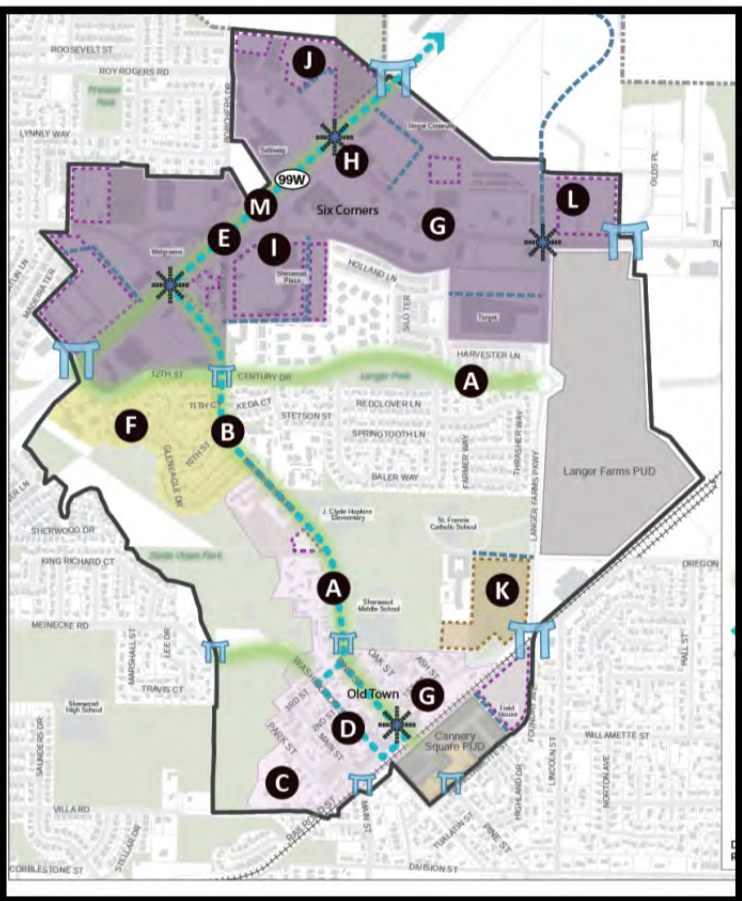
Comments:

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Alternative 2: All Study Area



This is the largest area of the alternatives and includes the historic Old Town area and the local and regional shopping destination around Six Corners (Tualatin Sherwood Road and 99W area). It transforms the Six Corners area over time to be more walkable and transit-friendly. Highway 99W is one focus of the improvements, making it easier to cross and less of a barrier by narrowing the road and adding bike lanes, sidewalks and landscaping.

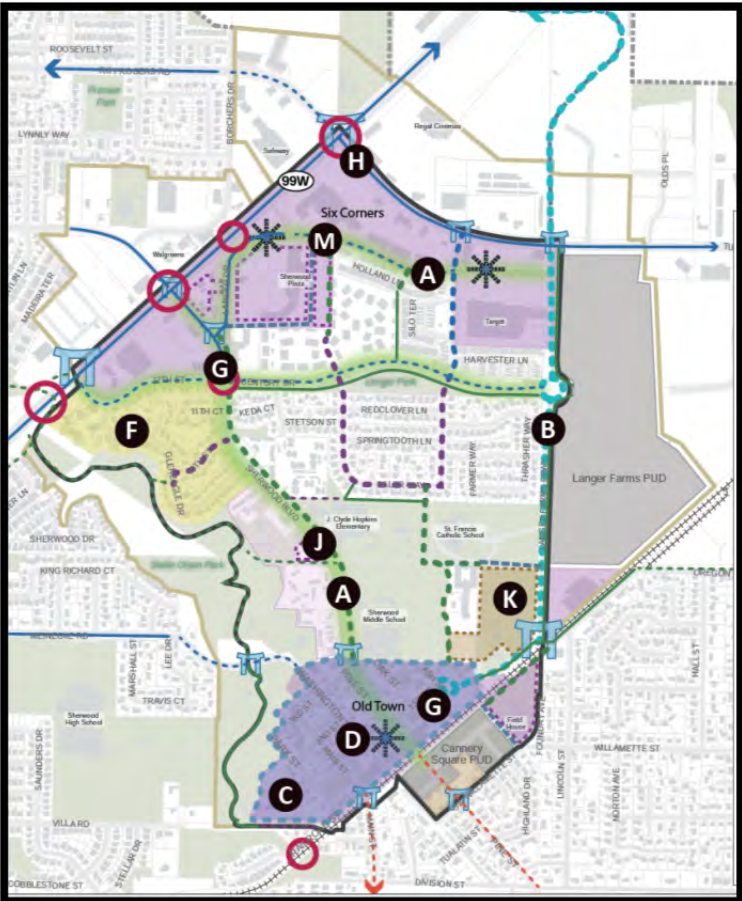
Comments:

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Alternative 3: Edges



This alternative recognizes the natural and man-made features that may act as barriers – including Highway 99W to the northwest, Cedar Creek to the west, the railroad tracks to the southeast, the industrial area to the west, and Tualatin-Sherwood Road to the north – and focuses on enhancing the area within these boundaries. Both Old Town and the southern portion of Six Corners are included, as well as the areas in between.

Comments:

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Legend

- Proposed Town Center
  - Project Study Area
  - City boundary
  - Railroad
  - Development Type
    - Mixed Commercial / Residential (least-to-most intensity)
    - Single-family Residential
    - Multi-family Residential
    - Specific Opportunity Site (based on Improvement/Land Ratio)
  - Circulation / Activity
    - Future Activity/Development Node
    - Possible Future Transportation Access
    - "Complete Street" Improvements
    - Future High-Capacity Transit
    - Primary Gateways
    - Secondary Gateways
- 0 400 800 Feet
- N
- Data Source: City of Sherwood and Regional Land Information System, May 2012, www.oregonmetro.gov/files

**PLEASE FILL OUT THE SURVEY  
ON THE OTHER SIDE TO HELP  
SHAPE THE TOWN CENTER  
PREFERRED ALTERNATIVE**

**PLEASE REVIEW THE  
BOUNDARY MAPS AND MAKE  
ANY CHANGES YOU THINK ARE  
A BETTER OPTION.**



## Appendix D:

# Existing Conditions Report

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# Existing Conditions Report

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## Sherwood Town Center Plan



**FINAL**  
**September 2012**

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# I. Overview

## Project Background

The City of Sherwood recently received a Transportation Growth Management Grant (TGM) from the Oregon Department of Transportation in order to develop a Town Center Plan for the city. A “Town Center” is a designation of a place that Metro, the regional government, categorizes as the center of activity for a community. Town Centers have a strong sense of community identity and act as the “principal centers of urban life in the region.”<sup>1</sup>

In 2000, the Sherwood City Council provided direction to designate the commercial area on Highway 99W as Sherwood’s Town Center. Before the highway was widened, Tualatin - Sherwood Road, Sherwood Boulevard and Highway 99W intersected in a way that created “Six Corners,” a name that is still in use for this area. The Town Center designation was based on the recognition that Six Corners is the City’s main retail commercial area. However, historic settlement patterns as well as recent development and investment in Old Town suggests that this area could also be considered a “Town Center.”

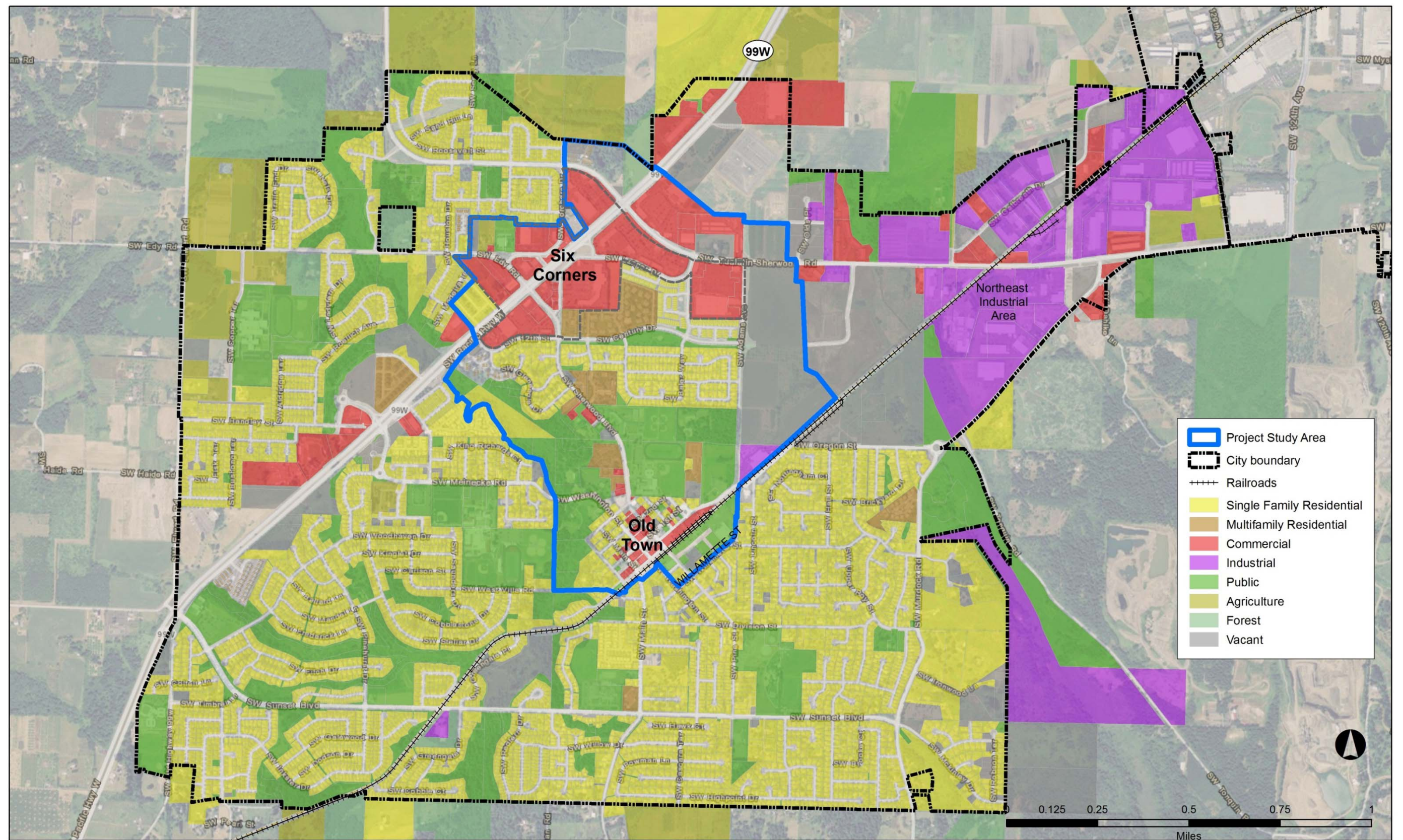
This project will include an in-depth planning process of a defined study area (see Figure 1) that includes the City’s two main areas of activity – Six Corners and Old Town – in order to determine where the Town Center should be located and how it should be developed or redeveloped in the future. The Project Study Area boundary is primarily an organizational tool to analyze the areas that are most

likely to be included in the ultimate Town Center boundary. This does not mean that areas outside of the Project Study Area have not been considered – demographic information and transportation analysis are two areas in particular that require looking beyond the Project Study Area – nor does it mean that the recommended Town Center boundary is limited to the identified Project Study Area.

Once the Town Center boundary is designated, this project will also outline a community vision through a new Sherwood Town Center Plan that will serve to guide future development, focus limited public resources, and secure other grant funding opportunities.



<sup>1</sup> Urban Growth Management Functional Plan, Section 3.07.610



Data Source: Regional Land Information System, May 2012. [www.oregonmetro.gov/rlis](http://www.oregonmetro.gov/rlis)

August 22, 2012

Figure 1 - Project Study Area

## Project Study Area Overview

The 524-acre Project Study Area includes both Six Corners and Old Town, including a section of Highway 99W and a portion of the Pacific & Western (P&W) Railroad (see Figure 1). Generally, the boundary follows the edge of the current Town Center designation in the north, and in the south it follows the Old Town overlay along Railroad Street and Willamette Street. To the west, the boundary includes the entire green space that makes up the Cedar Creek Trail corridor and the eastern boundary follows the lines of the Langer Farms parcels adjacent to Langer Farms Parkway, up to Tualatin-Sherwood Road.

The Six Corners Area is characterized by newer commercial development centered around the Highway 99W corridor at the Tualatin-Sherwood Road and Sherwood Boulevard intersections. Existing uses include strip-mall development with several large-format retail anchors, including a Safeway grocery store, a Target discount store, a Walgreens, a sporting goods outlet, and several chain and local restaurants. There are several residential neighborhoods adjacent to Six Corners, but no housing within the commercial area adjacent to Highway 99W.

Old Town is the historic main street district, and its first buildings date to the last decade of the 19<sup>th</sup> century. Today, this area is characterized by local cafes, restaurants, small boutiques, and other specialty retail, as well as a few prominent public spaces and mixed-use residential development. The area also has an active Oregon Main Street program that promotes historic preservation and economic development in Old Town.<sup>2</sup>

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<sup>2</sup> Sherwood Main Street <http://www.sherwoodmainstreet.org/>

More detail about existing activity centers, urban design features, and character of the Project Study Area is provided in Section IV of this document.



## Defining “Town Center”

Updated in 2005, Metro’s Regional Framework Plan connects all of the region’s land use and transportation policies in one document. Ten design types, including Central City, Main Streets, Regional Centers and Town Centers, are the conceptual building blocks of the region. The Town Center that this project designates and plans for is part of a larger set of hierarchical components that define Metro’s 2040 Regional Growth Concept. To understand Metro’s definition of a Town Center, it must be viewed within the context of this larger framework. Figure 2 shows a map of the 2040 Regional Growth Concept, highlighting Sherwood’s existing Metro 2040 designations.

According to the 2040 Regional Growth Concept:

*Town Centers provide localized services to tens of thousands of people within a two- to three- mile radius...One to three story buildings for employment and housing are characteristic. Town Centers have a strong sense of community identity and are well served by transit.*<sup>3</sup>

Metro tracks the characteristics of existing regional centers and Town Centers in the *State of the Centers Report*, updated March 2012.

According to this report:

*Town Centers serve local populations with everyday needs and on occasion have specialty and destination retail. Town Centers are usually connected to regional*

*centers via major road networks and transit, although the development of Town Centers varies greatly.*<sup>4</sup>

Metro’s criteria for designating Town Centers are more aspirational than prescriptive, but the *State of the Centers Report* has established a set of metrics to compare centers across the region. These measures do not set requirements to establish (or maintain) a Town Center designation, but do provide useful context for understanding the dimensions of a place that may make a viable Town Center. The attributes of the Project Study Area as a whole were analyzed with the help of the Metro DRC Context Tool as shown in Tables 1 and 2 as well as Figures 3-5.

Table 1 - Town Center Attributes

Attribute	Project Study Area	Study Area +1 mile	Town Center Average for Metro Area
Net Area (acres)	419	5,288	222
Total Population	2,766	17,569	2,326
Total employees	2,392	4,590	1,745
People per acre	12.3	4.2	20.1
Dwelling units per acre	3.0	1.2	5.0
Total businesses per acre	0.64	0.11	0.73
Home ownership	43.2%	74.5%	47.4%
Median household income	\$56,266	\$80,693	\$60,133
Average Household Size	2.36	2.80	2.42
Median Age	31.1	32.3	36

<sup>3</sup> Regional vision: The 2040 Growth Concept.

<http://www.oregonmetro.gov/index.cfm/go/by.web/id=29882>

<sup>4</sup> *State of the Centers Report*. May 2011. Metro, p. 48.

[http://library.oregonmetro.gov/files/11-01-11\\_soc\\_final\\_-\\_web.pdf](http://library.oregonmetro.gov/files/11-01-11_soc_final_-_web.pdf)

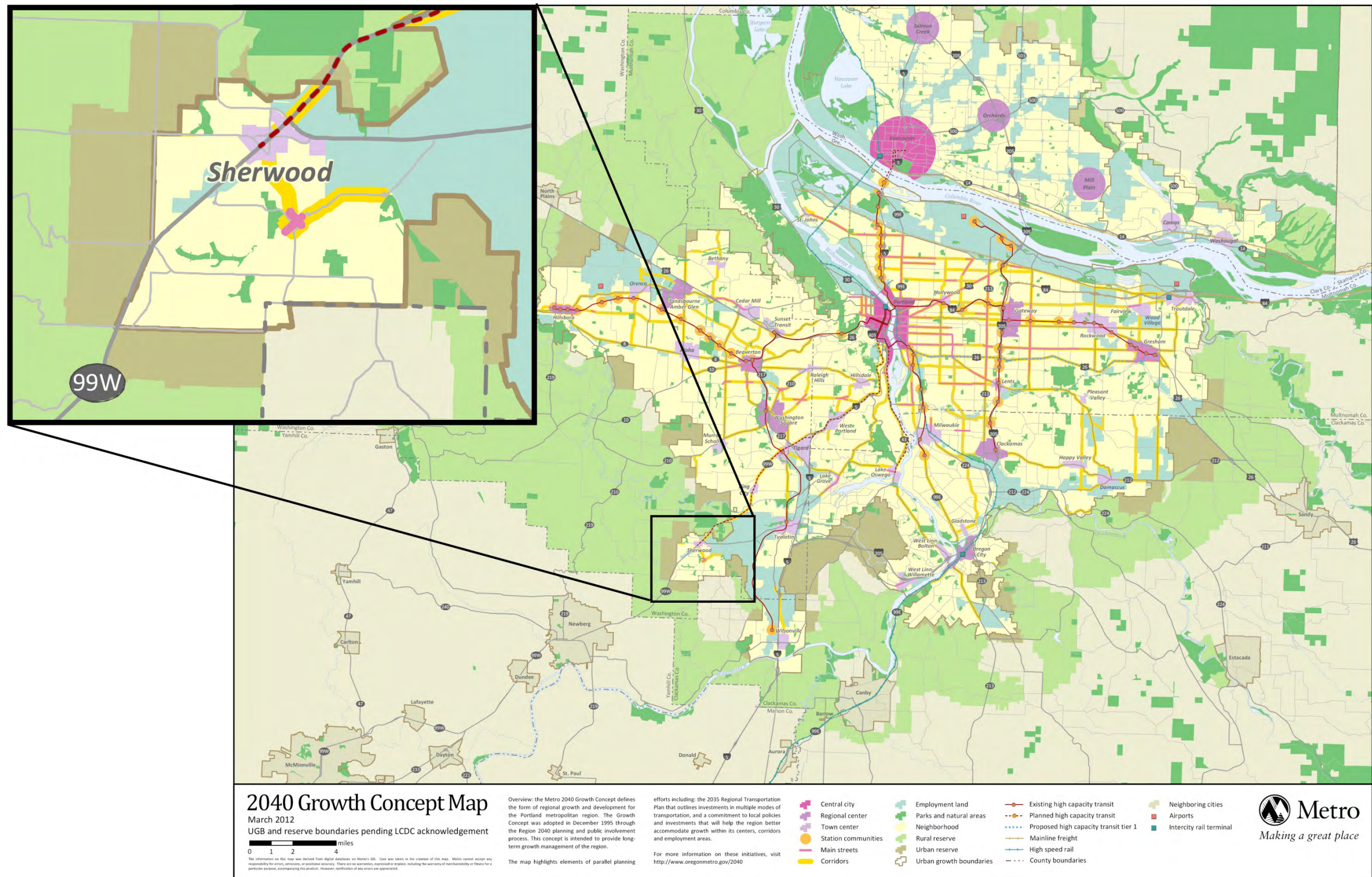


Figure 2 - Metro 2040 Growth Concept Map

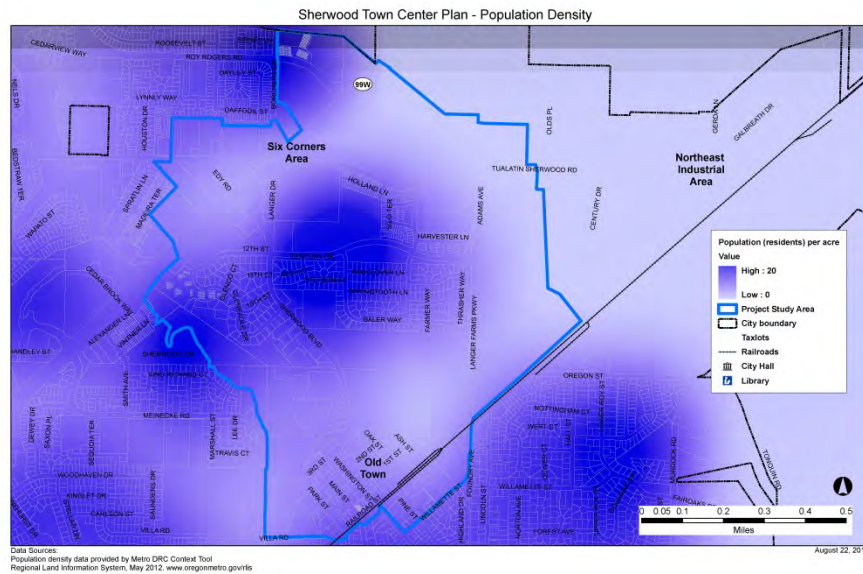


Figure 3 - Population Density Map

As illustrated graphically in a “heat map” (Figure 3), the main portion of the Project Study Area where people live is just south of the Six Corners Area, but still north of Old Town. More broadly, there are resident populations in the neighborhoods on the northwest side of Highway 99W, as well as to the east of Old Town.

Employment density in the Project Study Area is largely the inverse of population density (see Figure 4). The main employee concentrations are located in Six Corners, Old Town, and the Northeast Industrial Area.

These density measures are combined in Figure 5 to show the number of people (residents and employees) per acre. Generally, the biggest concentration of people within the Project Study Area extends from the intersection of Highway 99W with Tualatin-Sherwood Road and through Six Corners to the geographic center of the area in the residential neighborhoods around Langer Park. (More detail about these patterns is

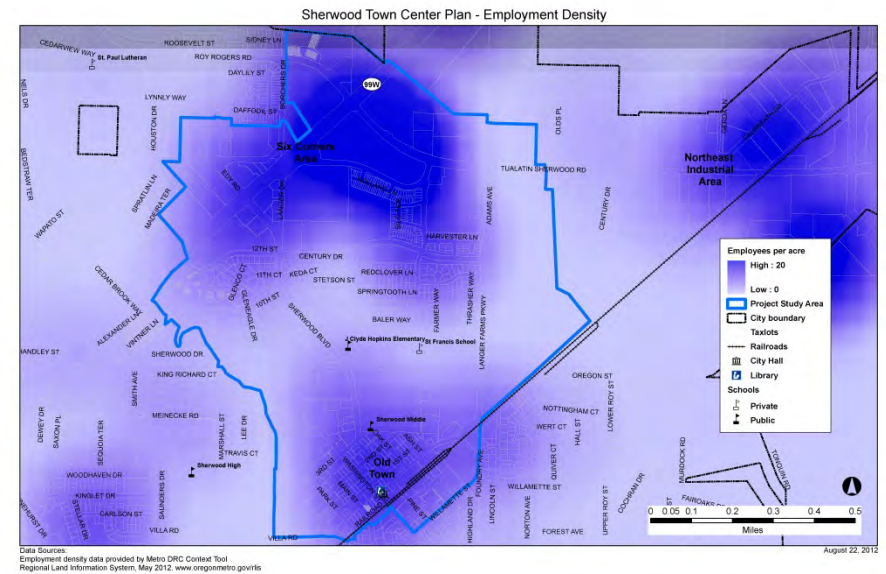


Figure 4 - Employment Density Map

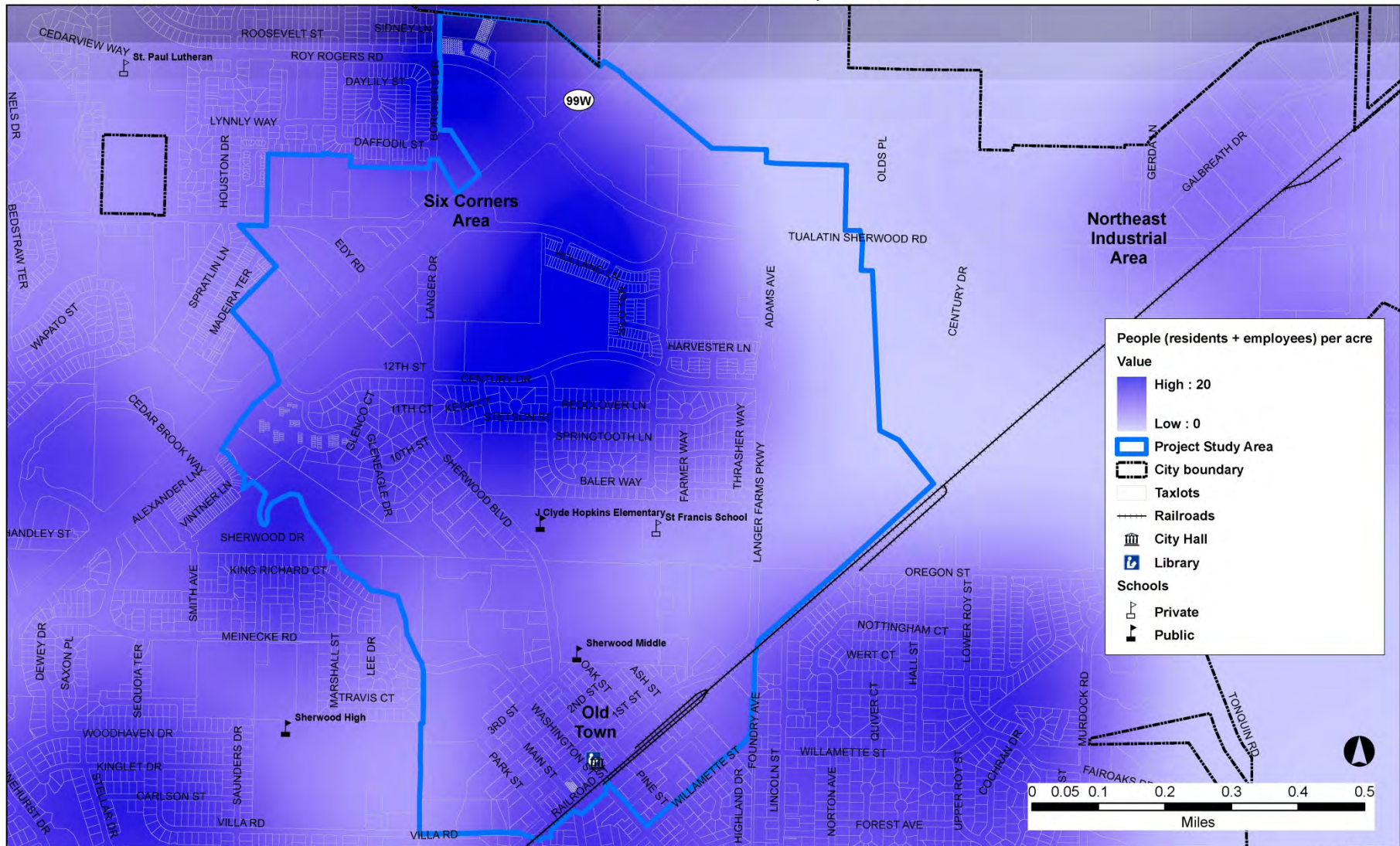
provided in the review of Land Use conditions in Section IV of this document.)

Table 2 provides context for the population and employment density heat maps shown in Figures 3-5 by highlighting average and maximum values within the mapped area for each metric. Compared to the Metro Area Town Center Average (identified in Table 1), the maximum value of about 20 people per acre in Project Study Area is about the same as the Town Center Average, while the average value of about 7 people per acre is well below.

Table 2 - Average and Maximum Density Values

Project Study Area	Average Value	Maximum Value
Population Density	4.74 residents per acre	17.99 residents per acre
Employment Density	2.19 employees per acre	14.53 employees per acre
People per acre	6.77 people per acre	19.89 people per acre

## Sherwood Town Center Plan - People Per Acre



Data Sources:  
 People per acre data provided by Metro DRC Context Tool  
 Regional Land Information System, May 2012. [www.oregonmetro.gov/rlls](http://www.oregonmetro.gov/rlls)

August 22, 2012

Figure 5 - People Per Acre

## II. Policy and Regulatory Framework

### Overview

A variety of state, regional, and local policy and regulatory requirements govern land use and transportation planning in the Project Study Area. A review of state, regional, and local policies relevant to the Sherwood Town Center planning process can be found in Appendix A: Policy and Regulatory Review. The following explores in detail regional requirements and plans that will influence Sherwood's Town Center planning process.

### Metro Requirements

As explained in the Defining "Town Center" section, the Town Center designation adopted through this project is one design type within Metro's larger regional framework for ordering urban design types. These design types are designated through Metro's 2040 Regional Growth Framework Plan and translated into a policy document through the Urban Growth Management Functional Plan (UGMFP), which guides local codification of elements within the plan. Relevant requirements in the UGMFP for design types within the Project Study area are detailed in the following sections. Figure 6 shows the 2040 Design Types designations in Sherwood.

### Centers, Corridors, Station Communities and Main Streets (Title 6)

Title 6 of the UGMFP<sup>5</sup> addresses the nodal design types from the regional 2040 Growth Concept, including the Central City (Downtown Portland), Regional Centers, Town Centers, Station Communities, Corridors, and Main Streets. Pursuant to Section 3.07.620(A), (B), (C), and (D), in order to be eligible for regional investment, the local jurisdiction must establish a boundary for a given Center, assess the Center, and adopt a plan to enhance the Center.

The assessment of a Center must include the following elements, which have been integrated into the project scope of the Sherwood Town Center Plan:

1. *Physical and market conditions in the area;*
2. *Physical and regulatory barriers to mixed-use, pedestrian-friendly and transit-supportive development in the area;*
3. *The city or county development code that applies to the area to determine how the code might be revised to encourage mixed-use, pedestrian-friendly and transit-supportive development;*
4. *Existing and potential incentives to encourage mixed use pedestrian-friendly and transit-supportive development in the area.*

Based on the assessment, a plan to enhance the Town Center should include at least the following elements<sup>6</sup>:

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<sup>5</sup> Title 6 of the Urban Growth Management Functional Plan (Section 3.07.610) [http://library.oregonmetro.gov/files//3.07\\_maps\\_-\\_title\\_4\\_6\\_14\\_eff\\_011812.clean.pdf](http://library.oregonmetro.gov/files//3.07_maps_-_title_4_6_14_eff_011812.clean.pdf)

<sup>6</sup> These elements are reflected in the project scope for this planning process (with the exception of transportation-related elements, which may be addressed in part during this planning process and then completed during the City's next TSP update process).

1. *Actions to eliminate, overcome or reduce regulatory and other barriers to mixed-use, pedestrian-friendly and transit-supportive development;*
2. *Revisions to its comprehensive plan and land use regulations, if necessary, to allow:*
  - a. *In Regional Centers, Town Centers, Station Communities and Main Streets, the mix and intensity of uses specified in section 3.07.640;*
3. *Public investments and incentives to support mixed-use pedestrian-friendly and transit-supportive development; and*
4. *A plan to achieve the non-SOV mode share targets, adopted by the city or county pursuant to subsections 3.08.230A and B of the RTP, that includes:*
  - a. *The transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTP;*
  - b. *A transportation system or demand management plan consistent with section 3.08.160 of the RTP; and*
  - c. *A parking management program for the Center, Corridor, Station Community or Main Street, or portion thereof, consistent with section 3.08.410 of the RTP.*

### **Characteristics of Metro 2040 Design Types**

Metro also provides guidance on the optimal density of residents and employees in centers and corridors, the recommended mix of land uses, and housing variety:

- ⊕ **Resident and employee density** – A specified density of residents and employees per acre is recommended for each place type in order to make them vibrant and viable:
  - + **Corridors:** 45 persons per acre
  - + **Town Centers:** 40 person per acre
  - + **Main streets:** 39 persons per acre

- ⊕ **Mix of land uses** – The success of centers relies on providing a variety of land uses in a walkable area, and Title 6 recommends a mix including housing, institutional uses, civic and government uses, and neighborhood commercial uses like grocery stores, restaurants, bookstores, and coffee shops.
- ⊕ **Housing variety** – Title 6 also calls for a mix of housing, which should be established in a housing needs analysis for the city, prepared pursuant to ORS 197.296 and/or Statewide Planning Goal 10 (Housing).<sup>7</sup>



<sup>7</sup> Title 6 of the Urban Growth Management Functional Plan (Section 3.07.640)  
[http://library.oregonmetro.gov/files//3.07\\_maps\\_-\\_title\\_4\\_6\\_14\\_eff\\_011812.clean.pdf](http://library.oregonmetro.gov/files//3.07_maps_-_title_4_6_14_eff_011812.clean.pdf)

## Sherwood Town Center Plan - Metro Designations: 2040 Design Types and Employment Areas

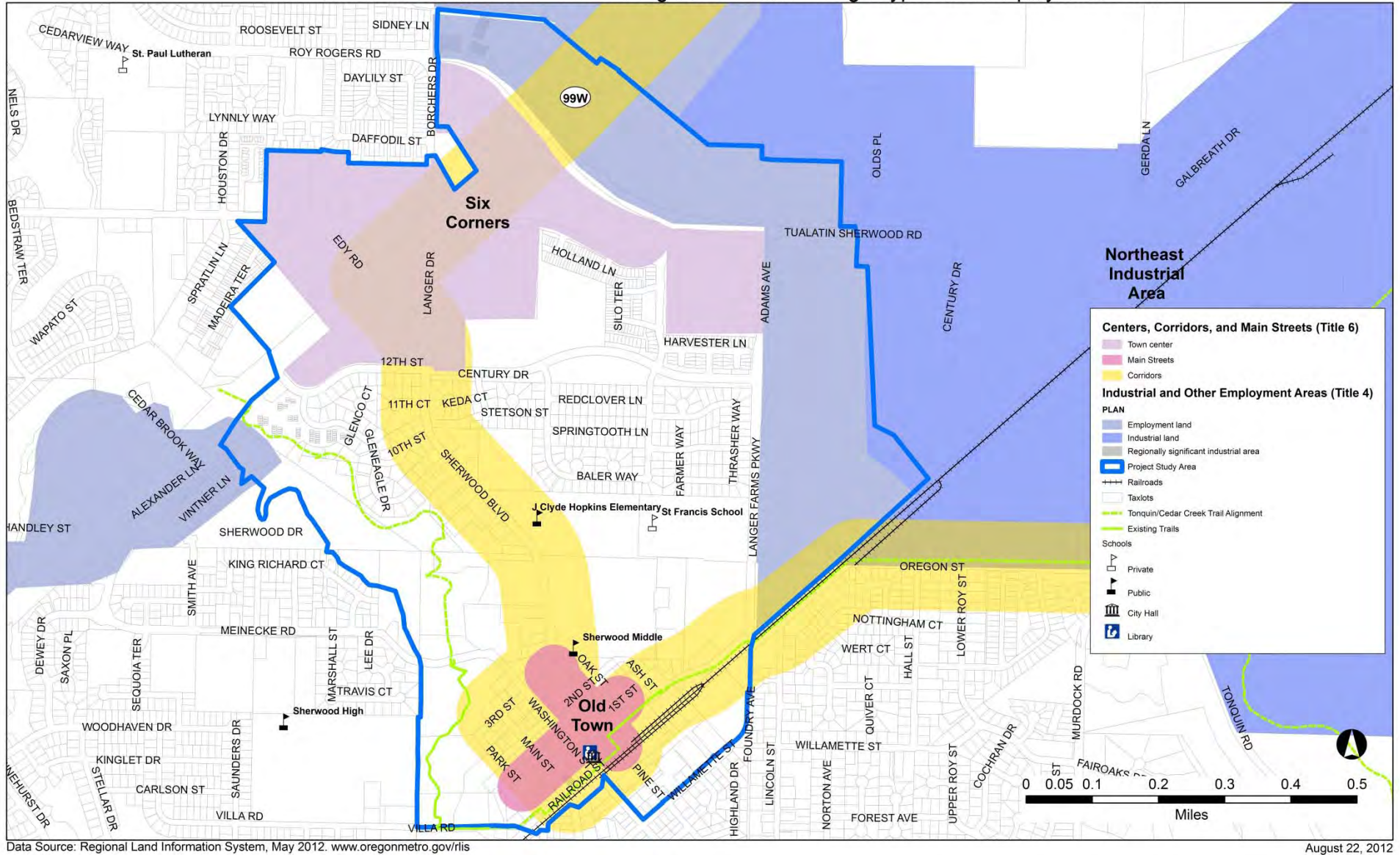


Figure 6 - Metro Title 4 and Title 6 Designations

### Main Streets

In addition to the Town Center designation within the Project Study Area, Metro currently has a main street designation for Old Town, centered along Pine Street and 1<sup>st</sup> Street (see Figure 6.) As described in the 2040 Regional Growth Concept:

*Similar to Town Centers, main streets have a traditional commercial identity, but are on a smaller scale with a strong sense of the immediate neighborhood...Main streets feature good access to transit.<sup>8</sup>*

This existing Main Street designation is important to the new Town Center planning process because Old Town is within the Project Study Area, and is being considered for inclusion in the Town Center designation under this project. In general, the main difference between Metro's Town Center and Main Street concepts is scale: Town Centers serve a larger market area and are specifically characterized by buildings of two to three stories. Currently, the Six Corners area serves a larger market area, but arguably Old Town better fits the character description of both a Town Center and a Main Street than Six Corners. If the new Town Center designation includes Old Town, it would supplant the existing Main Street designation.

### Corridors

Metro has also designated a corridor in the Project Study Area, generally running down Highway 99W from the northeast, turning south down Sherwood Boulevard to Old Town, and then moving back to the northeast along Railroad Street and turning east on Oregon

Street to the edge of Sherwood at the Tualatin River National Wildlife Refuge (see Figure 6). According to the 2040 Regional Growth Concept:

*Corridors are major streets that serve as key transportation routes for people and goods...Corridors are served extensively by transit.<sup>9</sup>*

This corridor designation generally follows the Southwest Corridor Plan study area (see Figure 8), which encompasses a larger area. More detail about the ongoing Southwest Corridor planning process is provided in the "Ongoing Planning Projects" section below, as well as in Appendix A.

### Mobility Requirements

Also notable for this project, Title 6 establishes the actions jurisdictions must have taken in order to be eligible for lower mobility standards (Section 3.07.630; also see Metro Urban Growth Management Functional Plan (UGMFP) section in Appendix A). A new Multimodal Mixed-use Area requirements as defined by the state's Transportation Planning Rule, which allow more dense urban development without increases in automobile capacity if the area is well-served by alternative modes of transit. If the portion of Highway 99W that is in the Project Study Area continues to be included in the Town Center designation, the recommendations of the Town Center Plan will need to be consistent with state transportation policies.

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<sup>8</sup> Regional vision: The 2040 Growth Concept.

<http://www.oregonmetro.gov/index.cfm/go/by.web/id=29882>

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<sup>9</sup> Regional vision: The 2040 Growth Concept.

<http://www.oregonmetro.gov/index.cfm/go/by.web/id=29882>

## Industrial and Other Employment Areas (Title 4)

The Project Study Area also includes Industrial Land and Employment Land as designated under Metro Title 4. According to the UGMFP,

*To improve the economy, Title 4 seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIAs), Industrial and Employment Areas. Title 4 also seeks to provide the benefits of “clustering” to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks to protect the capacity and efficiency of the region’s transportation system for the movement of goods and services to encourage the location of other types of employment in Centers, Corridors, Main Streets and Station Communities.<sup>10</sup>*

There are designated employment areas both within and adjacent to the Project Study Area, along Highway 99W to the southwest, and wrapping around the north and east sides of the Project Study Area. The Northeast Industrial Area, to the northeast of the Project Study Area, is designated as industrial land. This classification extends to the edge of the Project Study Area on the east and north sides (see Figure 6).

These designations are significant to the new Town Center planning process because they provide a conceptual framework for where employment growth is expected. Existing and potential relationships between employment areas and a new Town Center should be considered in developing the Town Center plan.



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<sup>10</sup> Urban Growth Management Functional Plan (Section 3.07.410)

## Water Quality and Flood Management (Title 3)

According to the UGMFP, the intent of Title 3 is:

*To protect the beneficial water uses and functions and values of resources within the Water Quality Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.<sup>11</sup>*

Within the Project Study Area, the Cedar Creek corridor is protected under Title 3 (as well as Title 13, described in the subsequent section.) These areas are shown in Figure 7. Development is very limited in these areas because of the natural resource designations, which are inconsistent with the intensity of uses expected in a Town Center. However, Cedar Creek and the associated trail system are important recreational amenities that add to the vitality of the community, and could have a role in a new Town Center designation and plan.

## Nature in Neighborhoods (Title 13)

According to the UGMFP, the purposes of Title 13 are:

*1) conserve, protect, and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape; and*

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<sup>11</sup> Urban Growth Management Functional Plan (Section 3.07.310)  
[http://library.oregonmetro.gov/files/3.07\\_maps\\_-\\_title\\_4\\_6\\_14\\_eff\\_011812.clean.pdf](http://library.oregonmetro.gov/files/3.07_maps_-_title_4_6_14_eff_011812.clean.pdf)

*2) to control and prevent water pollution for the protection of the public health and safety, and to maintain and improve water quality throughout the region.<sup>12</sup>*

In addition to the Cedar Creek corridor, there are a few areas northeast of Old Town that are included in the Title 13 inventory as well:

- ⊕ **St. Francis Catholic Church site** (northwest of intersection at Langer Farms Parkway & Railroad Street)
  - + Class A Upland Wildlife Habitat
  - + Class B Upland Wildlife Habitat
- ⊕ **St. Francis Catholic School site**
  - + Class C Upland Wildlife Habitat
- ⊕ **Undeveloped parcel east of Langer Farms Parkway**
  - + Class I Riparian Wildlife Habitat
  - + Class A Upland Wildlife Habitat
  - + Class B Upland Wildlife Habitat

Title 13 requires that planning efforts are consistent with the protection of these designations. Sherwood's conservation for Metro Title 13 designations are codified in Chapter 16.144 – Wetland, Habitat and Natural Areas of the Zoning and Development Code.

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<sup>12</sup> Urban Growth Management Functional Plan (Section 3.07.1310)  
[http://library.oregonmetro.gov/files/3.07\\_maps\\_-\\_title\\_4\\_6\\_14\\_eff\\_011812.clean.pdf](http://library.oregonmetro.gov/files/3.07_maps_-_title_4_6_14_eff_011812.clean.pdf)

## Sherwood Town Center Plan - Metro Designations: Stream and Floodplain Protection and Nature in Neighborhoods

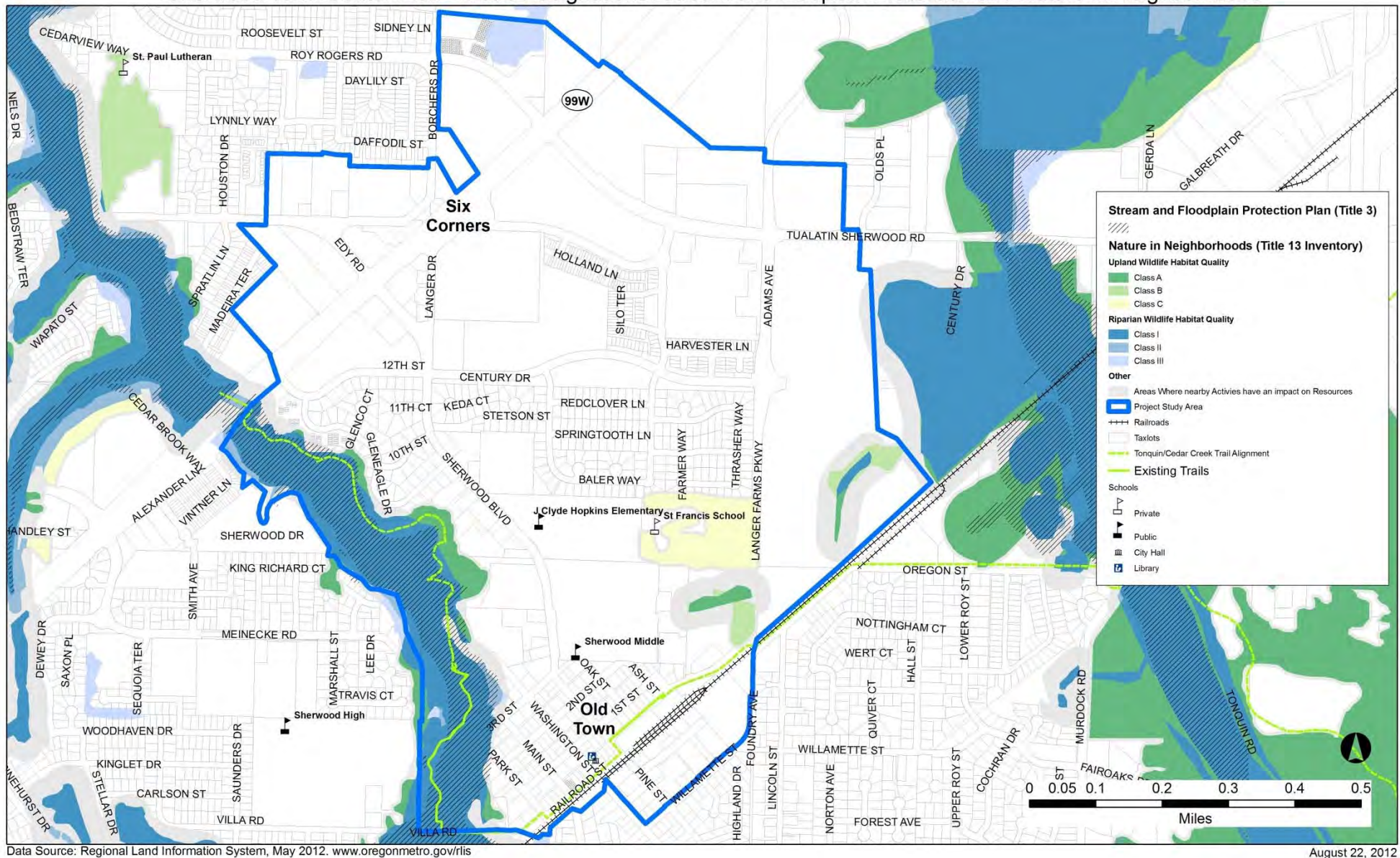


Figure 7 - Metro Title 3 and Title 13 Designations

## Ongoing Planning Projects

### Southwest Corridor Plan

The Southwest Corridor Plan addresses the Barbur Boulevard/Highway 99W/I-5 corridor between Portland and Sherwood Town Center (see Figure 8). The plan is being developed through a partnership of King City, Portland, Sherwood, Tigard, Tualatin, Clackamas County, Multnomah County, ODOT, TriMet, and Metro. The intent of this project is to let local plans and aspirations help shape and inform ultimate improvements and ensure that all potential projects and ideas are screened through a local lens.

A brief overview of the project is summarized below:

- ✦ **2009** – The Joint Policy Advisory Committee on Transportation and the Metro Council designated the corridor as the next regional priority for high capacity transit expansion. Based on existing traffic and transit counts, the Southwest Corridor shows the greatest ridership projections for potential high capacity transit corridors in the region.
- ✦ **December 2010** – Metro received a \$2 million grant from the Federal Transit Administration to analyze alternatives for improving transit in the corridor.
- ✦ **Spring 2012** – Metro completed a public involvement process<sup>13</sup> to determine a vision and goals for the Southwest Corridor Plan. The outcomes of this process include: 1) bus rapid transit, light rail,

roadway expansions/new roadways, rapid streetcar, and increasing local bus capacity are all transportation alternatives that must be included in the analysis. 2) Opportunities to expand the bicycle network and improve pedestrian mobility will also be studied.

Next steps in the planning process include:

1. Narrowing the range of potential projects
2. Developing a range of strategies for corridor improvements
3. Evaluating alternative strategies
4. Choosing a preferred strategy; and
5. Creating an implementation plan for the preferred strategy.

The first phase of the plan is expected to be completed by June 2013, followed by implementation of the shared investment strategy from 2013 onward.

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<sup>13</sup> *Southwest Corridor Plan: Scoping public involvement report*. February 2012. Oregon Metro. [http://library.oregonmetro.gov/files/sw\\_public\\_comment\\_report-scoping-feb2012.pdf](http://library.oregonmetro.gov/files/sw_public_comment_report-scoping-feb2012.pdf)

## Southwest Corridor

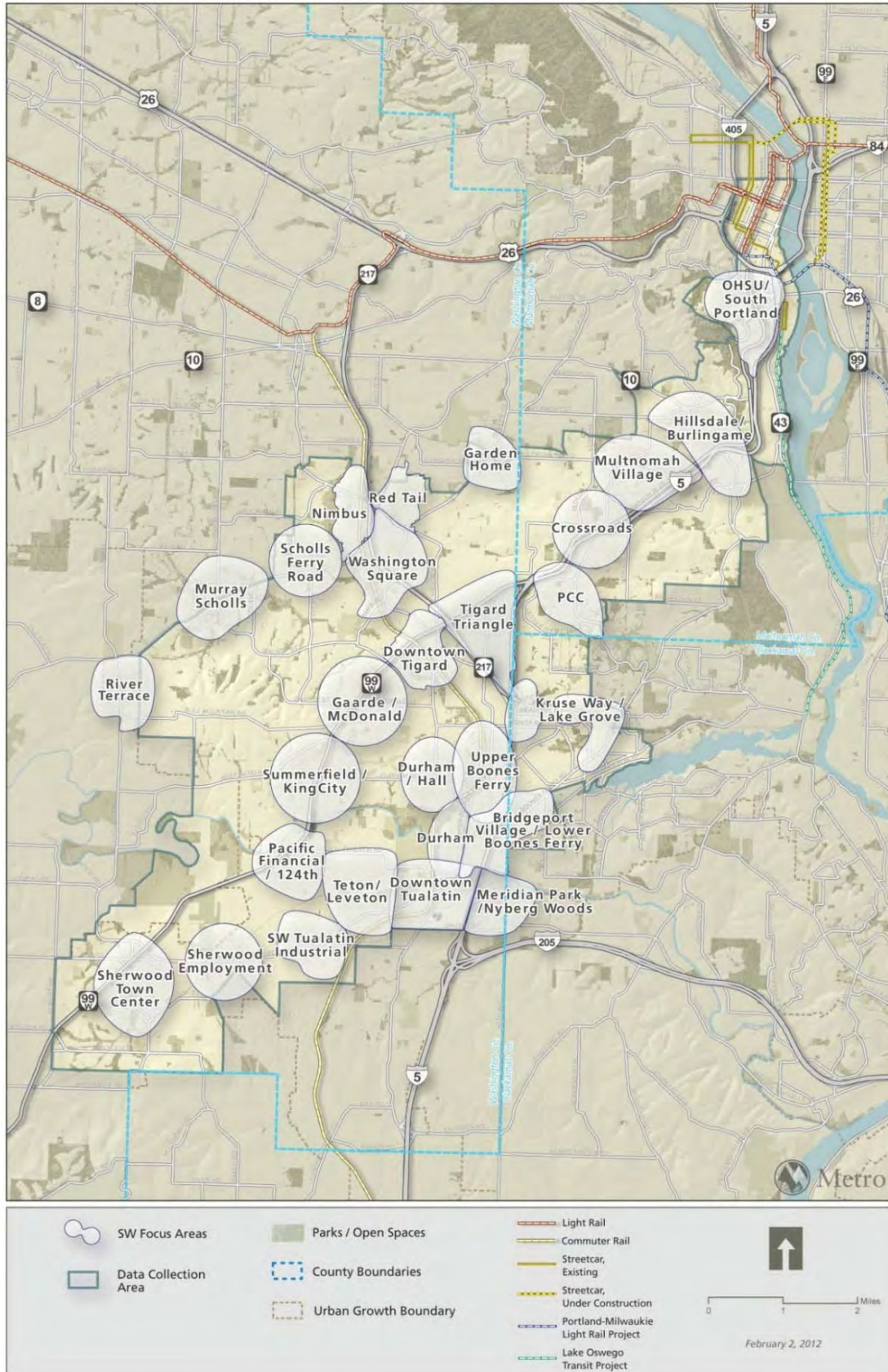


Figure 8 - Southwest Corridor Plan Focus Areas

## Tonquin Trail Master Plan

Metro is leading a master planning effort for the Tonquin Regional Trail, an active transportation corridor linking the communities of Sherwood, Tualatin and Wilsonville, and the Willamette and Tualatin rivers. Spanning approximately 22 miles, the corridor would provide local non-motorized transportation connections while linking with the regional trail network. The City of Sherwood is participating in the development of this plan through the Project Steering Committee . While several trail segments are complete (primarily in Sherwood and Wilsonville), the Tonquin Trail Master Plan will set the groundwork for designing and implementing remaining portions of the corridor. The Draft and Final Master Plan is scheduled for completion in late 2012.

Figure 9 (obtained from the forthcoming Draft Tonquin Trail Master Plan), depicts the proposed trail alignment and conceptual design elements in and near the Sherwood Town Center Plan Study Area, which incorporates Sherwood's Cedar Creek Trail corridor. The recently completed Cedar Creek Feasibility Study (September 2009) focuses on the segment between Stella Olsen Park and SW Roy Rogers Road and provides an outline for this portion of the trail. Primarily a vegetated corridor and wetland area, this segment will begin at Stella Olsen Park and follow near the Cedar Creek bed itself.

The feasibility study identifies a conceptual trail alignment linking prominent natural features and includes a bicycle and pedestrian grade-separated crossing of Highway 99W. It was recently determined that further analysis is needed prior to finalizing a trail alignment due to the predominance of vegetation, wetlands and sensitive habitat in the area. In late 2011, Metro awarded the City of Sherwood \$5.1 million in Regional Flexible Funds to design and construct the Cedar

Creek Trail. This design process is scheduled for late 2012, followed by construction in 2014.

The City has also applied for State and Federal grant funding to implement the proposed trail and wildlife crossing improvements at Highway 99W. These include an ODOT Transportation Enhancement and Bicycle & Pedestrian Program Application for the Cedar Creek Trail and Wildlife Undercrossing at Highway 99W. The City has submitted a Notice of Intent and is awaiting ODOT approval to proceed with a full application, which will be due in December 2012. The City has also pursued federal grants for the Highway 99W Pedestrian Connection Project and will continue to look for innovative ways to implement pedestrian connections to the trail.

The Sherwood Town Center Plan presents significant opportunities to continue the momentum created by the Tonquin Trail and Cedar Creek Trail planning efforts. Specific opportunities are highlighted in the Opportunities and Constraints section of this report, on page 60.



## III. Local Development Requirements

### Overview of Development Code

The City of Sherwood's Zoning and Development Code ("code") implements the land use, transportation, housing, employment, environmental, and other policies established in the City's long range (20-year) Comprehensive Plan. Getting familiar with the provisions in the code is important to identify the ways in which regulatory provisions support and facilitate development consistent with the objectives of a Town Center, or hinder the implementation of desired attributes.

In the City of Sherwood, the Zoning and Development Code is Title 16 of the City's Municipal Code.<sup>14</sup>

One way of implementing the City's long range land use vision is through zoning, or designating land in the city according to land use districts established in the code. Zoning in the study area overall is shown in Figure 10. The predominant base land use districts found in Six Corners are Retail Commercial (RC) and General Commercial (GC); and in Old Town are Retail Commercial (RC), Medium Density Residential Low (MDRL), High Density Residential (HDR), and Institutional Public (IP). The remainder of the Project Study Area is largely designated HDR, MDRH, IP, and Light Industrial (LI).

Planned Unit Development (PUD) zoning is also present in the study area, and is detailed in the next section.

In addition to the base land use districts, Old Town is designated with an overlay district, which is divided into the Smockville Area and Old Cannery Area and that applies special use and development standards to the area.<sup>15</sup>

### Mix and Density of Uses

In addition to a range of other uses, the City's commercial land use districts allow high-density residential uses either through a Planned Unit Development (PUD) process, outright as multi-family units, or as secondary to a commercial use or uses in the same building. The residential land use districts, as can be expected, more narrowly focus on and allow residential uses and other uses deemed complementary to them. Table 3 provides an example of the range of uses allowed both outright and conditionally in the predominant commercial and residential districts found in the study area. (Note: The commercial and residential zoning districts have been grouped together, due to the similarity of allowed uses; any differences between the grouped zoning districts are indicated in parentheses.)

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<sup>14</sup> Title 16 (Zoning and Development Code) can be found online at: <http://library.municode.com/HTML/16625/level1/TIT16ZOCODECO.html>.

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<sup>15</sup> The Old Town (OT) Overlay District is established in Section 16.162, online at: [http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVIXHIRE\\_CH16.162OLTOOTOVDI.html](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVIXHIRE_CH16.162OLTOOTOVDI.html)

## Sherwood Town Center Plan - Zoning

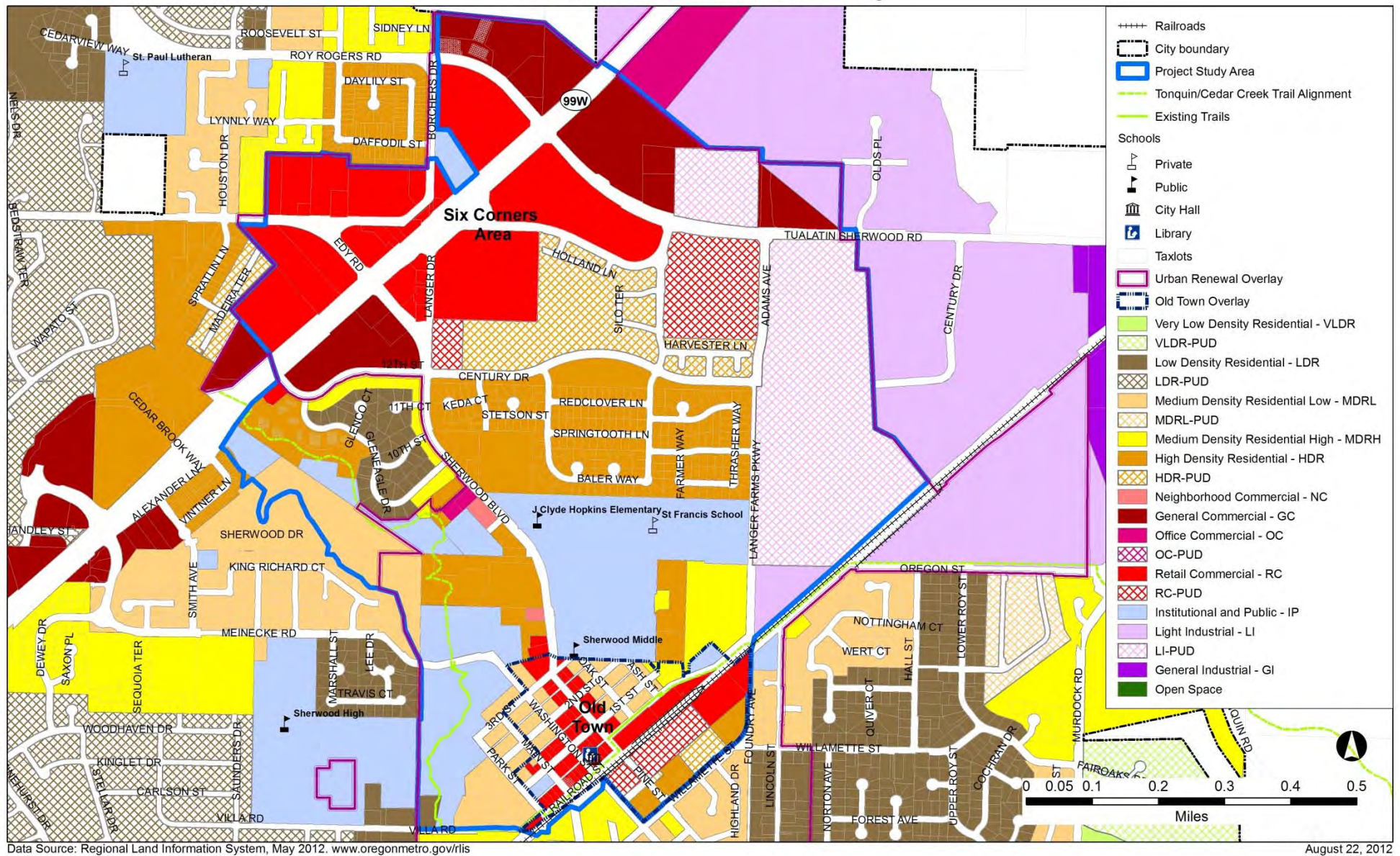


Figure 10 - Zoning Map

Table 3 - Permitted Uses in Commercial and Residential Land Use Districts in the Project Study Area

Zoning District	Permitted Uses	Conditional Uses
<b>Retail Commercial (RC)</b>	Professional and business services Personal services General retail trade Theaters Automotive and equipment parts and sales Automotive and equipment repairs/service (GC only)	Automotive services stations and repair/service (RC only) Government offices and public use buildings Churches (over 5,000 square feet) Lodges and clubs Motels and hotels Public recreation facilities
<b>General Commercial (GC)</b>	Restaurants and bars Adult businesses (GC only) Trade schools (RC only) Limited manufacturing (GC only) Churches (less than 5,000 square feet) Multi-family housing with a PUD (pursuant to SZDC 16.20.040)	Public and private schools Utility facilities Residential and other care/assisted living facilities Multi-family units (secondary to commercial uses)
<b>Medium Density Residential Low (MDRL)</b>	Single-family attached and detached dwellings Two-family dwelling units Multi-family dwelling units (HDR only) Townhomes (HDR only) Planned Unit Developments Manufactured homes Manufactured home parks (MDRL only)	Special care facilities Daycare facilities Public and private schools Public use and civic buildings Utility facilities
<b>High Density Residential (HDR)</b>	Accessory dwelling units Group homes Government-assisted housing Home occupations (including daycare) Residential care facilities Public recreational facilities	
<b>Institutional Public (IP)</b>	Communications facilities	Government and public use buildings Churches Cemeteries Public recreational facilities Public and private schools Utility facilities
<b>Old Town (OT) Overlay District</b>	Uses allowed outright in underlying RC, HDR, and MDRL districts Uses permitted outright in the RC zone are allowed within the HDR zone when limited to the first floor, adjacent to and within 100 feet of Columbia Street	Uses allowed conditionally in underlying RC, HDR, and MDRL districts Townhouses

Additionally, residential density requirements are shown in Table 4. Multi-family housing is permitted in RC and GC districts according to HDR district standards. The RC and GC districts also allow housing as part of mixed-use development where the housing is secondary to the commercial use; residential density standards for these cases are not specified.

*Table 4 - Residential Density Requirements in Project Study Area*

Zoning District	Residential Density
Retail Commercial (RC)	Multi-family/apartment uses secondary to permitted commercial uses; density requirements not specified
General Commercial (GC)	
High Density Residential (HDR)	16.8 to 24 dwelling units per acre
Medium Density Residential High (MDRH)	5.5 to 11 dwelling units per acre
Medium Density Residential Low (MDRL)	5.6 to 8 dwelling units per acre
Institutional Public (IP)	Residential uses prohibited



## Design Standards

Design standards for the land use districts in the study area address design elements such as lot sizes, setbacks from lot lines, maximum building and structure heights, landscaping, and on-site circulation for pedestrians, bicycles, and vehicles. Table 5 summarizes lot size, setback, and height standards for the predominant commercial and residential land use districts in the study area. Streets in the Old Town

Overlay District must be designed pursuant to the TSP and Downtown Streetscape Master Plan. The Old Cannery Area and Smockville Area each have their own site and building design standards to make the district that much more visually interesting, human-scale, accessible, and pedestrian friendly.

Table 5 - Lot Size, Setback, and Height Standards in the study area

Zoning District	Lot Size	Setbacks	Maximum Height
<b>Retail Commercial (RC)</b>	5,000 square feet minimum lot size	Front: none, same as adjacent residential district (when adjacent to a residential district) Side and rear: none, except 10 feet (when adjacent to a residential district or park)	50 feet, except height of residential district when within 100 feet of a residential district Structures over 50 feet may be permitted as conditional uses
<b>General Commercial (GC)</b>	10,000 square feet minimum lot size	Front: none, same as adjacent residential district (when adjacent to a residential district) Side and rear: none, except 20 feet (when adjacent to a residential district or park)	
<b>Medium Density Residential Low (MDRL)</b>	5,000 square feet minimum lot size (single-family detached)	Front and rear: 20 feet Side: 5-10 feet (depending on housing type and height) or 15 feet for street side of corner lots	30 feet or 2 stories
<b>High Density Residential (HDR)</b>			40 feet or 3 stories
<b>Old Town (OT) Overlay District</b>	2,500 square feet (RC district only)	None (RC district only)	40 feet (3 stories) in Smockville Area and 50 feet (4 stories) in Old Cannery Area (RC district only) No limitations when adjoining residential districts No additional height allowed conditionally (except five-foot height bonuses allowed if additional amenities provided) 16 feet minimum height (RC and HDR districts)

### *Infill Design Standards*

The study area is relatively built out. However, there are still opportunities for new residential development in small subdivisions and as part of infill development. The code establishes Infill standards for residential development (land divisions and lot line adjustments) of less than five acres that are not eligible for PUD designation.<sup>16</sup> Like PUDs, these standards allow for some flexibility in development, including deviations from lot size and yard requirements, while setting requirements for floor area, interior side setback and side yard plane, and garage orientation. Reductions in lot sizes and yard dimensions cannot be detrimental to identified natural features (or mitigation will be required) and must still allow for the provision of all required local street connections, pedestrian access ways, utility easements, emergency access, and other code requirements to be met. Reductions must be reviewed and approved by the Approval Authority.

The following is an overview of the infill standards:

#### Lot size

- ⊕ Lot size may be reduced to 85% of the minimum standard of the base land use district as long as the average lot size of the development is no less than the minimum lot size of the base land use district.
- ⊕ The resulting density shall be no more than the allowable density of the land use district.

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<sup>16</sup> Infill standards can be viewed in full at:

[http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVIILAUSDE\\_CH16.68INDEST.html](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVIILAUSDE_CH16.68INDEST.html).

- ⊕ Areas reserved as common open space may be counted toward the average lot size and density of the development when such areas are centrally located and accessible to every lot in the development.
- ⊕ A deed restriction shall be recorded on each lot that is less than the minimum standard of the zone that requires that building elevations, floor plans, and landscaping plans be reviewed and approved by the Planning Department and be binding on future building.

#### Yard requirements

- ⊕ Side and rear yard setbacks may be reduced so that the resulting yard area is 85% of the minimum standard of the land use district
- ⊕ When the side or rear yard abuts another residential property outside the subject development with a yard that is less than the minimum standard, the subject yard can be reduced in an amount equal to that of the abutting property.
- ⊕ A side or rear yard setback of less than five 5 feet is prohibited unless the structure is approved as a zero-lot line or common wall dwelling.
- ⊕ Front yard setbacks may be reduced by up to six feet, as long as all garage openings are set back at least 20 feet from all street rights-of-way.
- ⊕ Front yard setback reductions may be made only to accommodate an unenclosed front porch, protect natural features on or adjacent to the lot, or allow for greater separation or buffering

between infill development and existing residential uses at lower densities or on larger lots.

### Height

- ✦ The maximum height requirements of the base land use district apply.

### Floor area

- ✦ For structures taller than 24 feet, floor area shall not exceed from 50-65% of the lot area respectively for LDR, MDRL, MDRH, and HDR land use districts

### Interior side setback and side yard plane

- ✦ Also for structures taller than 24 feet, special side yard and plane requirements apply in order to limit the sense of bulk of a building (Figure 11).

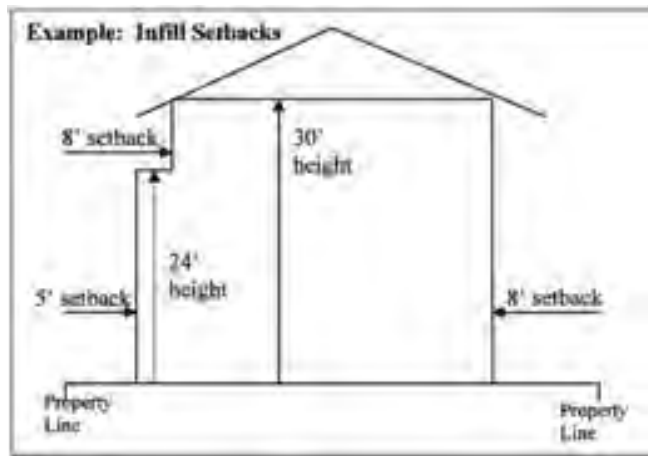


Figure 11 - Side Yard Setback and Plan Requirements

### Garage orientation

- ✦ The following requirements apply to lots that are 60-feet wide or less.
- ✦ The garage shall not be located closer to the street than the dwelling, and the exterior wall of at least one room of habitable space, which may include habitable space above the garage, shall be located closer to the street than the garage door. This requirement does not apply if the combined width of garage opening(s) does not exceed fifty percent (50%) of the total width of the front (street-facing) elevation.
- ✦ Any garage opening width more than 50% of the total width of the front (street-facing) elevation shall be set back at least two feet further from the front property line than the facade of the garage or, subject to the Approval Authority's approval, the front elevation may incorporate an architectural feature that provides a shadow line giving the perception that the garage opening is recessed.
- ✦ There are exceptions and additional requirements for highly sloped properties and for the side and rear elevation of a front-loading garage when they face a street or an abutting property.

### Landscaping

Land use districts in the study area generally do not have lot coverage requirements, in terms of the maximum percentage of the lot that is allowed to be covered by buildings or structures, except for the infill design standards discussed above. According to the City's landscaping code (Section 16.92.010), "(a)ll areas not occupied by structures, paved roadways, walkways, or patios shall be landscaped or

maintained according to an approved site plan,” pursuant to site planning requirements in Section 16.90.020.

Landscaping plans are required as part of site plan review, and site plan review is required for all new development, substantial changes to a site, structure, or use, and for sign construction/erection permits, with the term “substantial” defined in the code. Single- and two-family homes and manufactured homes on single lots are exempt from site plan review. Landscaping standards may be modified for environmentally sensitive and woodland areas.

There is not a lot of detail in the City’s landscaping code<sup>17</sup>, with the understanding that many of the details are worked out through the site plan review process. The code addresses landscaping materials, installation and maintenance, as well as the following standards:

- ⊕ **Perimeter screening and buffering** – Required between multi-family uses and other housing, between residential and commercial or industrial land use districts, between new uses and environmentally sensitive areas, and as determined by the Review Authority.
- ⊕ **Parking and loading area requirements** – Includes total area of landscaping, interior landscaping, perimeter landscaping, and landscaping at access points.
- ⊕ **Visual Corridors** – New development shall be required to establish landscaping for visual corridors along Highway 99W and

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<sup>17</sup> The landscaping code can be viewed online at:  
[http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVVCODE\\_CH16.92LA.html](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVVCODE_CH16.92LA.html).

other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the Community Development Plan, Part II, and the provisions of Chapter 16.142. Properties in the Old Town Overlay District are exempt.

In the Old Town Overlay District, landscaping standards are allowed to be reduced for residential uses because of the more urban setting of the district.

### *On-site Circulation*

Particularly for large lot or subdivision development, on-site circulation requirements are a critical part of creating connectivity within a site and to adjacent sites, and doing so for multiple modes of transportation. These are important elements of development in a Town Center.

The City’s code (Chapter 16.96) sets requirements for on-site pedestrian, bicycle, and vehicular circulation.<sup>18</sup>

### Pedestrian and bicycle circulation

- ⊕ All new development, except single-family detached housing, shall provide a continuous system of pathways/sidewalks.
- ⊕ Internal pathways/sidewalks must connect to the curb or sidewalk of the adjacent public street/transportation system

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<sup>18</sup> The chapter of code can be found online at:  
[http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVVCODE\\_CH16.96TECI.html](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVVCODE_CH16.96TECI.html)

### Driveways, sidewalks, and curbs

- ⊕ Driveways are required for residential (single-family, two-family, and multi-family), commercial, and industrial development.
- ⊕ Permeable surfaces are allowed for driveways for single-family and two-family residential development.
- ⊕ The minimum number and width of driveways are based on the number of units of residential development and number of parking spaces for commercial and industrial development.
- ⊕ Single-family (including manufactured) and two-family housing are not required to provide sidewalks if they are not part of a subdivision or partition.
- ⊕ Requirements regarding ADA compliance, materials, and connections to transit facilities are specified for internal pathways/sidewalks.

### Joint access

- ⊕ Joint access for adjacent uses is encouraged, and deeds, easements, leases, or contracts are needed to establish the joint use.
- ⊕ The City reserves the right to require a joint access to improve safety, vision clearance, or site distance, and to comply with street access spacing standards.

### Access to arterials and Highway 99W

- ⊕ Access to arterials and Highway 99W are limited or prohibited in the code.

### *Constraints or Variances in Development Standards*

The previous section of this report addresses Metro Title 13 (Nature in Neighborhoods), Title 4 (Industrial and Other Employment Areas), and Title 3 (Water Quality, Flood Management and Fish and Wildlife Conservation). Implementation of these regional regulations in City code can constrain or allow for variances in development standards in order to protect land for employment and natural resources.

In particular, Chapter 16.144 (Wetland, Habitat and Natural Areas) implements Metro Title 13.<sup>19</sup> The chapter seeks to protect wetland, habitat, and natural area identified in the City's Wetland Inventory, the Comprehensive Plan Natural Resource Inventory, and the Regionally Significant Fish and Wildlife Habitat Area map adopted by reference into this Code and the Comprehensive Plan. Pursuant to the chapter, setbacks from wetlands and significant natural areas are determined by the Clean Water Services Design and Construction Standards R&O 00-7 and Section 16.140.090 (Site Improvement), which tend to require larger setbacks for development adjacent to natural resources.

Section 16.144.030 (Exceptions to Standards) allows for reductions in lot size, setbacks, and parking, adjustments in landscaping requirements, and increases in density in order to exclude and otherwise protect environmentally sensitive land on a property. This can only be land that is not also governed by floodplain, wetland, and Clean Water Services vegetated corridor regulations. Resource land

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<sup>19</sup> Chapter 16.144 (Wetland, Habitat and Natural Areas) can be viewed in full online at:  
[http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVVIIIENRE\\_CH16.144WEHANAAR.html#TOPTITLE](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVVIIIENRE_CH16.144WEHANAAR.html#TOPTITLE).

that is used as the basis for these variances must be part of deed restriction, a public or private tract, or other form of legally binding protection.

### ***Parking Requirements***

Parking can significantly affect an urban center in terms of the amount of land dedicated to parking, the location and design of the parking (e.g., in relation to a center or district, in front of or to the side or rear of buildings, landscaping, etc.), and the availability of parking for customers. A city's code regulates several of these aspects of parking. In Sherwood, an off-street parking and loading plan must be included in applications for building permits or site plan approvals, except for single-family (including manufactured) and two-family homes.<sup>20</sup>

Especially for Town Centers, the following are among important topics related to parking: whether parking maximums (not just minimums) are established; whether parking can be shared and on-street parking can be credited; whether bicycle parking requirements are established and give thought not just to the number of spaces but location and design; and whether flexibility in general is allowed in the code. How the City's code addresses these topics is outlined below:

- ⊕ **Required number of parking spaces** – The code establishes both minimum and maximum numbers of parking spaces according to land use. The maximum numbers of parking spaces are further differentiated according to whether they are within a certain

distance from transit facilities, with lower maximums for sites in closer proximity to transit facilities.

- ⊕ **Shared parking and on-street parking credits** – The City's code does allow for joint use of parking when the peak hours of operation do not substantially overlap, and the agreement is established in the form of deeds, leases, or contracts.
- ⊕ **Mixed use** – When several uses are located in a single structure or parcel of land, the requirements for off-street parking and loading shall be the sum of the requirements, with a reduction of up to 25% to account for patronage across some of the uses.
- ⊕ **Carpool/vanpool** – All new development must include preferential spaces for car pool and van pools, if the business employs 20 employees or more.
- ⊕ **Residential parking districts** – The City does allow for the establishment of regulated residential parking districts (permits) to protect residential areas from spillover parking generated by adjacent commercial, employment, or mixed-use areas,
- ⊕ **Bicycle parking requirements** – The code establishes minimum number of parking spaces for general land use categories. (Requirements are established for park and ride facilities but not otherwise for major transit facilities.) Location and design are addressed insofar as the spaces must be sheltered and/or within convenient distance of the building entrance, for example, no further than the nearest vehicle parking space. (Design specifications for dimensions and distance from a building to ensure that the space is usable are not established.) Lighting is

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<sup>20</sup> Parking requirements may be viewed online at:  
[http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO\\_DIVVCODE\\_CH16\\_94OREPALO.html](http://library.municode.com/HTML/16625/level3/TIT16ZOCODECO_DIVVCODE_CH16_94OREPALO.html).

required. In the Old Town Overlay District, parking can be located on the sidewalk within the right-of-way.

- ⊕ **Variance in standards** – As cited above, the code allows for reductions in parking related to shared parking, on-street parking, and mixed uses. The code also allows for reductions of 10-20% (depending on the base number of required parking spaces) when proposed development will include storm water bio-swales or is adjacent to environmentally constrained or environmentally sensitive areas. While there is not a general variance or adjustment process specific to the City’s parking code, there is a general variance process established in Chapter 16.84 that can allow for a 5-20% reduction in code standards if approval criteria are met.
- ⊕ **Old Town (OT) Overlay District** – There is no parking required in the Smockville portion of Old Town and only 65% of normally required off-street parking is required in the Old Cannery Area of Old Town. Streets must be designed pursuant to the TSP and Downtown Streetscape Master Plan.

The brief City code sub-section on loading addresses driveways into sites of uses designed for 25 or more people, the minimum size of loading areas for non-residential uses, and separation of loading and off-street parking areas.

### Approval process

The City’s land use review procedures range between quasi-judicial review and decisions (Type I, Type II, Type III, and Type IV) and legislative review and decisions (Type V), with review standards becoming more rigorous as the types progress. The following is an

overview of the types of applications subject to these procedures that may be most prevalent in the study area, with acknowledgement of applications in the Old Town Overlay District in particular.

- ⊕ **Type I review process** – Property Line Adjustments, Final subdivision and partition plats, and Final Site Plan Review
- ⊕ **Type II review process** – Land Partitions, Expedited Land Divisions, "Fast-track" Site Plan review (site plan applications proposing less than 15,000 square feet or up to a 20% increase of floor area, parking, or seating capacity), and Subdivisions between 4—10 lots
- ⊕ **Type III review process** – Conditional Uses, Site Plan Review (15,001-40,000 square feet of floor area, parking, or seating capacity, except site plans within the Old Town Overlay District), and Subdivisions between 11—50 lots
- ⊕ **Type IV review process** – Site Plan review and/or "Fast Track"<sup>21</sup> Site Plan review of new or existing structures in the Old Town Overlay District, Site Plans (more than 40,000 square feet of floor area, parking, or seating capacity), and Subdivisions over 50 lots
- ⊕ **Type V review process** – Plan Map Amendments, Plan Text Amendments, and Planned Unit Development — Preliminary Development Plan and Overlay District.

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<sup>21</sup> “Fast-track” Site Plan review is available for applications proposing less than 15,000 square feet of floor area. However, any project in the Old Town Overlay District is required to have a public hearing with decision by the Planning Commission via a Type IV review.

- ⊕ **Old Town Overlay District** – Applications in the Old Town Overlay District are required to have a public hearing and be reviewed and approved by the Planning Commission.

## Discussion of Challenges and Opportunities

Given the overview of Zoning and Development Code requirements provided in this section of the report, the following observations about challenges and opportunities related to developing a Town Center in the Project Study Area – and the possibility of including existing activity areas around Six Corners and Old Town in particular – are offered.

### Uses

Uses within the Project Study Area are varied and include residential, commercial, and institutional. Areas of intense land uses within the Project Study Area are focused around the Six Corners area and Old Town. Recent development in Old Town is resulting in a wide variety of uses, consistent with the types that enliven a Town Center (commercial, employment, higher-density residential, and institutional/public uses). Recent development along Highway 99W has been retail-focused, and both new and existing businesses are reliant on visibility from high volumes of motorists. Commercial zoning in these activity areas is predominantly Retail Commercial (RC). This zone allows for a wide range of uses, including high density residential. A potential liability of RC zoning is that it allows auto-oriented uses, such as service and repair stations, drive-throughs, and other services that can compromise the pedestrian and human-scale orientation of a Town Center. In Old Town, this is mitigated in part by

the overlay district use regulations, which prohibit drive-throughs. Overall, however, the zoning requirements that govern the subareas do not inhibit the potential to develop the mix of uses envisioned in a Town Center.

In close proximity to commercial land within the Project Study Area are areas of high density residential zoning, particularly south of Century Drive and, in the southernmost part of the Project Study Area, south of Columbia Street. Having residential uses adjacent to, or as part of, the Town Center can ensure that there is a resident population that can live close to work, shopping, and services.

### Development Standards

#### *Density and Height*

Density and height are particularly important in a Town Center because they must require a minimum density and allow multi-story building. Metro Title 6 density guidelines are expressed in terms of overall density (40 people – residents and employees – per acre), and the Transportation Planning Rule (TPR) Mixed-Use Multimodal Area (MMA) requirements target residential density (a minimum of 12 units per acre). It is more difficult to translate existing land use district designations into overall density (minimum lot size requirements for the commercial districts are reviewed in this section, but the estimated number of employees per unit of area varies greatly with the type of employment use). In terms of residential density, however, existing land use districts are easier to assess. Only the HDR district and the HDR uses permitted in the commercial districts achieve the MMA target of a minimum of 12 units per acre. Infill development, as regulated by the standards reviewed earlier in this

section, can help to increase density but may only occur on a limited basis.

Maximum height requirements are generally set between 30 feet (two stories) and 50 feet (four stories) in the land use districts that are most prevalent in Six Corners and Old Town (MDRL, HDR, GC, and RC). These allow for the type of multi-story building envisioned in a Town Center. However, these are maximum height requirements and do not require multi-story structures. The exception is within the Old Town overlay district, where a minimum height of 16 feet is required.

### *Circulation and Parking*

Existing requirements in the City's code related to on-site circulation and connections to surrounding development and transportation network support the kind of circulation and connectivity needed in a Town Center. Increased connectivity for all transportation modes can be expected to occur incrementally over time, through development and redevelopment in the study area.

Current City parking requirements reflect those adopted by Metro in the Regional Transportation Functional Plan (Table 3.08-3), specifically the minimum and maximum requirements and lower maximum requirements for "Transit and Pedestrian Accessible Areas" like Town Centers. As the currently designated Town Center, Six Corners is subject to the lower maximum requirements, while the Old Town subarea has its own standards (e.g., no required off-street parking in the Smockville Area and just 65% of required off-street parking in the Old Cannery Area), which present less burden on the developer and reinforce the denser urban nature of Old Town. The existing parking standards are consistent with the objectives of intensifying land use in a Town Center, regardless of where the designation is located within

the City; however, the standards in the Old Town subarea better meet this objective.

### *Other Design Standards*

Any new proposed development over 15,000 square feet in the study area is subject to site plan review and the requirements of Chapter 16.90. Basic site plan review requirements still ensure that proposed commercial, multi-family, institutional, and mixed-use development is "oriented to the pedestrian and bicycle, and to existing and planned transit facilities" and includes a set of urban design standards – as well as a Commercial Design Review Matrix – that addresses similar design elements as the special standards in Old Town. In addition, the Old Town subarea has its own review standards, which go into detail about building orientation, building entrances, the amount and location of windows, building materials and design details.

### Review Process

Site plans in the Old Town overlay district are subject to Type IV review (including public hearing and review and approval by Planning Commission), regardless of size. This can result in an involved review process that, while ensuring strict design standards, poses significant obstacles for developers in Old Town, particularly for smaller-scale projects that have smaller rates of return.

## Approved Planned Unit Developments (PUDs)

Planned Unit Developments (PUDs) allow for flexibility in development requirements such as building heights and site design (including setbacks). Permitted and prohibited uses and density requirements in PUDs are guided by the underlying land use districts. There are two approved PUDs in the Project Study Area that have not yet been built: Cannery Square, (RC-PUD) in Old Town and Langer Farms (LI-PUD) to the northeast of Old Town adjacent to the Northeast Industrial Area. These are described in more detail below.

### Langer Farms

Figure 12 illustrates the lot configuration and circulation plan for the Langer Farms PUD. While the land is zoned light industrial (LI), retail commercial uses were permitted at the time of PUD approval. There are currently land use applications in review for land at the southeast corner of Tualatin-Sherwood Road and Adams/Langer Farms Parkway, including a commercial subdivision, a mini-storage facility, and a large retail development.

More information about the Langer Farms PUD is available on the City of Sherwood website: <http://www.sherwoodoregon.gov/langer-farms-subdivision>





Figure 12 - Langer Farms PUD Subdivision plan with circulation

Source: Langer Family, LLC Subdivision Application. From City of Sherwood website: <http://www.sherwoodoregon.gov/lander-farms-subdivision>

## Cannery Square

The Cannery Square PUD<sup>22</sup> includes a plaza (constructed), retail buildings, a 101-unit apartment complex, and the Sherwood Community Center. The community center has received land use approval (to convert from a machine works building to the community center) and the apartment complex is in review (first public hearing held August 14, 2012). The proposed Residences at Cannery Square development consists of two multi-family buildings with a total of 101 units.<sup>23</sup> The east building will be 3-stories for a total of 50,802 square feet and the west building will be 3-stories for a total of 53,227 square feet.

Several transportation projects related to the site have the potential to impact traffic circulation in the Old Town area, including:

- ⊕ Improvements to the operations of Pine Street/1st Street to meet City performance standards and mitigate queuing impacts at the Pine Street railroad crossing. This will be accomplished by modifying circulation for the downtown streets, including:
  - + Install a diverter for south-westbound on 1st Street at Ash Street or Oak Street to require vehicles traveling towards Pine Street to divert to 2nd Street.
  - + Remove one side of on-street parking Ash Street-2nd Street or Oak Street-2nd Street to provide two 12-foot travel lanes from the diverter to Pine Street. Convert to one-way traffic flow approaching Pine Street for this segment.

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<sup>22</sup> City of Sherwood. <http://www.sherwoodoregon.gov/cannery-pud-pud-09-01sub-09-02pa-09-05>

<sup>23</sup> City of Sherwood. <http://www.sherwoodoregon.gov/residences-cannery-square>

- + Install an all-way stop at Pine Street/2nd Street. Stripe the south-westbound approach of 2nd Street to have a left turn lane and a shared through/right-turn lane.
- + Install traffic calming measures on 2nd Street southwest of Pine Street to manage the impact of the added traffic.
  - Restrict landscaping, monuments, or other obstructions within sight distance triangles at the access points to maintain adequate sight distances.
  - Provide an enhanced at-grade pedestrian crossing of Pine Street to facilitate multi-modal circulation through the project site (e.g., signing, striping, lighting, a raised crossing, or pavement texturing).
  - Construct Columbia Street northeast of Pine Street to City Standards as modified and approved by the City Engineer and install a sign indicating that this roadway will be a through street in the future (connecting to Foundry Avenue).
  - Because of the alignment configuration of Columbia Street southwest of Pine, the street will be configured and signed as a one way street.
  - Restrict parking on the southeast side of Columbia Street at a minimum within 50 feet of Pine Street (northeast of Pine Street).
  - Prior to final detailed plan and site plan approval for either the east or west residential building, an additional traffic study must be prepared that, among other things, looks more closely at local street impacts on Willamette and intersections on a route from Highland to Oregon Street via Willamette.

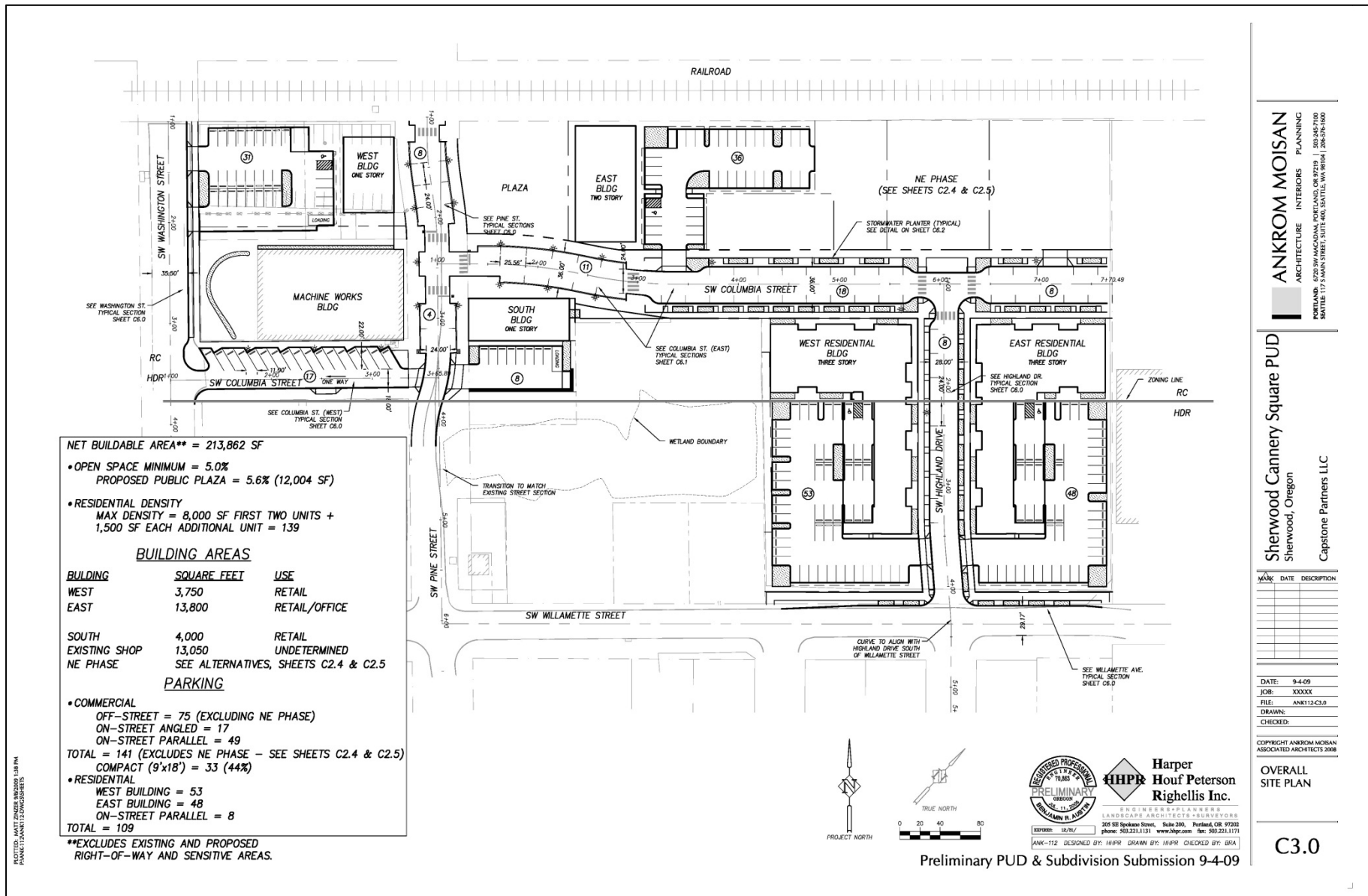


Figure 13 - Preliminary Site Plan for Cannery Square PUD

Source: Capstone Partners LLC Preliminary PUD & Subdivision Application. From City of Sherwood website: <http://www.sherwoodoregon.gov/cannery-pud-pud-09-01sub-09-02pa-09-05>

## IV. Land Use and Urban Design

### Land Use Overview

As shown in Figure 14, land use within the Project Study Area can be generally grouped as single-family or multifamily residential, commercial, industrial, public, forest, or vacant. Public land uses are discussed in the *Public Amenities* section, and vacant land uses are discussed in the *Redevelopment Potential* section. A summary of single-family, multifamily, commercial, and industrial land uses within the study area are provided below.

#### Single-Family Residential

The main single family residential clusters within the Project Study Area are located in the area between Six Corners and Old Town, with additional scattered single family sites in and around Old Town. There is no housing located within the current Town Center designation of Six Corners. Additionally, single family neighborhoods border the Project Study Area around the south and west sides. Notable developments include:

- ✦ **Gleneagle subdivision:** This is a group of cul-de-sac oriented detached houses to the southwest of Century Drive and Sherwood Boulevard. Mostly constructed in the late 1960's and early 1970's, these houses are generally around 1400 square feet, though there is a bit of variation within the group (minimum of 900 sf, maximum of 2500 sf.)
- ✦ **Sherwood Village subdivision:** East of Gleneagle and bordered by Langer Park on the north side and Clyde Hopkins Elementary School and St. Francis School on the south side, the Sherwood

Village homes were mostly developed in the mid-1990s. These detached single family homes are mostly in the 1200-1800 sf range.

- ✦ **Arbor Terrace subdivision:** This mix of single family attached and detached housing is tucked on the north side of Langer Park between three large commercial developments. These units were mostly built in 2005, and range from about 1200 to 1800 square feet.
- ✦ **Old Town area:** At the southwest edge of Old Town (and southern point of the Project Study Area) and sprinkled throughout the Old Town area, is a disparate group of single family detached houses. These include several historic properties, built in the first few decades of the 20<sup>th</sup> century. Others were built as recently as the 1980s.

#### Multifamily Residential

There are several multifamily developments in the Project Study Area, both for rent and for sale. A few notable developments include:

- ✦ **Sun Lakes Apartments:** located adjacent to Six Corners on the north side of Century Drive across from Langer Park, this is the largest rental complex within the Project Study Area
- ✦ **Stewart Terrace Apartments:** on Sherwood Boulevard between Six Corners and Old Town, this rental building provides income-restricted housing for seniors and persons with disabilities. It is also across the street from the Marjorie Stewart Senior Community Center.

- ⊕ **Gleneagle Village Condos:** constructed in the 1970's, these attached-unit for-sale condominiums are located adjacent to Highway 99W, as well as the future Cedar Creek Trail extension.

## Commercial

Six corners is the main commercial grouping within the Project Study Area. As shown in Figure 14, it contains several large retail and entertainment anchors, including Target, Safeway, and a Regal 10 movie theater. There are also a few scattered commercial properties along Sherwood Boulevard south of Highway 99W, and a small commercial core in Old Town. As noted previously, the characteristics of the building types, site layout, and markets for commercial establishments in Old Town and Six Corners are at opposite ends of the retail spectrum.

## Industrial

The Project Study Area contains a segment of the P&W Railroad freight rail line that serves the nearby Northeast Industrial Area. However, within the Project Study Area, there is only one industrial property:

- ⊕ **Bilet Products:** this pallet manufacturer is located to the northeast of Old Town at the intersection of Langer Farms Parkway and Railroad Street.







### Environmental Context

Figure 15 provides an overview of the existing environmental conditions in the Project Study Area, which align with Metro's Nature in Neighborhoods (Title 13) and Stream and Floodplain Protection (Title 3) designations. Note that while these Metro designations are shaded in Figure 15, more detail is provided about the constraints of these developments in the *Metro Requirements* section on page 16 and the accompanying Figure 7 - Metro Title 3 and Title 13 Designations. As explained in that section, the creeks, riparian areas, and wetlands in the Project Study Area are already protected by Metro regulations that are implemented through Sherwood's development code. While these areas can be considered a vital asset to civic life, they are development-restricted areas and are not available for the intensive land use development that characterizes a Town Center.

This map illustrates the Cedar Creek Watershed, highlighting the project study area in blue. The map includes various geographical features and infrastructure:

- Creeks:** Cedar Creek, Rock Creek, and Tonquin Creek are shown in blue.
- 10 Foot Contours:** Indicated by brown lines.
- Fema 100 Year Flood Areas:** Shaded in light blue.
- Wetland:** Shaded in light green.
- Metro Title 3 and Title 13 Designations:** Indicated by a yellow outline.
- Project Study Area:** Outlined in blue.
- Railroads:** Shown as black lines with cross-ticks.
- Tonquin/Cedar Creek Trail Alignment:** Shown as a green line.
- Existing Trails:** Shown as yellow lines.
- City Hall:** Marked with a black square.
- Library:** Marked with a blue square.
- Schools:**
  - Private: Marked with a black triangle.
  - Public: Marked with a black square.

Key locations and streets labeled include Cedarview Way, St. Paul Lutheran, Roosevelt St, Roy Rogers Rd, Daylily St, Lynnly Way, Houston Dr, Daffodil St, Borchers Dr, Sidney Ln, 99W, Tualatin Sherwood Rd, Adams Ave, Century Dr, Olds Pl, Serdian Ln, Breath Dr, Holladay Ln, Langer Dr, 12th St, Century Dr, 11th Ct, Keda Ct, Stetson St, Redclover Ln, Springtooth Ln, Baler Way, Farmer Way, Thrasher Way, Langer Farms Pkwy, St Francis School, Clyde Hopkins Elementary, Sherwood Middle, Sherwood High, Marshall St, Meinecke Rd, King Richard Ct, Sherwood Dr, Alexander Ln, Vintner Ln, Smith Ave, Dewey Dr, Saxon Pl, Sequoia Ter, Woodhaven Dr, Kinglet Dr, Carlson St, Saunders Dr, Villa Rd, Main St, Washington St, Pine St, Wilamette St, Foundry Ave, Lincoln St, Norton Ave, Forest Ave, Upper Roy St, Cochran Dr, Fairview, Murdock Rd, WERT Ct, Nottingham Ct, Lower Roy St, Oregon St, and Tonquin Rd.

A scale bar at the bottom right indicates distances from 0 to 0.5 miles. A north arrow is also present.

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## 40 | Sherwood Town Center Plan

## Activity Centers

For the purposes of this project, activity centers are considered public facilities, institutions, and neighborhood retail establishments that residents and employees in Sherwood visit in their everyday lives. These activity centers are mapped in Figure 16.

On the public side, these include parks, schools, and other public facilities like libraries and community centers. As shown in Figure 16, there are several schools in the Project Study Area, located in the area between Old Town and Six Corners. There is currently one community center, Marjorie Stewart Senior Community Center, in the Project Study Area, located on Sherwood Boulevard between Six Corners and Old Town, and one police facility, located in the Six Corners area off of Borchers road. City Hall is located in Old Town, as is the new Cannery Square Park plaza. In addition, there are plans to construct the new cultural arts-oriented Sherwood Community Center as part of the Cannery Square Planned Unit Development in Old Town. (For more details about the Cannery Square plans, see Section III of this document on page 37.)

The most prominent open space in the Project Study Area is a park corridor, located west of Old Town along Cedar Creek and anchored by Stella Olsen Park. Apart from the Cedar Creek Trail (discussed in more detail Section II of this document under *Tonquin Trail Master Plan* on pages 20-21), Stella Olsen Park also has an outdoor concert pavilion where the city hosts *Music on the Green* and *Movies in the Park* in the summer. Additionally, there are also a few smaller neighborhood parks within the Project Study Area, including Veterans Park in Old Town and Langer Park near Six Corners.

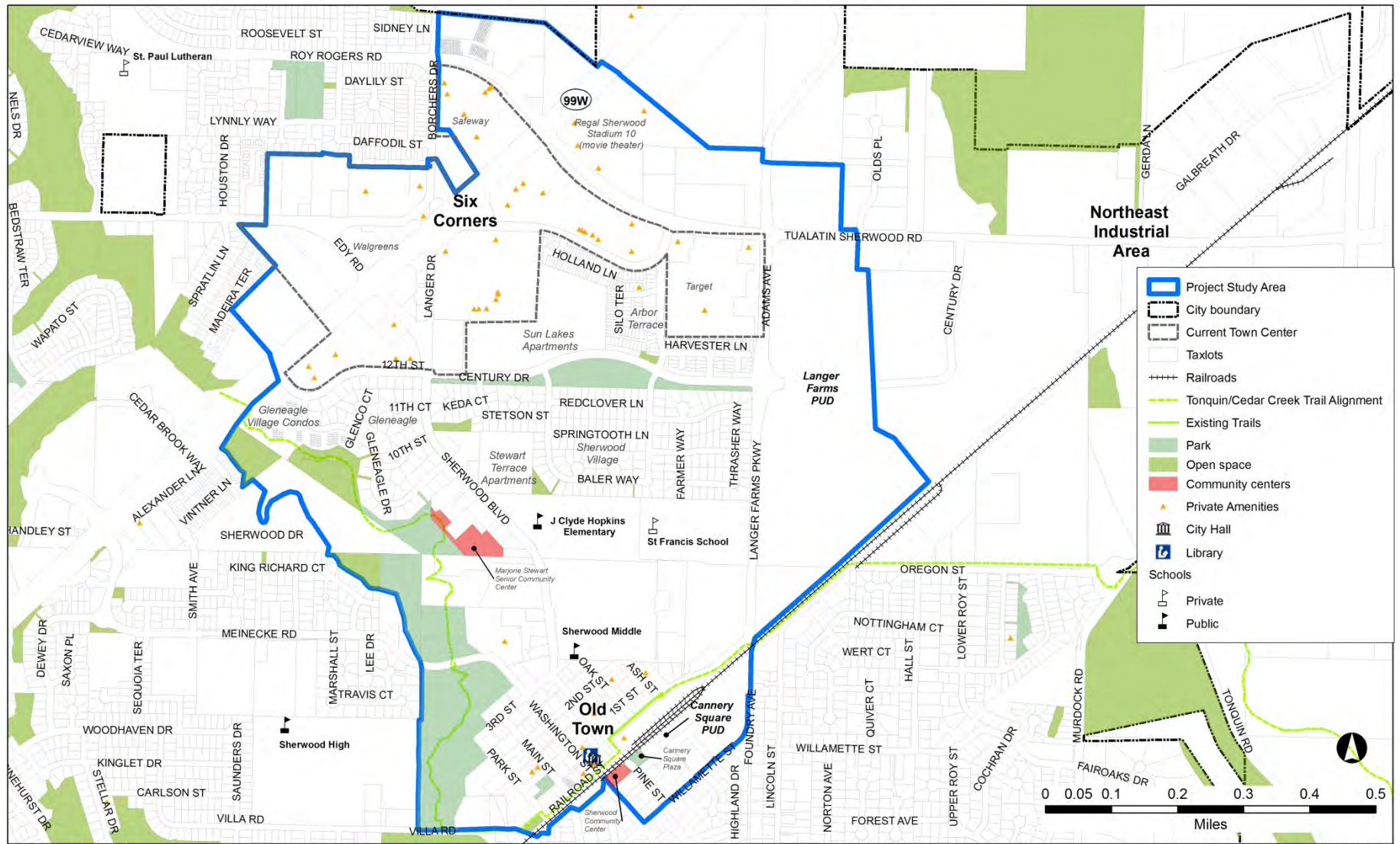
Private amenities shown in Figure 16 include the range of neighborhood retail establishments that Metro uses to evaluate Town Centers in the *State of the Centers Report*:

- |                  |                                  |
|------------------|----------------------------------|
| + bakery         | + coffee shop                    |
| + bar            | + department store               |
| + bike shop      | + dry cleaners                   |
| + bookstore      | + fitness gym                    |
| + brewpub        | + grocery store                  |
| + child care     | + music store                    |
| + cinema         | + restaurant                     |
| + clothing store | + specialty snacks and beverages |

These are the sort of everyday retail uses that contribute to a vibrant Town Center. Predictably, most of these establishments are located in Six Corners and Old Town.



## Sherwood Town Center Plan - Activity Centers



Data Sources:  
 Neighborhood Retail data provided by Metro DRC Context Tool  
 Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

August 22, 2012

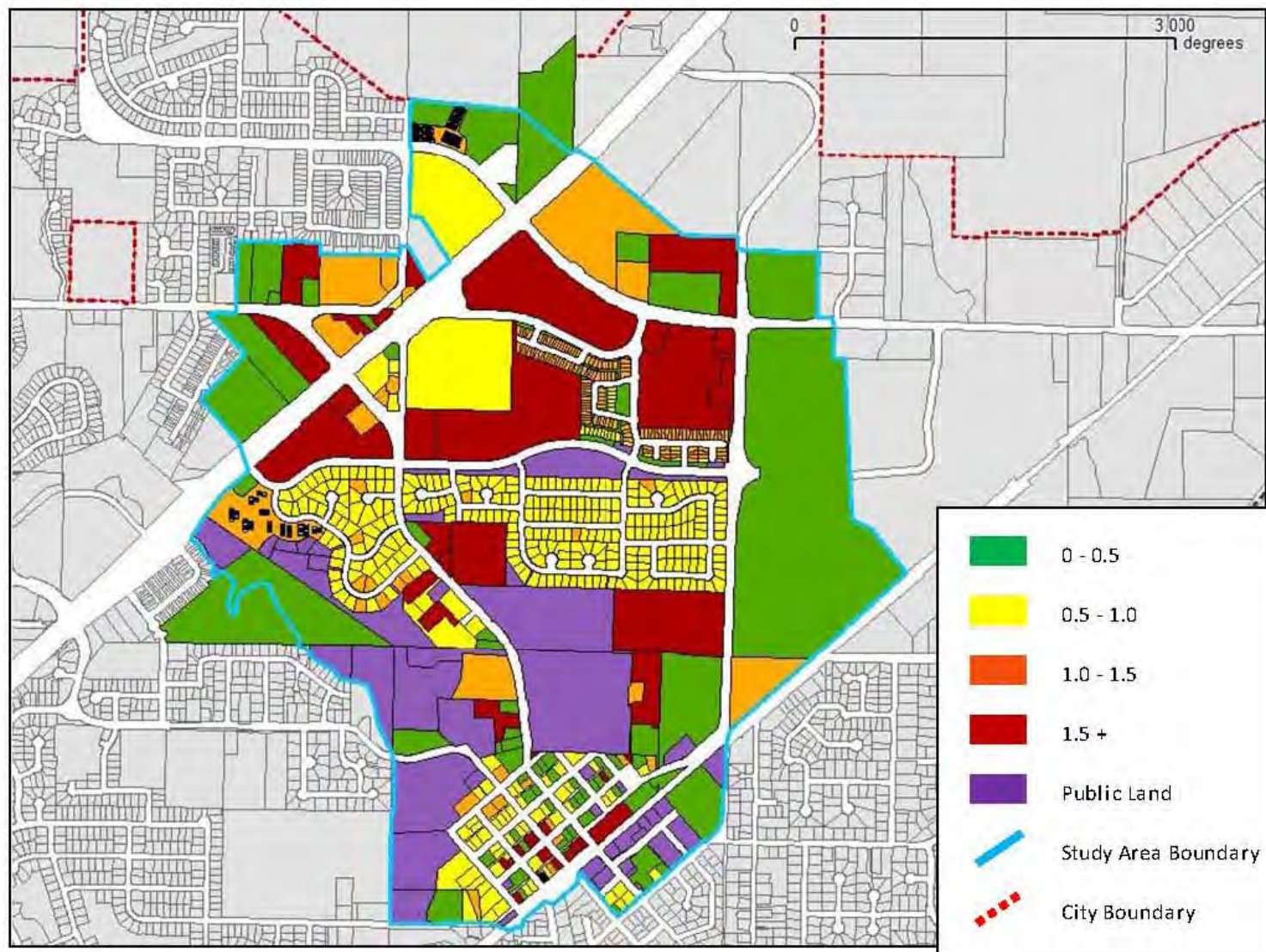
Figure 16 - Activity Centers Map

## Redevelopment Potential

Vacant, undeveloped parcels within the Project Study Area have the greatest potential to be developed with future urban uses. As shown in Figure 14, there are relatively few vacant parcels. The largest of these, the Langer property east of Langer Farms Parkway, is already committed to commercial development through an approved planned unit development (see pages 35-36 for more detail). Similarly, vacant land associated with the Cannery will also be developed according to an adopted planned unit development (see pages 37-38). Other sizable vacant parcels within the Project Study Area lie north of Tualatin-Sherwood Road; one of these, north of Roy Rogers Road is partially outside of city limits.

Partially vacant land or land that is relatively underutilized also has the potential to be developed within a long-range, 20-year planning horizon. Some “development opportunity sites” are shown on the Opportunities and Constraints map (Figure 19) and described in the following section. Another indication that a parcel is relatively underutilized is the value of the improvement on the parcel as compared to the value of the land. Parcels in the Project Study Area were assessed using the ratio of the improvement (building) value to the land value, or “I:L Ratio” (see Figure 17). Because land value tends to remain steady or increase, a low relative value for the built improvement can demonstrate that the value of a particular building has deteriorated to the point where it might be a good candidate for redevelopment. If a parcel is vacant, it will have a I:L Ratio of zero. It should be noted that many other factors play a role in the development or redevelopment of a parcel, and that I:L Ratio data is only one of many indicators of the likelihood that a given property will redevelop.

Figure 17 shows the estimated I:L Ratio of parcels in the Project Study Area, based on available data from the Metro RLIS system. Those properties with lower ratios are more likely to develop or redevelop, while those with a higher ratio are considered less likely. In the case of Sherwood, properties with an I:L Ratio of 0.5 or higher should be considered poor candidates to redevelop in the near to mid-term. Those properties shown in green have the lowest I:L Ratio because they are vacant or have a low-value improvement. Excluding the Langer PUD, which has an approved development plan (see p. 37-38), there are very few properties within the Project Study Area that would be considered good candidates for development or redevelopment in the next 10 to 20 years.



SOURCES: Metro RLIS, Johnson Reid LLC

Figure 17 - Improvement to Land Value Ratio

# Urban Design Inventory

## Overview

The two main activity centers within the Project Study Area, Six Corners and Old Town, differ greatly in their current form and function. Both areas, though, stand to benefit from efforts to improve connectivity, enhance character, and develop more mixed commercial, residential, civic, and recreational uses. Six Corners is the commercial core of Sherwood while Old Town is often described as the “heart and soul” of Sherwood.

Six Corners exemplifies auto-oriented retail with single-story businesses set far back from the street and fronted by large surface parking lots. Several major arterial streets provide automobile access to the area but are difficult to cross, especially for people walking, bicycling, or using transit. Six Corners also serves as the regional shopping destination for many area residents, and businesses are generally performing well as a result of high-visibility and access from Highway 99W.

Old Town is focused around “Main Street” designations on 1<sup>st</sup> and Pine Streets, and is characterized by a small core of 2-3 story mixed office and retail buildings with some housing above commercial space. Street traffic is slow, making walking and bicycling easy and convenient. Small offices sit above and next to cafes, and the library, Sherwood City Hall, and Cannery Square Park are key new destinations. There is little available land for redevelopment in the area, and the opportunities for significant redevelopment may take many years to emerge.

Save for the large parcels of vacant land east of Langer Farms Parkway, both the Six Corners and Old Town districts are somewhat constrained by surrounding housing, industrial lands, parks, and schools, making it necessary to identify improvements that could occur primarily in existing developed areas. Six Corners, Old Town, or a designation in between these two main areas could be improved as a “Town Center”, but understanding the principle differences between how future development could occur within the Project Study Area will inform a long-term Town Center plan.

## Existing Conditions

This section identifies existing patterns of development and connectivity within the Project Study Area, which are shown visually in Figure 18.

- ⊕ **Nodes:** These are conceptual areas of high activity and general traffic. Several intersections in Six Corners and the core of Old Town are the primary nodal destinations within the Project Study Area. Development can be centered on existing or new nodes and connections from nodes to surrounding areas should be prioritized.
- ⊕ **Barriers:** Physical and experiential barriers present major obstacles for people traveling between Old Town and Six Corners. Highway 99W, Stella Olsen Park, large civic parcels, and the disconnected residential street patterns are some examples of the barriers that make connections between Six Corners and Old Town more challenging. Though less than a mile apart, Six Corners and Old Town function as two distinct areas, and residents and visitors likely don’t view the two as complementary commercial destinations.

- ⊕ **Metro 2040 Concept Main Streets:** Main Streets have a strong traditional commercial core and well-established connections to nearby neighborhoods and amenities. Old Town, with its active core, walkable streets, and historic character, has a designated Main Street along 1<sup>st</sup> and Pine Streets.
- ⊕ **Metro 2040 Concept Corridors:** Corridors are major streets that provide transportation routes for people and goods. Highway 99W, Sherwood Blvd., and portions of Oregon Street are Concept Corridors. Sherwood is also the current terminus of Metro's Southwest Corridor Plan, which seeks to improve transportation options and sustainable development on a high-volume and planned future high-capacity transit route towards Portland (see pages 22-23).

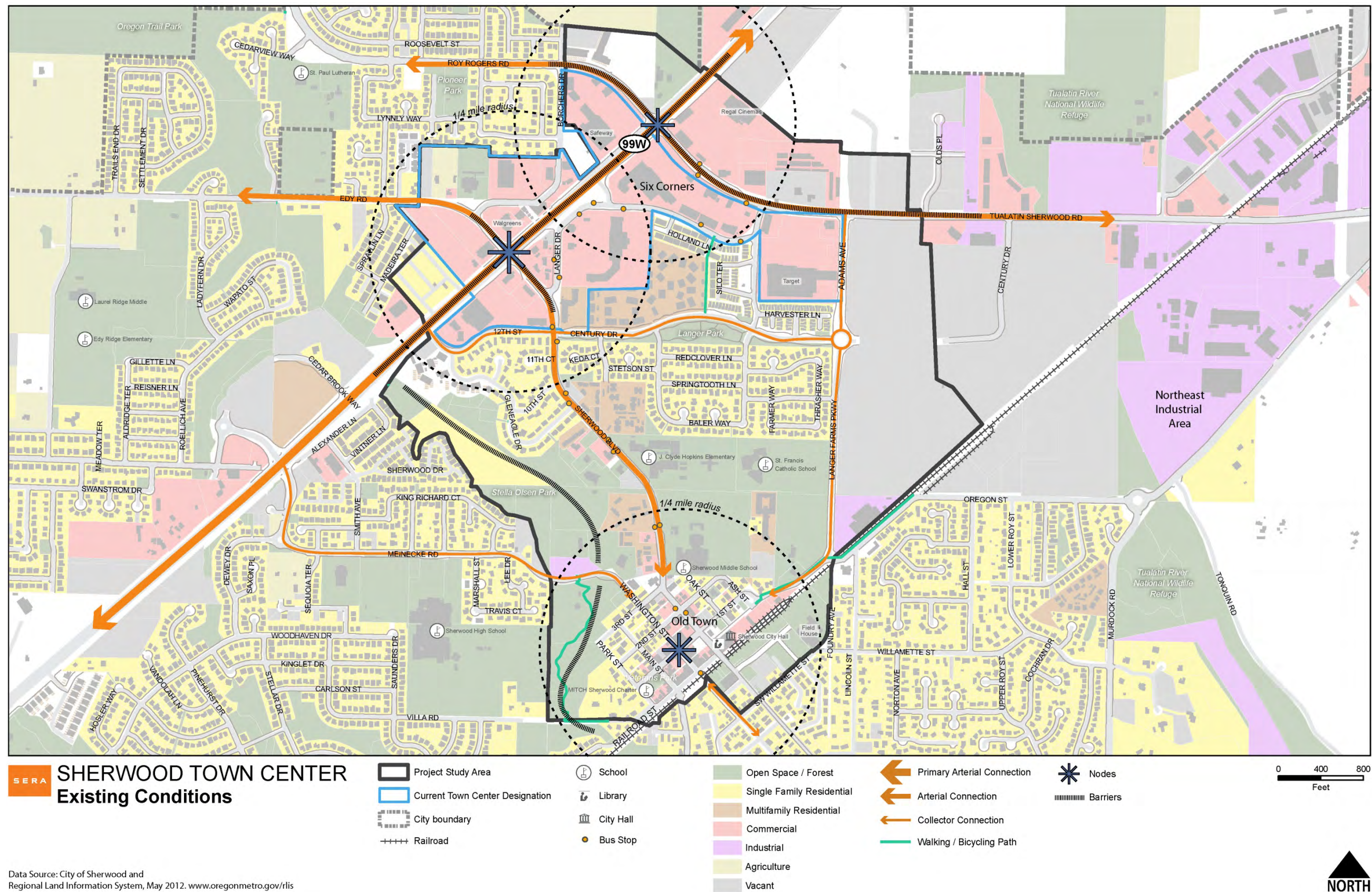


Figure 18 - Existing Conditions Map

## Opportunities and Constraints

Opportunities and constraints to achieving a Town Center within the Project Study Area are discussed in this section. Figure 19 illustrates these attributes and maps specific areas with numbers, which are keyed to descriptions that follow the figure.

- ✦ **Connection Opportunities:** Mobility and access are critically important for a Town Center in order to ensure commercial vitality and to support a range of housing options within walking and bicycling distance of retail cores. Key connection needed in the Project Study Area include:
  - + Across Highway 99W in a potential Six Corners Town Center. These connections could complement the planned under-passing of Highway 99W by the Tonquin/Cedar Creek Trail
  - + Formalized improvements to the Tonquin/Cedar Creek Trail corridor in Downtown Sherwood
  - + Neighborhood connections to the existing and proposed segments of the Tonquin/Cedar Creek trails
  - + To and through Stella Olsen Park, which is a key open space in the area but presents obstacles to connecting the Town Center to Sherwood High School and neighborhoods to the west
  - + Through new development on the vacant parcels east of Langer Farms Parkway
  - + Across the railroad tracks, to improve connections between Old Town and residential neighborhoods to the south and east

- + Throughout the Six Corners area, which is currently difficult to access without using a car
- + Through and across the neighborhoods between Six Corners and Old Town
- ✦ **Development Opportunity Sites:** Development opportunity sites are largely vacant or underutilized parcels that have been identified for redevelopment, infill, or open space. “Development ready” sites are primarily on the periphery of the Project Study Area, though in the longer term, commercial and residential parcels closer to the core of Six Corners and Old Town may become available. Private redevelopment will need to be coordinated with public investment to ensure that destinations and access are provided in parallel.
- ✦ **Gateways:** Gateways provide key access points to Six Corners and Old Town that can be enhanced to better guide people to various destinations. Gateways off of Highway 99W, Sherwood Boulevard, and Tualatin-Sherwood Road will be particularly important for bringing exposure to the amenities offered in Old Town. Though the area has primary access corridors, there are no distinct gateways to direct or welcome people to Six Corners or Old Town.
- ✦ **Proposed Tonquin/Cedar Creek Trail Alignment:** Plans include strategies to link Sherwood, Tualatin, Wilsonville, and several nature areas with a regional multi-use trail system (see pages 20-21 for more detail).
- ✦ **Residential Areas:** There are several residential neighborhoods in the middle of the Project Study Area between Six Corners and Old Town, as well as located along the south, west, and northwest boundaries. Most of this housing is well-established single-family

or townhouse development with decent internal connectivity but few good links to nearby commercial centers or across Stella Olsen Park and the railroad tracks. In the long term, there may be opportunities to moderately increase housing density in the areas within and around a new Town Center.

✦ **Civic and Recreation Areas:** Several schools and Stella Olsen Park are located north and west of Old Town. Langer Park lies in close proximity to the activity areas around Highway 99W. Schools and open space are vital amenities in any livable community. Currently, though, connections through and to the parks and school properties are poor. There are many opportunities to route streets, paths, and trails through these areas to improve access and connectivity while respecting the character of these areas.

✦ **Industrial Areas:** The Northeast Industrial area is to the east of the Project Study Area. The large parcels east of Langer Farms Parkway can be developed in a way that eases the transition between industrial uses and commercial/residential uses in a new Town Center.

### *Old Town*

The Sherwood Public Library and City Hall, the Railroad Street Antique Mall, and a collection of restaurants, small businesses, and other attractions are all located in the core of Old Town. On Pine Street, just southeast of the railroad track, a new splash park, Cannery Square Park, opened in June 2012 and is already a popular amenity.

Old Town contains most of the historic buildings in Sherwood and is characterized by its traditional charm. There are numerous small, independent retailers, restaurants, and offices in the area and it

attracts people for unique shopping, recreation, and casual entertainment. The recent Old Town Lofts commercial/residential development and the approved Cannery Square PUD (see pages 37-38) have responded to demand for moderate density increases and blended building uses.

Several arterial and collector streets lead directly to Old Town from Six Corners, Highway 99, Tualatin-Sherwood Road, and surrounding residential neighborhoods, but access and navigation to Old Town is often not clear. Better street and trail links to Stella Olsen Park, across the railroad tracks, and eastward towards new development on the Langer Farms PUD parcels (see pages 35-36) will help connect Old Town to the region, draw in visitors, and encourage people to live near this emerging Main Street area.

### *Six Corners*

With strategic transportation improvements, new development, and retrofits to existing large-format retailers, Six Corners could become a more inviting commercial hub that encourages people to stay and partake in attractions beyond day-to-day shopping. Highway 99W is a major barrier that can be mitigated with improved crossings at Sherwood Boulevard and Tualatin-Sherwood Road along with traffic calming and better linear bicycle and pedestrian routes. New streets and paths can better connect Six Corners to surrounding residential areas. Vacant parcels can be developed with greater densities and a more robust mix of uses, and existing buildings can be reoriented to face the street and reduce the amount of land dedicated to parking.

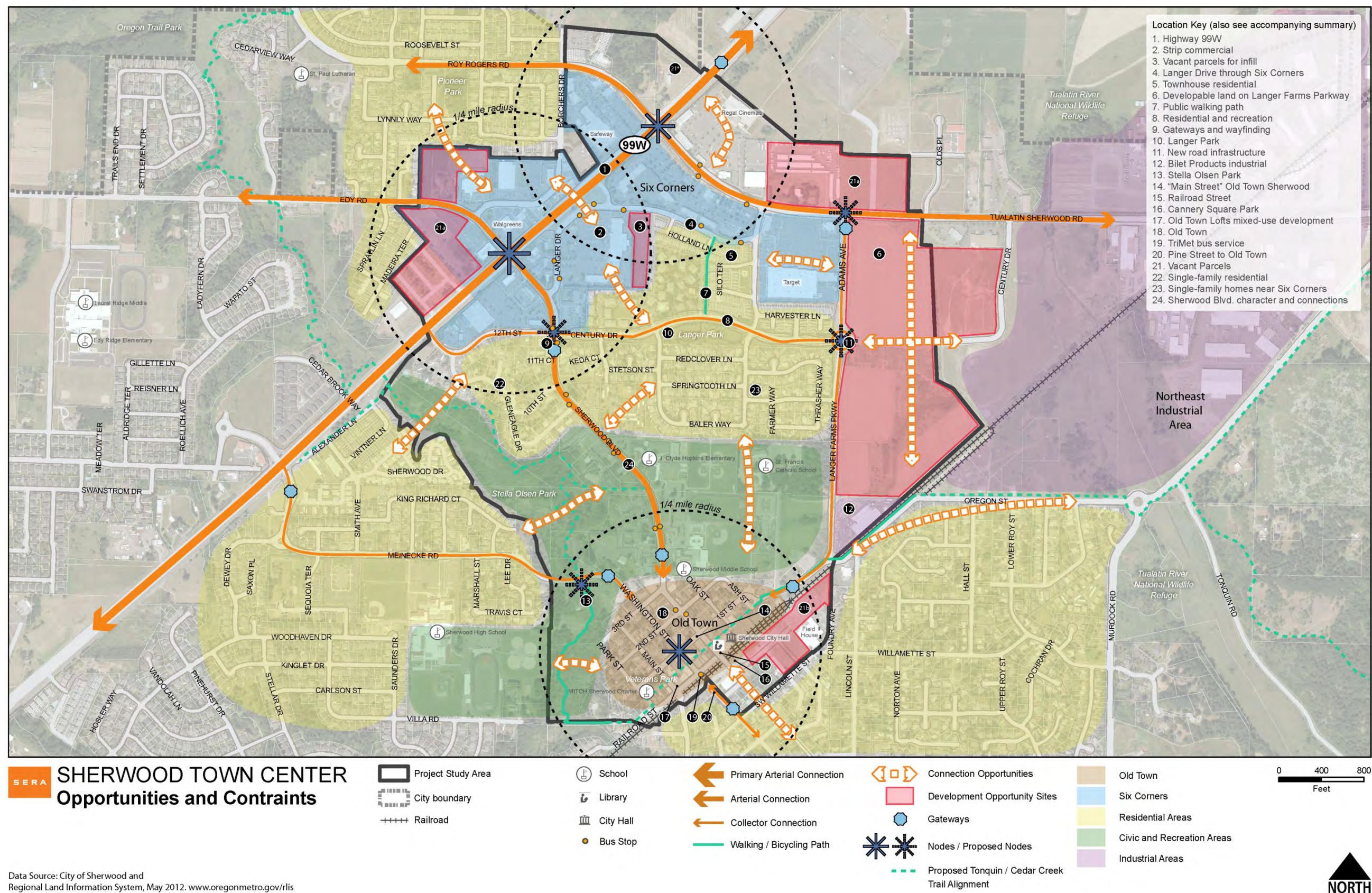


Figure 19 - Opportunities and Constraints Map



**Location 1:** Highway 99W is the major primary arterial access route to Sherwood with heavy daily traffic. Most of Sherwood's commercial development is located near Highway 99W.

#### Opportunities:

- + Improve Highway 99W crossing, linking commercial districts on either side of the street
- + Add sidewalks and enhance bicycle facilities
- + Explore ways to slow traffic passing through Six Corners

#### Constraints:

- + Making a major functional change to a state highway is a challenging, protracted process (see Section V. Transportation of this report).
- + Significant throughput demands limit options to decrease capacity



**Location 2:** Typical commercial strip with large parking lots. This development type prevails along Highway 99W.

#### Opportunities:

- + Large parking lots can be lined with smaller retail businesses, better activating the street frontage
- + Existing building entrances can be reoriented towards the street
- + Improved transit, walking, and bicycle access to the area will reduce some need for parking, opening underutilized land to more productive development

#### Constraints

- + Existing businesses, though auto-oriented, are generally successful and may not see a great need to redevelop
- + Current zoning limits opportunities for true mixed-use development in this area (see Figure 10 - Zoning Map)



**Location 3:** There are several large vacant parcels near the Six Corners area.

#### Opportunities:

- + Large parcels near Six Corners could be used for infill development

#### Constraints:

- + Current economic conditions may postpone any significant development projects
- + Connection to these parcels is limited and significant amounts of land may still need to be dedicated to parking
- + Existing Retail Commercial zoning allows— but may not result in— mixed-use commercial/residential uses that maybe desired in a Town Center



**Location 4:** Langer Drive borders a large commercial strip block on the southeast side of Six Corners, running along the back-of-house side of commercial spaces

#### Opportunities:

- + Slowing traffic on Langer Drive would allow greater local access, improving pedestrian and bicycle travel
- + Commercial buildings could be reoriented towards the street, with parking concealed in the block interior. This would be a typical retrofit option for many of the “big box” and strip retail buildings in the area.

#### Constraints:

- + Businesses may feel that major reinvestment is currently unnecessary
- + Property owners, visitors, and employees may not favor reducing roadway capacity for automobiles



**Location 5:** Townhomes and two-story apartment buildings provide medium-density housing on the outer edges of Six Corners.

#### Opportunities:

- + Improve street grid connections to and through residential areas, making it easier to connect residential and commercial districts

#### Constraints:

- + Finding suitable routes to add streets or paths is challenging in these tightly-packed areas
- + Private streets such as this are not maintained by the City of Sherwood and would generally not be subject to public decisions to make street and connectivity improvements in the area



**Location 6:** Large vacant parcels west of Langer Farms Parkway

#### Opportunities:

- + A tight grid of streets can be constructed through these properties as they develop to provide access options and connectivity to surrounding areas

#### Constraints

- + The land has an approved PUD plan (see pages 35-36) and pending site development applications so it is unlikely that a Town Center plan can influence development or redevelopment for the foreseeable future



**Location 7:** Public paths, such as the one that links Langer Drive and Century Drive, can provide appealing pedestrian routes between residential and commercial zones.

#### Opportunities

- + Paths through housing and commercial areas can improve pedestrian and bicycle connectivity in locations where building new streets is impractical
- + Paths could be a condition of development approval to improve bicycle and pedestrian connectivity between parcels
- + The Tonquin/Cedar Creek Trail plan will provide important walking and bicycle routes across Highway 99W, through Stella Olsen Park and Old Town, and neighboring cities (see p. 20-21.)

#### Constraints:

- + Limited existing opportunities to develop paths
- + People walking these paths may feel unsafe if there is inadequate lighting, visibility, and a lack of other people around. Residents and business owners are sometimes wary of paths running near their property, fearing a hangout for “troublemakers”.



**Location 8:** Townhouses flank the north side of Langer Park. The wide sidewalk and planting area between the houses and the street create an informal extension of Langer Park across Century Drive.

#### Opportunities:

- + Transformation of Century Drive into a parkway boulevard would ease the transition between residential and commercial areas and connect Highway 99W to potential new development east of Langer Farms Parkway

#### Constraints:

- + Langer Park is surrounded by private, fenced residences, which can detract from its appeal as a fully public open space.



**Location 9:** Signage directing people to Old Town Sherwood is insubstantial and uninviting.

#### Opportunities:

- + Improve wayfinding and gateway features to both Old Town and Six Corners

#### Constraints:

- + Signage alone may be insufficient to direct people through and between destinations in Six Corners and Old Town.



**Location 10:** Multi-use path through Langer Park, a public park with large open spaces and a playground centrally located between Six Corners and Old Town

#### Opportunities:

- + Langer Park is an attractive but lightly-used open space in the heart of the study area that could draw more visitors from Six Corners and Old Town if connectivity improvements were made.
- + A larger playground, a dog park, water features, and programmed events and activities could help activate the space

#### Constraints:

- + Though centrally located, the park is only easily accessible to residents of adjacent housing developments
- + People in Six Corners and Old Town may not consider it a vital local amenity
- + The park is currently maintained by the adjacent HOA, which could impact willingness to take on additional improvement responsibility



**Location 11:** Langer Farms Parkway and Century Drive intersect at a new roundabout.

**Opportunities:**

- + Improvements along several key streets have improved mobility and access to the vacant parcels east of Langer Farms Parkway.

**Constraints:**

- + These roads may quickly fill with through-traffic once people become more aware of the connections they offer. This would make the area less inviting and attractive as a location for walkable, mixed-use development.



**Location 12:** Bilet Products, a producer of packaging and shipping materials, is one of many light industrial and manufacturing companies in and around the east side of the Project Study.

**Opportunities:**

- + This industrial site on the recently-improved Langer Farms Parkway is underused, and is in a key location between Old Town and existing and planned commercial areas leading to Tualatin-Sherwood Road and Six Corners.
- + Industrial uses can coexist with residential and commercial uses when properly planned, providing an employment and tax base for local municipalities

**Constraints:**

- + Industrial and warehousing uses are typically not ideal in Town Center districts.



**Location 13:** The planned extensions as part of the Tonquin Trail Plan through Stella Olsen Park provide new regional connections (see p. 20).

#### Opportunities:

- + Implementing uncompleted portions of the Tonquin and Cedar Creek trails, particularly the on-street segments in Old Town. Potential improvements include sidewalk infill and shared lane markings on SW Pine Street, SW Railroad Street, NW Park Street and NW Villa Road.
- + Developing neighborhood connections to existing and future segments of the Tonquin and Cedar Creek trails.
- + Developing bicycle and pedestrian wayfinding features along the Tonquin and Cedar Creek trails, and throughout the Project Study Area.
- + Implementing art, educational and interpretive features along the Tonquin and Cedar Creek trails.

#### Constraints:

- + The park can be difficult to access from surrounding neighborhoods because only a few roads travel near or through it



**Location 14:** Old Town is characterized by attractive 2-3 story buildings, lively public spaces, and a variety of independent retail and office operations.

#### Opportunities:

- + Old Town can leverage its charm to become a regional destination for shopping, dining, parks, and casual entertainment
- + Old Town area is walkable, historic, and home to several key civic uses, including City Hall and a library

#### Constraints:

- + The private development market may not be supportive of new or renovated projects in the current economic climate.
- + There are few vacant parcels for development in Old Town, meaning that new projects might have to wait until the market turns over naturally.



**Location 15:** Railroad Street is lined by retail shops on the north and abuts a lightly-used freight rail line to the south. The road terminates on a plaza connecting to the new city hall and library.

#### Opportunities:

- + Railroad Street can serve as a gateway street for people approaching Old Town from the southern residential neighborhoods
- + Activating the street with lighting, trees, benches, ground-floor retail and food, and wide sidewalks with convenient crossings will help draw people along Railroad Street and across the tracks to Cannery Square Park.
- + Railroad Street will serve as an on-street alignment of the Tonquin Trail, providing opportunities to enhance the corridor's bicycling environment

#### Constraints:

- + An active rail line between Old Town and southern neighborhoods may limit the attractiveness of development.



**Location 16:** Cannery Square Park is a new splash park and lawn adjacent to Old Town just to the south of the rail tracks and along Pine Street. (This is the plaza described in the Cannery Square PUD, shown in Figure 13.)

#### Opportunities:

- + Cannery Square Park is a catalytic, highly-visible project that can spur additional development and redevelopment in Old Town
- + The Cannery Square planned unit development (PUD) on the south side of the rail track has been approved, demonstrating demand for private development and indicating a future increase in activity in the area (see pages 36-37).



**Location 17:** Old Town Lofts (at the corner of Main and Railroad Streets) is a new mixed-use residential, office, and commercial development.

#### Opportunities:

- + Lower-cost 2-4 story mixed-use buildings could be developed in several areas of Old Town, increasing density and providing more everyday commercial establishments

#### Constraints:

- + Vacant parcels are scattered and small, limiting opportunities for significant development
- + The area is not highly visible to passing traffic and potential customers lack awareness of the attractions offered in Old Town
- + Opportunities to significantly increase density are limited to just a few blocks in the Old Town core



**Location 18:** Old Town has many pedestrian-friendly features and an attractive, consistent streetscape throughout the core. Curbless streets, trees, planters, and light posts are among recent improvements in this Metro-designated Main Street area.

#### Opportunities:

- + Promote walking and bicycling as modes of travel throughout Old Town, allowing people to shop, dine, and stroll without a car
- + Improve connections from Old Town to surrounding residential neighborhoods



**Location 19:** TriMet bus stop with adjacent Park and Ride lot on Railroad Street in Old Town (left), and bus stop in Six Corners (right)

#### Opportunities:

- + There is local and regional transit service that can be improved
- + Combine transit with walking and bicycling in both Old Town and Six Corners

#### Constraints:

- + Lack of transit stop infrastructure, particularly shelters and seating, in Six Corners



**Location 20:** Pine Street south of Old Town leads to residential neighborhoods

#### Opportunities:

- + Improve walking and bicycle connections between neighborhoods and Old Town
- + Promote development along Pine, Washington, and other streets connecting across the railroad tracks

#### Constraints:

- + Existing light industrial land abuts the tracks and creates a barrier between central Old Town and surrounding neighborhoods

**Location 21:** There are a few vacant or underused parcels within the Project Study Area, particularly near Six Corners (21a) and Old Town (21b)

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**Opportunities:**

- + Mixed commercial, office, and possibly residential infill could be developed on these sites in the future, adding density and more diverse services while improving the design quality and walkability of the area. Land owned by the City (public works yard) provides a unique opportunity to realize the long-term goals related to a Town Center.

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**Constraints:**

- + Current zoning could be restrictive of the types of some of the higher-density or mixed-use commercial/residential development that could help revitalize many parts of Sherwood
- + Location 21\*: This parcel's boundaries are split between land within the City of Sherwood and land in unincorporated Washington County. Development across jurisdictions can often be more challenging.

**Location 22:** Single family residential homes along Gleneagle Drive are fully occupied but many are run down.

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**Opportunities:**

- + In the long run, these homes may require renovation and aesthetic upgrades.
- + Parcels closer to 12<sup>th</sup> Street and Sherwood Boulevard may be suitable for higher-density housing in the future

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**Constraints**

- + Housing stock turnover is likely to be a decade-long process and current economic conditions aren't supportive of new residential development under many circumstances

**Location 23:** Single family homes and townhouses line the southern edge of Six Corners.

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**Opportunities:**

- + Connectivity can be improved with selective street and pedestrian path interventions

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**Constraints:**

- + There are very few available routes and rights-of-way for constructing new roads or paths through these neighborhoods

**Location 24:** Sherwood Boulevard provides primary access to the Senior Community Center, Hopkins Elementary School, and Sherwood Middle School

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**Opportunities:**

- + Community and civic used along Sherwood Boulevard can be enhanced, providing destinations along the road between Six Corners and Old Town and serving as waypoints for through travelers

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**Constraints**

- + Sherwood Boulevard is the major connection between Old Town and Six Corners, but it currently lacks clear indications that the two areas are in close proximity.

## V. Transportation

This section provides a brief overview of the existing baseline traffic conditions in the Project Study Area; a full analysis can be found in Appendix B: Existing and Future Conditions Traffic Analysis.

### Street Network and Traffic Conditions

Highway 99W is classified as a principal arterial and is a designated freight/truck route. It has a posted speed limit of 45 mph and is a four-lane divided highway (with three travel lanes in each direction on either side of Tualatin-Sherwood Road) that provides regional connections north to Tigard and south to Newberg. Other primary facilities in the Project Study Area include Roy Rogers Road (connecting to Beaverton), Tualatin-Sherwood Road (connecting to Tualatin), and Sherwood Boulevard (connecting to Old Town Sherwood). Figure 20 shows the functional classification of streets in the Project Study Area.

#### Tualatin-Sherwood Road and Roy Rogers Widening Projects

Two planned projects include widening along the Tualatin-Sherwood Road/Roy Rogers Road corridor (RTP 10708 and 10568). A portion of the corridor widening project was recently included on Washington County's Major Streets Transportation Improvement Program (MSTIP) 3d list. The County is currently analyzing alternatives for corridor design between Borchers Drive and Langer Farms Parkway.

Four alternatives are currently being considered (there is not a preferred alternative at this time). The four concepts generally widen

the corridor between Borchers Drive and Langer Farms Parkway, with the same design elements at the Highway 99W/Tualatin-Sherwood Road intersection westward along Roy Rogers Road. The variations in design among the alternatives primarily deal with access and control treatment between Highway 99W and Langer Farms Parkway, including minor variations in travel lanes and turn pockets. A summary of the alternative variations follows:

- ⊕ Option 1 (Remove the Theater/Shopping Center Signal) – The existing shopping center access would be limited to right-in-right-out movements from the side street with stop sign control.
- ⊕ Option 2 (Maintain all Signals) – All existing access and control would be maintained along the corridor.
- ⊕ Option 3 (Remove the Baler Way Signal) – The existing Baler Way intersection would be limited to right-in-right-out movements from the side street with stop sign control.
- ⊕ Option 4 (Remove Two Signal and Install a New Signal) – Both the shopping center access and Baler Way signals would be removed and limited to right-in-right-out access from the stop-controlled side streets. A new traffic signal would be added in the general vicinity of the existing eastbound right-in shopping access.

The Town Center planning project will consider the ongoing analysis and recommendations of the County's widening project. For the purposes of the existing Town Center analysis (2035 Baseline Traffic Analysis), Option 3 is assumed since it is most consistent with existing plans (Sherwood TSP projects and RTP Project number 10702). However, the Town Center Plan will not preclude the selection of an ultimate design for the corridor.

## Sherwood Town Center Plan - Street Functional Classifications

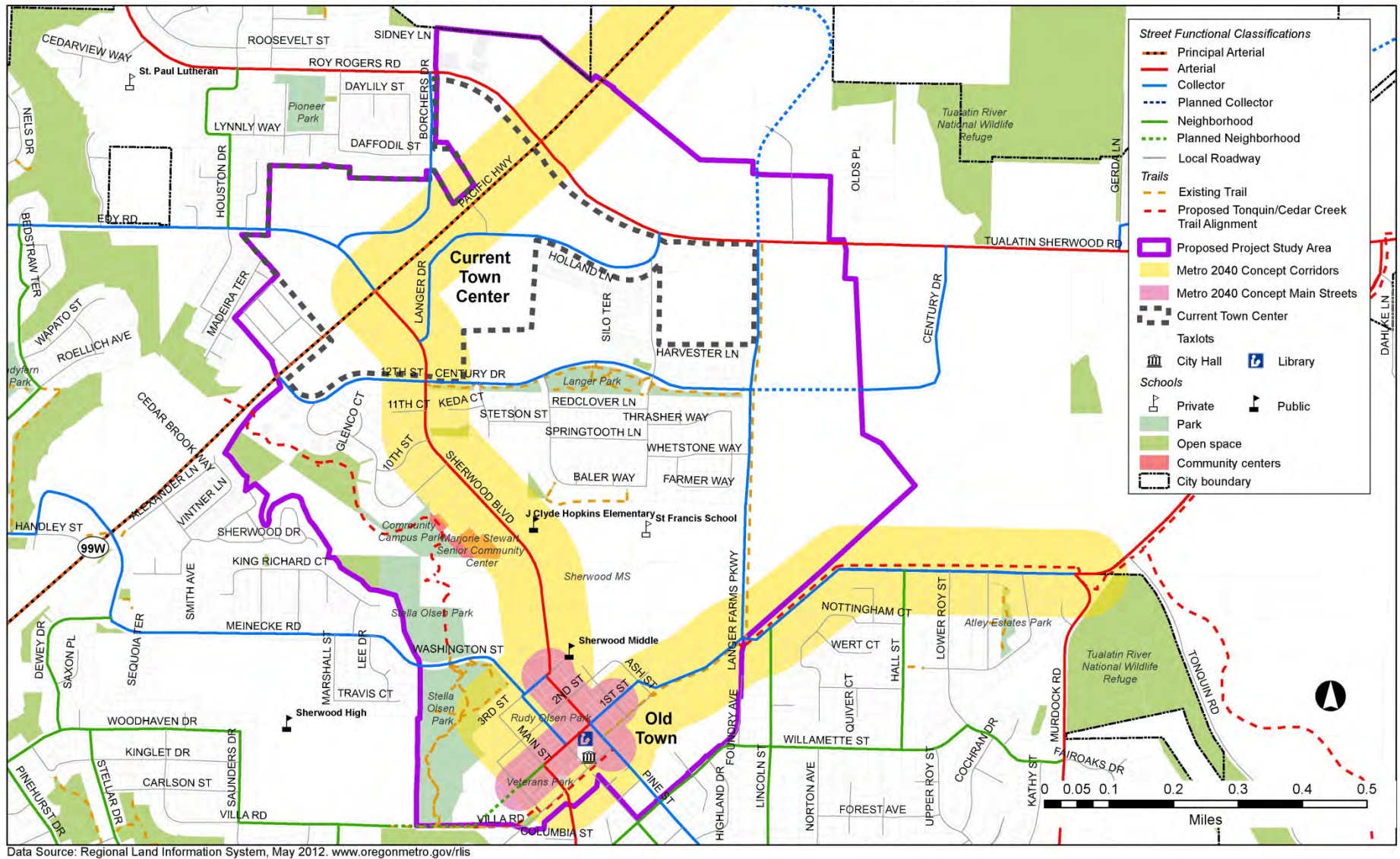


Figure 20 - Roadway Functional Classifications Map

## Opportunities and Constraints related to Street Network

Currently, all study intersections meet mobility standards during the PM peak hour. However, there is some significant recurring congestion and queues that form on streets in the area, primarily along Tualatin-Sherwood Road approaching Highway 99W.

Several transportation improvement projects in the study area are planned, including widening Tualatin-Sherwood Road to five lanes, extending Adams Avenue from Tualatin-Sherwood Road to Highway 99W, and various intersection control projects (primarily along Edy Road and Sherwood Boulevard). Appendix B contains a full list of transportation projects that are planned.

Future year 2035 traffic volumes were forecasted and are expected to generally increase from existing volumes. However, the assumed transportation improvements in the area have the potential to influence future traffic circulation. PM peak hour traffic volumes would increase on Tualatin-Sherwood Road approximately 200 to 300 vehicles in the eastbound direction and 400 to 600 vehicles in the westbound direction. PM peak hour traffic volumes would generally increase along Highway 99W by approximately 200 to 500 vehicles in each direction at intersections through the Project Study.

Several intersections would have improved intersection operations during the 2035 PM peak hour when compared to existing conditions due to assumed improvements at these locations. Many intersections would degrade slightly (10 to 20 seconds of additional average intersection delay); however most locations would continue to meet both ODOT and RTFP operational standards and would have capacity to accommodate additional growth. Three intersections along

Highway 99W would not meet ODOT nor RTFP standards and could restrict future growth. The intersection of Highway 99W/ Home Depot (future Adams Avenue extension) would have a v/c ratio of 1.00 and operate just above the v/c standard of 0.99. The Highway 99W intersection at Edy Road would have a v/c ratio above 1.2, above the Town Center standard of 1.1. The intersection of 99W and Roy Rogers Road - Tualatin-Sherwood would have a v/c ratio of 1.04, above the standard of 0.99. In addition, locations along Sherwood Boulevard would have reduced future mobility and may restrict future growth potential.

As discussed in the Regulatory and Policy Framework Technical Memorandum (Appendix A) the City's Capacity Allocation Program (Zoning and Community Development Code Section 16.106.070) limits development intensity as a strategy to minimize growth impacts to Highway 99W vehicular operations. Specifically, the program limits development intensity to a new of 43 new peak hour vehicle trips per acre. The "CAP" requirement may discourage some development (or limit intensity of development) in the Six Corners portion of the study area; development in Old Town is exempt from the CAP.

Depending on the outcome of the land use and transportation strategies and other potential recommendations that evolve during the Town Center planning process, modification to the CAP may also be recommended. Such recommendations could include elimination of the CAP for the Town Center area, though such a recommendation could significantly reduce the area that applies the CAP. Modifying or removing the CAP for portions of the Town Center may require Transportation Planning Rule analysis and findings.

### ***Urban Growth Management Functional Plan (Title 6)***

Metro Code Section 3.07 (Urban Growth Management Functional Plan) provides additional traffic considerations for areas that have adopted Town Center plans (Title 6). First, transportation facilities within an adopted Town Center are subject to more relaxed mobility targets in Table 7 of the Oregon Highway Plan (higher v/c) than other locations within Metro. In addition, an area can assume a 30% reduction in trip generation for new developments for purposes of addressing TPR when the following actions have been taken:

- 1. Adoption of the (town center) boundary*
- 2. Provide comprehensive plan and land use regulations that allow mix/intensity of uses consistent with Town Centers, and prohibit new auto-dependent uses (such as gas stations, car washes, auto sales, etc.)*
- 3. Adopt a plan to achieve non-SOV share documented in RTP*

These considerations provide flexibility in the types and intensity of uses within Town Centers, assuming the City's CAP restriction is removed.

## Transit Service Network

The transit service network is shown in Figure 21. Within the Project Study Area, TriMet operates the line 94 bus line, which provides local service between Sherwood and Tigard, as well as express trips into Downtown Portland from Tigard during the peak morning commute time (5:45-8:30 AM). The parking lot near the Regal Cinema (at the Tualatin-Sherwood Road/Shopping Center Signal) serves as a Park & Ride for the area.

In addition to the TriMet bus line, the Yamhill County Transit Area (YCTA) operates two bus lines, line 44 and line 45X, both providing service between Sherwood and Newberg, Dundee, Dayton, Lafayette and McMinnville to the south, and Tigard to the north. Both routes originate at SW Langer Drive (Shari's) and travel onto Highway 99W. Line 44 runs from about 6:00 AM to 7:00 PM, with service every hour during peak times and every two hours during off-peak times. Line 45X operates only two trips every weekday, one at 7:00 AM in the southbound direction and one at 5:45 PM in the northbound direction.

### Opportunities and Constraints related to Transit Service

The existence of transit service serving the Project Study Area is supportive of the type of uses and activities expected in a designated Town Center. However, as indicated in the Urban Design Inventory in Section IV., there is a lack of infrastructure, such as shelters and benches, at some transit stops.

Responding to budget cuts and ridership, TriMet recently eliminated the line 12 bus route that once served Old Town; line 12 now

terminates at the Tigard transit center. The loss of a direct route to Sherwood from Portland will require riders to transfer at the Tigard transit center, adding complexity and time to the trip when traveling beyond that point. However, there may be a future opportunity to switch to a local line that would serve Sherwood from Tigard, which may ultimately allow for an increase in service within the City.

Another possible change in future transit service to and within Sherwood may result from the ongoing planning process for the Southwest Corridor. The Southwest Corridor Plan is exploring the possibility of high capacity transit along the Barbur Boulevard/Highway 99W/I-5 corridor between Portland and Sherwood. This corridor is a regional priority for high capacity transit expansion due to existing traffic and transit counts and future ridership projections. A summary of this planning process can be found in Appendix A.

## Sherwood Town Center Plan - Existing Transit Facilities

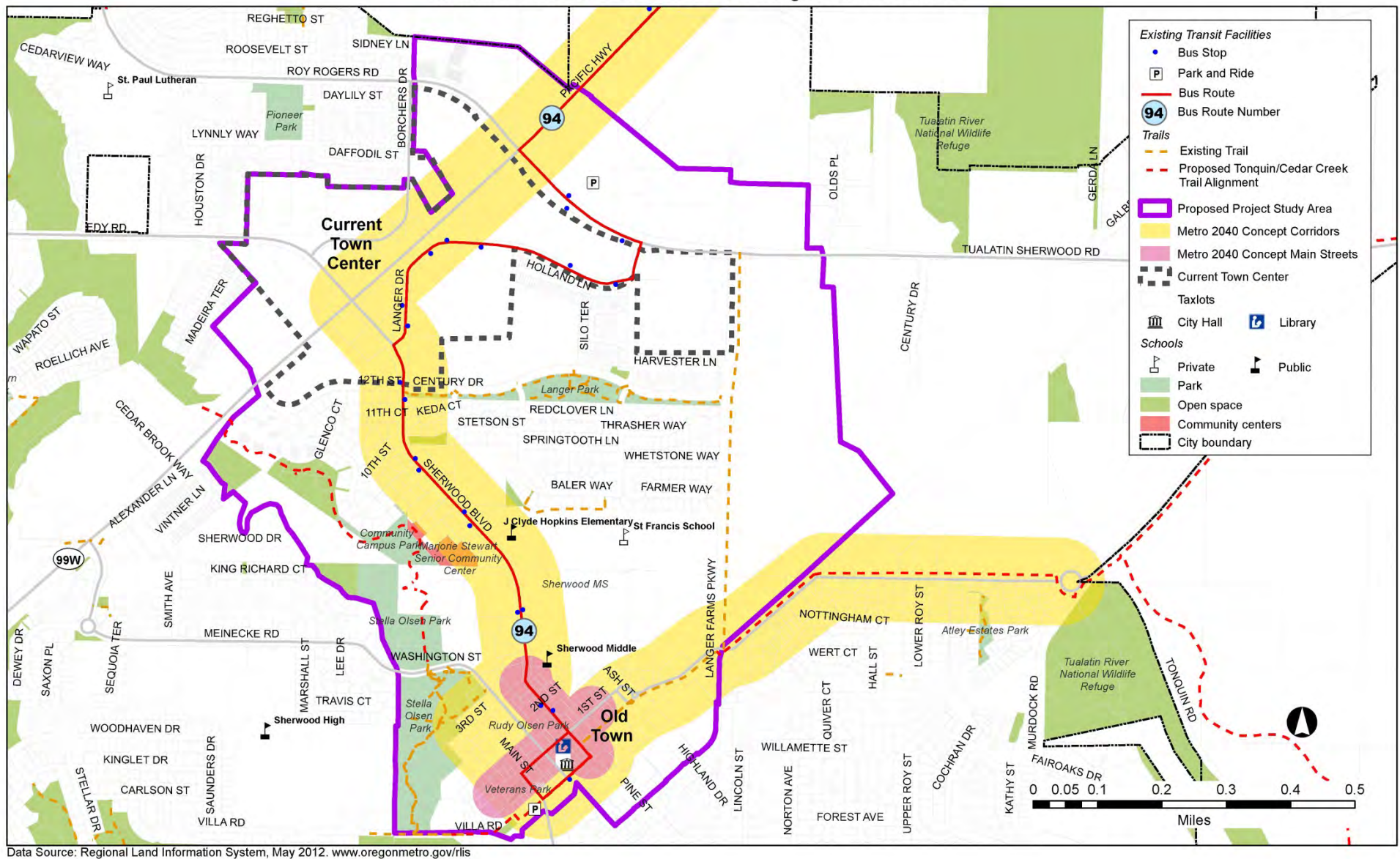


Figure 21 - Transit Facilities Map

## Bicycle Network

Existing bicycle facilities according to the metro classification are shown in Figure 22. Among the arterial roadways, bike lanes are provided on Highway 99W through the Project Study Area, on Tualatin-Sherwood Road to the east of Highway 99W and on Sherwood Boulevard - Edy Road to the north of Century Drive. Most roadways in Sherwood do not provide bike lanes although the majority of the residential road volumes may be low enough to be safe for bicycle travel.

In addition to bike lanes, existing and planned trail facilities can accommodate bicycles. Currently, trail facilities along portions of Oregon Street, Langer Farms Parkway and Century Drive connect Old Town to Tualatin-Sherwood Road and Langer Park. Existing trails currently can be regarded as local and do not provide opportunities for bicycle users and pedestrians to make long distance commutes to places outside the Project Study Area. However, the proposed Tonquin Trail will provide regional connections, including connecting Old Town to the City of Tualatin to the east and to the City of Wilsonville and the Willamette River to the south.

### Opportunities and Constraints related to Bicycle Mobility

The lack of dedicated bicycle lanes on collector roads and some sections of arterial roads through the Project Study Area is a constraint to providing good, multi-modal transportation options. In the Six Corners Area, bike lanes are absent on Tualatin Sherwood Road north of Highway 99W and there is not a continuous bike route paralleling Highway 99W on either side of the highway (Langer Drive to Tualatin-Sherwood Road on the south, Borchers Drive on the

north). In most areas of Old Town traffic volumes and speeds allow for bicycles to safely share the roadway with vehicles. However, a key transportation connection provided by Sherwood Boulevard does not have bike lanes south of Century Drive.

Three major features in the Project Study Area impede bicycle mobility. First, there are no designated crossings of Highway 99W on the 1/3-mile stretch between Edy Road and Tualatin-Sherwood Road. This lack of connectivity restricts bicycle travel between the two sides of the highway. In addition, a large area between Old Town and the residential area to the north is developed land without public rights of way through the properties. This area contains schools, a church and other uses, and does not provide bicycle connections between Sherwood Boulevard and Langer Farms Parkway. Finally, the limited connectivity of the local street network provides few bicycling alternatives to major street corridors, potentially serving as a barrier to “interested-but-concerned” riders who may not feel comfortable using the major street system.

As previously discussed, the completed Tonquin Trail will provide regional connections for cyclists and pedestrians. In addition, the Cedar Creek portion of the Tonquin Trail provides the opportunity for a good bicycle and pedestrian connection between Old Town and the western-most portion of the commercial district on Highway 99W.

## Sherwood Town Center Plan - Existing Bike Facilities

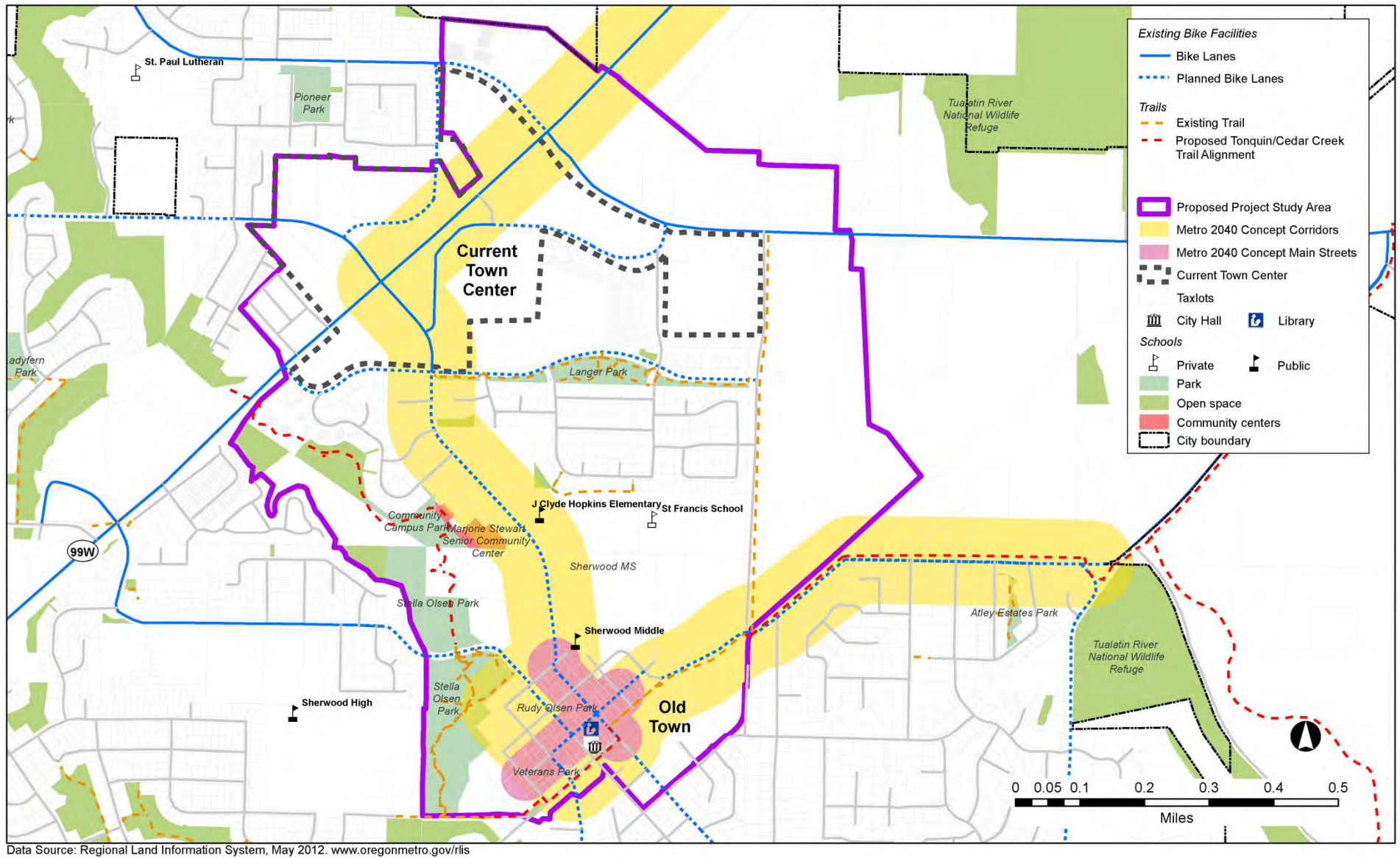


Figure 22 - Bike Facilities Map

## Pedestrian Network

Currently, a large portion of the Project Study Area is well-connected by sidewalks. Sidewalks provide adequate connectivity on a majority of the arterials, collectors and local roadways including and to the east of Sherwood Boulevard. However, Highway 99W experiences significant gaps in sidewalk connectivity; a large portion of Highway 99W south of Sherwood Boulevard does not have sidewalks on either side of the highway. Further, sidewalks are not provided on Sherwood Boulevard - Edy Road to the west of Borchers Drive, and on the south side of 12th Street. Tualatin-Sherwood Road has continuous sidewalks on both sides through the Project Study Area. Pedestrian crossings are provided at all major intersections. Figure 23 illustrates the existing sidewalks within the Project Study Area.

### Opportunities and Constraints related to Pedestrian Mobility

Though the overall pedestrian connectivity is acceptable, there are some intermittent gaps in existing sidewalks in the Project Study Area, predominantly in the Six Corners area. In addition, there are several crosswalks in the northern portion of the Project Study Area that are closed, impeding pedestrian movements. Closed crossings on Highway 99W include the south crosswalks at the Home Depot intersection, Tualatin-Sherwood Road – Roy Rogers Road intersection, Edy Road – Sherwood Boulevard intersection, and the north crosswalk at the Meinecke Road intersection. The west crosswalk on Sherwood Boulevard at the intersection of Langer Drive is also closed. These closures can increase the number of crossing movements required by pedestrians to reach their destination. In some cases, a pedestrian may be required to cross three different sections, or legs, of an

intersection rather than the desired (closed) leg. An example of this would be a pedestrian traveling from the medical offices on the southwest corner of Highway 99W/Edy Road-Sherwood Boulevard to the fast food establishments on the southeast corner. This relatively short trip would require a pedestrian to cross the west leg of Edy Road, the north leg of Highway 99W, and the east leg of Sherwood Boulevard, rather than being able to simply cross the south leg of Highway 99W. This series of movements increases the travel time for pedestrians as well as potential conflicts with motor vehicles.

The current barriers to bicycle travel (Highway 99W crossing opportunities, lack of east-west connectivity north of Old Town) also affect pedestrians, though they impact pedestrians to a greater extent due to longer walking travel times compared with bicycling travel times.

## Sherwood Town Center Plan - Existing Pedestrian Facilities

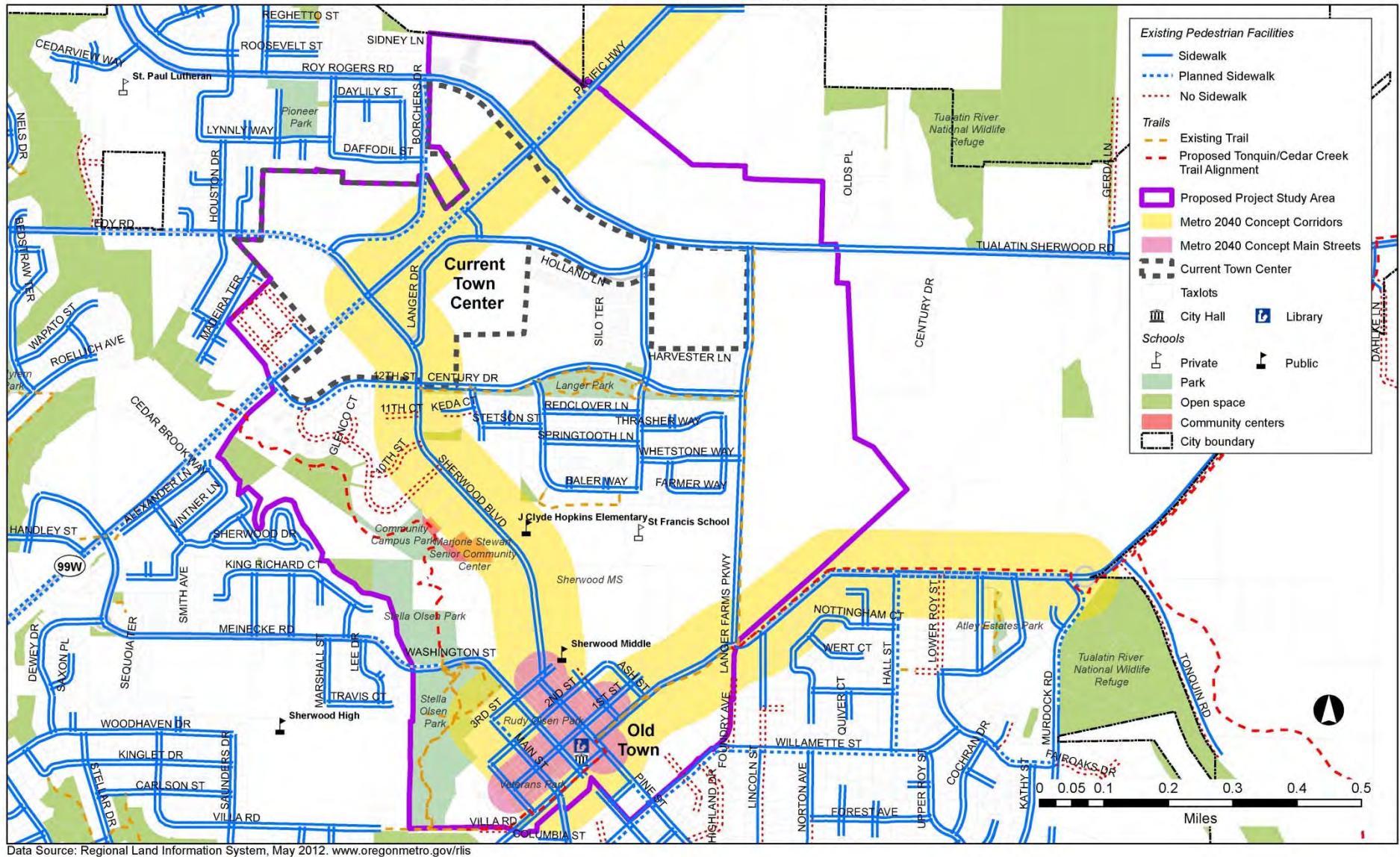


Figure 23 - Pedestrian Facilities Map

## VI. Public Infrastructure

### Summary

In general, the Project Study Area is mostly built-out, with the exception of the approved PUD greenfield parcels at the intersection of Tualatin-Sherwood Road and Adams Avenue/Langer Parkway. Additional intensity and density of uses that results from a new Town Center designation and planning process is not expected to require major utility improvements.

### Stormwater Management

Stormwater in Sherwood is managed principally by natural features in Sherwood, with Chicken, Cedar, and Rock creeks draining approximately 92 percent of land area within the city urban growth boundary.<sup>24</sup> The 2007 *Stormwater Master Plan* evaluated 1) the ability of the stormwater system to drain water without causing flooding, and 2) the quality of the water that is drained through the system.

There are six projects identified in the Capital Improvement Program (CIP) of the 2007 Stormwater Master Plan that fall within the Project Study Area, and they are all located along Cedar Creek. These improvements were recommended in order to treat stormwater runoff from these areas prior to discharge into Cedar Creek. The CIP designates projects as short-range (within five years) mid-range (within 5-10 years) or long-range (10 years to build-out) recommendations. Within the Project Study Area, there are five

identified projects yet to be completed, all of which are classified as Mid-Range improvements. These projects are identified in Figure 24 as:

- ✦ CC-4: South Stella Olsen Park Stormwater Facility (Mid-Range)
- ✦ CC-5: Community Campus Park Stormwater Facility (Mid-Range)
- ✦ CC-6: Gleneagle Drive Stormwater Facility (Mid-Range)
- ✦ CC-7: Glencoe Court Stormwater Facility (Mid-Range)
- ✦ CC-8: Gleneagle Village Water Quality Facility (Mid-Range)

The improvements indicated within the Project Study Area will address sites that were developed before 1991, which is when Clean Water Services (CWS) began to require that new development provide stormwater management facilities for treatment of runoff from impervious surfaces.<sup>25</sup> With these requirements in place, new development that results from a new Town Center designation will have to comply with the CWS standards, and should not contribute additional pollution Cedar Creek through stormwater discharge.

City public works staff advises that depending on development/redevelopment densities, infrastructure system sizing increases may be required. A review of existing system capacities and sizes would need to be analyzed hydraulically to determine deficiencies.

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<sup>24</sup> *Stormwater Master Plan*, City of Sherwood. June 2007. Page ES-2.  
[http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20\(not%20capped\)/storm\\_water/final.pdf](http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20(not%20capped)/storm_water/final.pdf)

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<sup>25</sup> *Stormwater Master Plan*, City of Sherwood. June 2007. Page ES-3.

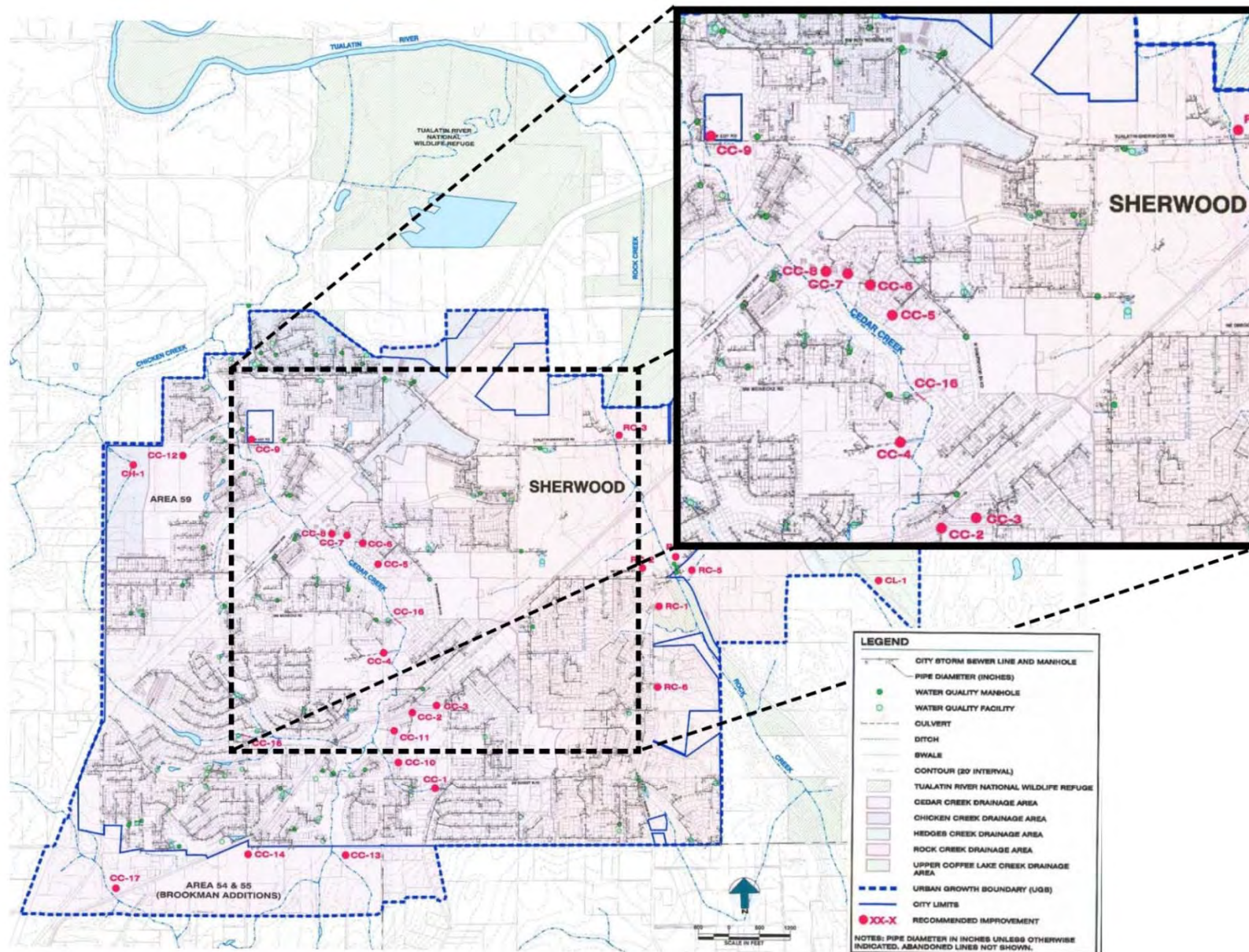


Figure 24 - Stormwater Master Plan, Proposed Improvements Map

Source: Stormwater Master Plan, Plate 1. [http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20\(not%20capped\)/storm\\_water/final.pdf](http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20(not%20capped)/storm_water/final.pdf)

## Sanitary Sewer System

In general, for areas within its city limits, Sherwood shares wastewater management responsibilities with Clean Water Services (CWS). Sherwood is responsible for the maintenance of sanitary sewers smaller than 24 inches in diameter located within city limits, and CWS is responsible for the maintenance of interceptor sewers 24 inches and larger, sewage lift stations, and force mains. CWS conveys sewage to the Sherwood Pump Station, which discharges into the Upper Tualatin Interceptor. Sewage is conveyed to the Durham Advanced Wastewater Treatment Facility for treatment.<sup>26</sup>

The *Sanitary System Master Plan* projects that based on 2005 population growth estimates, the system will approach saturation development (build-out of all currently developable lands) in approximately 2040, or at a population of about 38,000 residents.<sup>27</sup> (The 2010 Census estimates the population of Sherwood at 18,205 residents.) This capacity estimate is based on the current (2012) Urban Growth Boundary alignment.

The CIP shows seven recommended improvement projects located within the Project Study Area (Project No. 11, 12, 13, 14, 17, 18, and 19 as indicated in red in Figure 25). These are all categorized as rehabilitation projects, and are all located in Old Town, with the exception of one project (13) in the Gleneagle neighborhood.

Given the completion of the recommended projects, a new Town Center designation is not anticipated to require further sanitary system improvements.

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<sup>26</sup> *Sanitary System Master Plan*, City of Sherwood. June 2007. Page ES-1.  
[http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20%28not%20capped%29/Sherwood\\_SANITARY%20SYSTEM%20MASTER%20PLAN\\_Final\\_July%202007%20v1\\_0.pdf](http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20%28not%20capped%29/Sherwood_SANITARY%20SYSTEM%20MASTER%20PLAN_Final_July%202007%20v1_0.pdf)

<sup>27</sup> *Sanitary System Master Plan*, City of Sherwood. June 2007. Page ES-2.

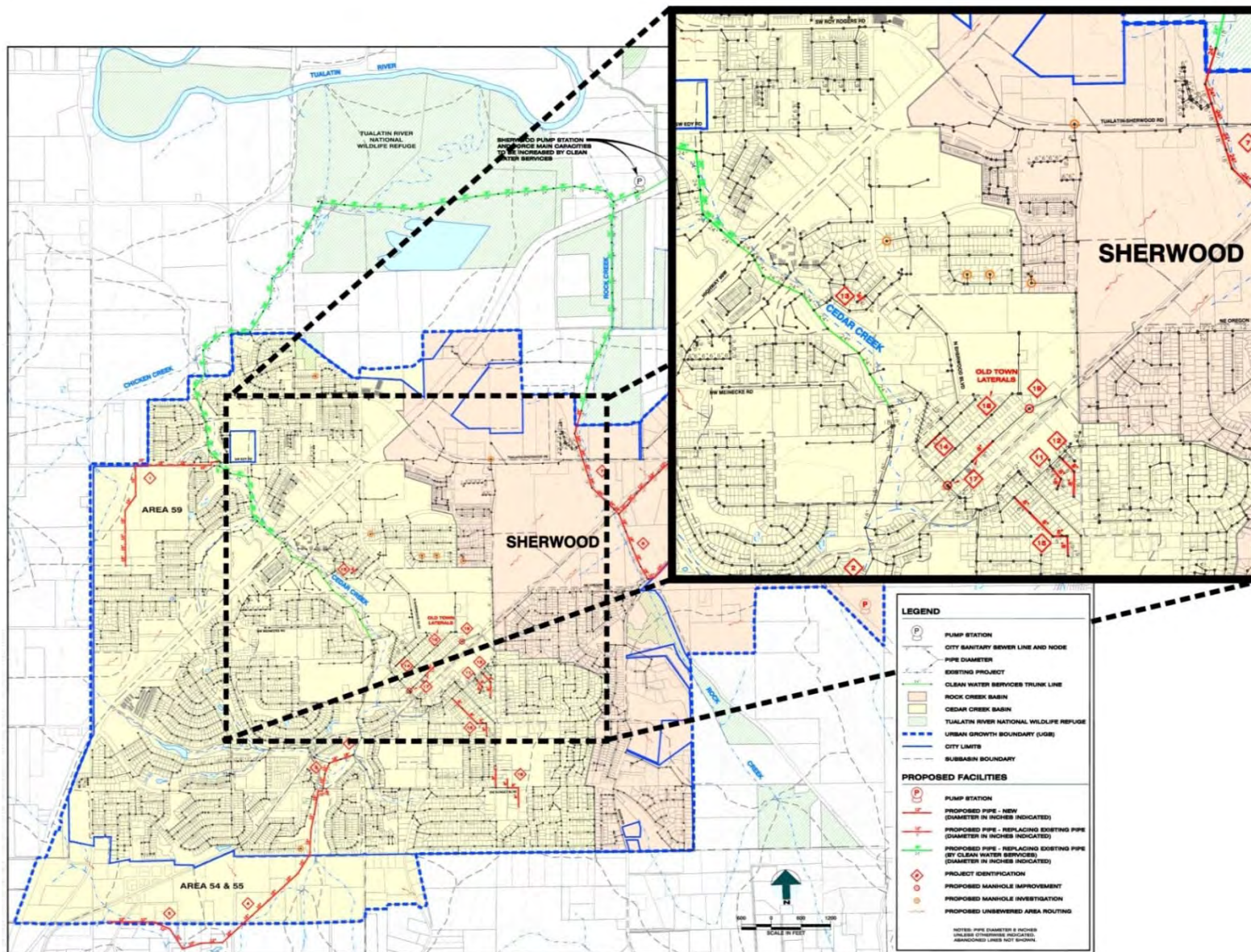


Figure 25 - Sanitary Sewer System Master Plan, Proposed Improvements Map  
Source: Sanitary Sewer System Master Plan. Adopted June 2007. Plate 1.

## Water System

In general, Sherwood's primary water supply is from four groundwater wells that are owned by the City but operated by Tualatin Valley Water District (TVWD) through an intergovernmental agreement. These wells are supplemented through a connection to the City of Tualatin's Tualatin-Portland supply main. Water is distributed through three service zones, characterized by water pressure measured in feet. The entire Project Study Area is served by the 380 ft. pressure zone<sup>28</sup> (see Figure 26).

The Water System Master Plan, developed in 2005, evaluated the existing water supply and demand in Sherwood, and found:

*Based on the water demand estimates and the historical decline in aquifer levels the City's existing supply sources will not be adequate to meet future water demands<sup>29</sup>.*

This plan recommended that Sherwood develop a new long-term water supply in the next 3 to 5 years. Since the adoption of the Master Plan the City has acquired ownership into the Willamette River Water Treatment Plant in Wilsonville; the flow of water between the treatment plant on the Willamette River and the City effectively addresses the long-term water supply issue.

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<sup>28</sup> *Water System Master Plan*, City of Sherwood. August 2005. Page ES-1 – ES-2. [http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20%28not%20capped%29/Sherwood\\_WATER%20SYSTEM%20MASTER%20PLAN\\_Final\\_August%202005%20v1\\_0%20v1\\_0.pdf](http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/engineering%20%28not%20capped%29/Sherwood_WATER%20SYSTEM%20MASTER%20PLAN_Final_August%202005%20v1_0%20v1_0.pdf)

<sup>29</sup> *Water System Master Plan*, City of Sherwood. August 2005. Page ES-5.

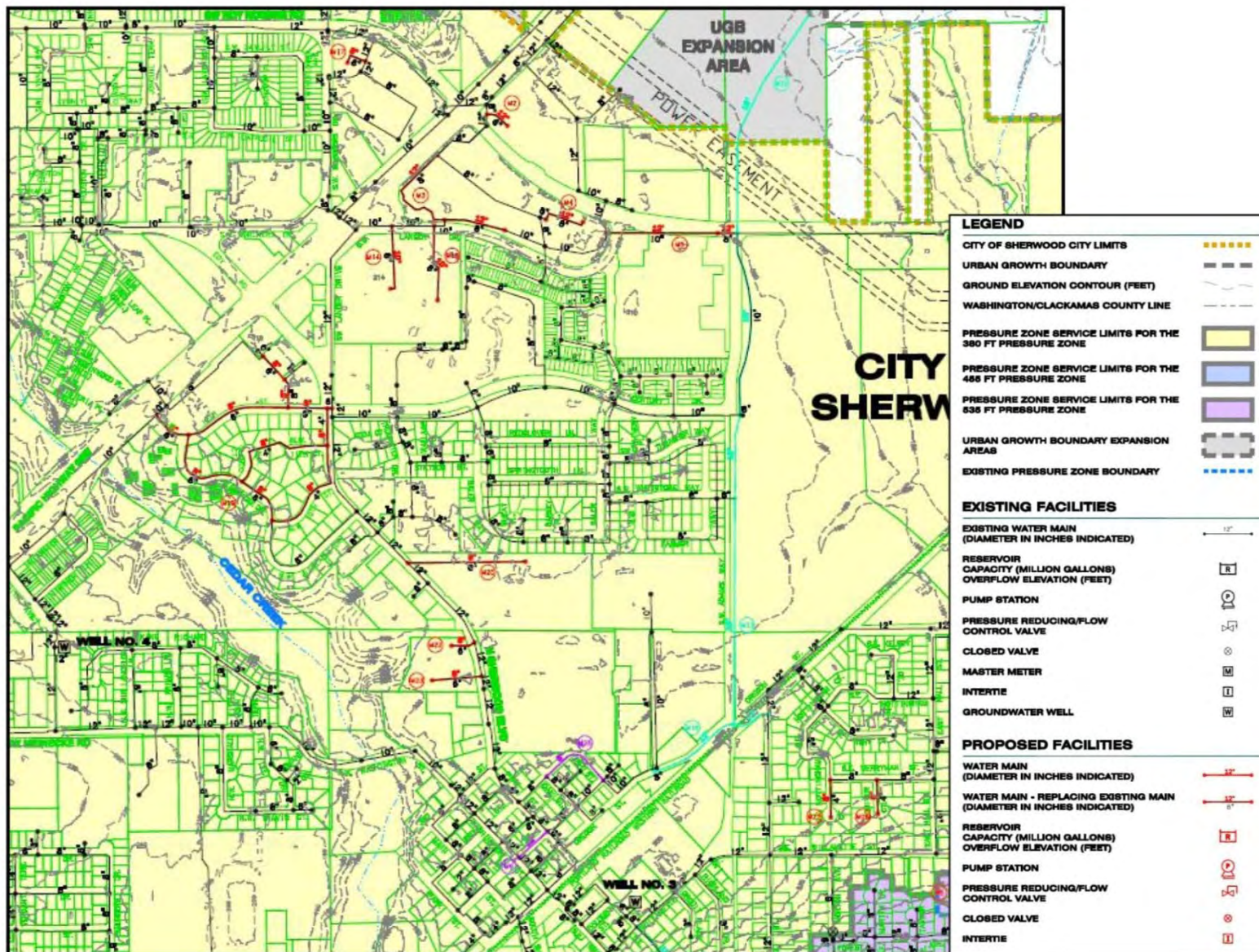


Figure 26 - Water System Master Plan Map (Project Study Area section only)  
Source: Water System Master Plan. Adopted August 2005.

## VII. Economic Conditions

### Summary of Market Conditions

#### 2012 Market Analysis

A market study was prepared for the Town Center Plan project to assess market conditions associated within the Project Study Area and to provide information that might impact the decision to affirm, modify or move the existing designated Town Center. The Sherwood Town Center Market Analysis (the “Market Analysis”) can be found in Appendix C. General conclusions from this study are detailed in Section II of the study and are summarized here:

- ✦ Sherwood has experienced strong growth in population over the last two decades. It enjoys a high average income and many family households. The City can expect strong growth to continue over the coming decades.
- ✦ Sherwood can expect continued growth in all of the major land use categories: Residential, Retail, Office and Industrial. As Sherwood and the rest of the region face economic, political, and environmental constraints to boundary expansion, infill and redevelopment will play a key part in the future growth of the city.
- ✦ The 20-year demand for different land uses types in the Sherwood Market Area is healthy, providing flexibility in planning for the Project Study Area. This demand will not all be captured in the Project Study Area, but represents the larger pool of demand from which the Plan Area can draw.

- ✦ The lower rents achievable in the suburban environment will limit some of the development types that the market is likely to bring to the area. However, in an environment where most existing uses are single-story with ample surface parking, significant increases in density can be achieved while still relying on “low-rise” construction to control costs. Two- to three-story buildings, perhaps with higher building coverage, and reduced parking and other design considerations can greatly increase the intensity of land use.

The Market Analysis describes the characteristics of the Project Study Area generally and specifically identifies the characteristics of the Six Corners (existing Sherwood Town Center) and Sherwood Old Town areas, because these are the two major commercial centers within the Project Study Area. The Market Analysis explores the current development character of Six Corners and Sherwood Old Town areas and the market conditions for different land uses and concludes that each presents advantages and challenges as a designated Town Center, based largely on their current development patterns and different levels of access.

#### *Advantages – Six Corners*

- ✦ Strong access and high-visibility
- ✦ Much greater pass-through traffic than Old Town
- ✦ Some large, relatively unconstrained parcels still available
- ✦ Adjacent to some of Sherwood’s higher density residential uses
- ✦ Near rural/natural amenities outside of town

### Challenges – Six Corners

- ⊕ Auto-oriented, shopping center character predominates
- ⊕ Retail is traditionally a low-density use
- ⊕ Location on north edge of city, rather than center
- ⊕ Highway bisects the area, hindering cohesion

### Advantages – Old Town

- ⊕ Traditional Town Center
- ⊕ Historic character, walkable area
- ⊕ Heart of civic uses including new library and City Hall and parks
- ⊕ Street grid facilitates mixed uses and density
- ⊕ Remaining vacant parcels, but scattered

### Challenges – Old Town

- ⊕ Visibility and awareness from outside the community
- ⊕ Vacant parcels are somewhat small and scattered
- ⊕ While Old Town may add density, adjacent areas are low density
- ⊕ Fractured ownership among vacant parcels

As previously discussed in Section IV: Land Use and Urban Design, the Market Analysis provides an assessment of the “developability” of parcels in the Project Study Area using the ratio of the improvement (building) value to the land value (I:L Ratio). Based on this ratio, Figure 17 provides an indication of the likelihood of redevelopment of

parcels within the Project Study Area. The conclusion of this analysis is that there are very few properties within the Project Study Area that would be considered good candidates for development or redevelopment in the next 10 to 20 years.

The Market Analysis also discusses the feasibility of new development within the Project Study Area under current and expected market conditions. The discussion of development forms will inform the creation of redevelopment alternatives in the next phases of the Town Center planning process. Table 6 from the Market Analysis summarizes the development forms which are currently likely to appear in new development in the sub-districts, absent public policy changes or incentives.

Table 6 - Viable Near-to-Mid Term Development Forms

Land Use	Sherwood Town Center		Sherwood Old Town	
	Form	Achievable Pricing	Form	Achievable Pricing
Rental Housing:	2 - 3 story	\$1,30/sf/yr	2 - 3 story, or above mixed use	\$1,30/sf/yr
For-Sale Housing:	2 - 3 story, Townhome	\$160 /sf	2 - 3 story, Townhome	\$160 /sf
Retail:	Single story	\$25/sf/yr	Single story, or below mixed use	\$18/sf/yr
Office:	2 - 3 story	\$22/sf/yr	1 - 2 story	\$18/sf/yr
Industrial:	1 story workspace, w/ 2-story office	\$12/sf/yr	1 story workspace, w/ 2-story office	\$12/sf/yr
Parking:	Surface		Surface, or tuck-under	

SOURCE: Johnson Reid LLC

Other notable findings regarding future development in the Project Study Area:

- ✦ Generally, achievable rent levels will support low-rise construction, typically three or four story wood frame construction, without some form of additional subsidy.
- ✦ It is unlikely that the market will deliver new condo development to Sherwood in any great number for the foreseeable future.
- ✦ For-sale townhomes, built in attached groups of two to four with sufficient common and green space, should be a viable form in the Sherwood market area.
- ✦ Rental housing has regained its important place as a good housing option for many segments of the population. Within the Project Study Area, most of the area would be appropriate for these types of housing, depending on zoning.
- ✦ The compact street grid and mix of uses in Old Town makes this area more likely to support mixed-use development with attached housing types built over commercial uses.
- ✦ New mixed-use in the Six Corners area should be part of a larger planned development. A significant concentration of other uses must be in near proximity to support mixed use.
- ✦ Office development in Sherwood will likely be limited to three stories. Low-rise construction still allows for a range of attractive design in new office development and can also achieve considerable employment density.

- ✦ Larger office buildings (four stories and higher) may be suitable to Six Corners, but the challenge to large-scale office development can be drawing the interest of large employers to an area. A Town Center here may have to feature amenities and a strong overall marketing vision to introduce and draw employers.
- ✦ Parking is essential to retail success. Parking needs to be convenient, but can be formatted in different ways – for instance, shared parking for a district. Only in very dense areas can businesses thrive with no off-street auto parking, but storefront businesses with ample on-street parking and/or a lot within convenient walking distance may not require surface parking of their own.

### Downtown Sherwood Market Study

In 2008, a study was completed that explored the potential market support for retail uses in the downtown commercial district. The Downtown Sherwood Market Study (“Study”) was developed in partnership with the Oregon Downtown Development Association. It included a retail market analysis that summarized the demographic and employment data for the City of Sherwood, the market area (defined as a 9-minute drive from City Hall), Washington County, and the Portland-Vancouver Metropolitan Statistical Area. It also includes opinion research, based on two electronic surveys (one for consumers and one for business owners). Based on this information, the Study presents a business development plan which highlights the competitive strengths of the downtown and details a program and next steps to capitalize on these strengths. As a business development plan, this document has bearing on future economic development in Old Town and any recommendations that result from this planning

process that pertain to Old Town. Findings of this Study are summarized in Appendix A.

## Infrastructure Financing Options

Funding for infrastructure – transportation, sanitary sewer, water, and stormwater – to support development and redevelopment in the Project Study Area will come from a variety of public and private sources.

### Transportation Funding

The City’s TSP identifies financing for needed transportation improvements over a twenty year planning horizon. Funding sources include improvements required for land use approval, transportation improvement fees, the city’s share of state gas tax revenue, and system development charges (SDCs). The major transportation projects located near the Project Study Area that are in the Regional Transportation Plan and that are assumed to be funded and in place for the future (2035) transportation analysis are listed in Table 1 of the Future Baseline Transportation Analysis in Appendix B.

Highway 99W is a state facility and is subject to state mobility targets and access management requirements.<sup>30</sup> In general, state funding for transportation improvements is limited; this fact may impact the viability of recommended improvements to this facility that result from this planning process.

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<sup>30</sup> See Appendix A, Regulatory and Policy Framework Technical Memorandum, p. 6.)

### *Local Transportation Revenues*

Development and redevelopment within the Project Study Area will contribute to transportation funding in three primary ways:<sup>31</sup>

- ✦ Development site infrastructure. Developers will be responsible for improvements within development parcels.
- ✦ City of Sherwood TIF. The City of Sherwood assesses a transportation impact fee (TIF) on all new development, which is assigned to one of six general use categories: residential, recreational, institutional/medical, commercial/services, office, or port/industrial. TIFs are calculated based on the total trips a development is projected to generate. Within each general use category, a fee is assigned to different types of facilities and reflects the magnitude of the impacts the facility is anticipated to have on the local transportation system. For example, the fee for a specialty retail center (\$10,961 per 1,000 square feet of gross leasable area) is higher than the fee for a general light industrial facility (\$2,421 per 1,000 square feet of gross floor area) because retail uses, which attract visitors throughout the day, generate more trips—and, thus, have a much greater impact on the transportation system—than industrial uses, which have a low job density and relatively few visitors.
- ✦ Washington County TDT. Washington County assesses a transportation development tax (TDT) when a building permit or occupancy permit is issued for new development. Remodeling, temporary uses, and state and federal government buildings are

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<sup>31</sup> Information in this section from the *Tonquin Employment Area: Preferred Concept Plan Report City Council Review Draft*, adopted October 2010. <http://www.sherwood.or.us/tonquin-employment-area-tea>

exempt. Calculated on a per-unit basis for residential development and on a varying basis for different types of commercial and industrial development, the TDT is based on the estimated traffic generated by each type of development. The TDT is collected and distributed to cities for use in making transportation capital improvements designed to accommodate growth. Eligible projects are on major roads, including sidewalks and bike lanes, as well as transit capital projects.<sup>32</sup>

### Sanitary Sewer Funding

Private development is expected to bear the cost of sanitary sewer improvements associated with development and redevelopment in the Project Study Area. Developer requirements typically include:

- ⊕ Development site infrastructure. Developers are responsible for all onsite infrastructure costs.
- ⊕ Connection fees/SDCs. The City of Sherwood or Clean Water Services will assess SDCs to new development to finance connection charges, which may include:
  - a. Direct connections to the district sewer system;

- b. Indirect connections to the district sewer system including, but not limited to, building additions, or expansions, which include sanitary facilities;
- c. Change in the use of an existing connection; and
- d. Substantial increase(s) in the flow of or alteration of the character of sewage to an existing connection.

For commercial uses, connection fees are calculated as Dwelling Unit Equivalents (DUEs) based on the estimated or actual metered flow in incoming water, or metered effluent. The fees are calibrated to match the expected true cost of any offsite improvements required by the development.

### Water Funding

Development-related site improvements are the responsibility of developers. New development generates revenues based on system development charges (SDCs) that are levied on development as it occurs. The City of Sherwood assesses a one-time water SDC to new development to help finance costs associated with building capital facilities needed to accommodate growth. The SDC ranges from \$6,319 for a ¾" meter to \$568,781 for an 8" meter.

### Stormwater Funding

Private development is typically responsible for the total cost of stormwater improvements associated with development or redevelopment of a site. Developer requirements include:

- ⊕ Development site infrastructure. Developers will be responsible for all development site infrastructure costs, including, at a minimum, the provision of stormwater detention facilities.

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<sup>32</sup> Levied countywide and in effect since July 2009, the TDT replaced the Washington County Traffic Impact Fee (TIF). The TDT doubled the TIF rates developers pay for the impact new development has on the transportation system. The new rate is being phased in over 4 years, through July 1, 2012. After July 1, 2013 the rates can increase at a rate of no more than 10% per year, based on an index tracking the costs of road construction material, labor, and right-of-way. Non-residential developments which had land use approvals prior to July 1, 2009 are charged based on the prior TIF rates. Developments may also receive credits for constructing eligible transportation improvements.

- ⊕ Regional stormwater treatment facilities (assuming developers are not required to construct all their stormwater management facilities on site).
- ⊕ SDCs. The City of Sherwood will assess the following SDCs to new development to finance local and regional storm drainage facilities:
  - a. Water quantity SDC
  - b. Water quality SDC
  - c. Storm drainage SDC

Regional water quantity and water quality SDCs established by the City of Sherwood are calculated as Equivalent Service Units (ESUs) based on the total area of impervious surface attributed to a new development.<sup>33</sup> The City's storm drainage SDC is calculated on a per square-foot basis, based on the total area of impervious surface attributed to a new development.<sup>34</sup> These fees are calibrated to match the expected true cost of any offsite local and regional stormwater improvements required by the development.

### Grant Funding

The City has used Metro regional flexible funds for design and construction of the Cedar Creek Greenway Trail and is currently

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<sup>33</sup> One ESU = 2,640 square feet of impervious surface. Currently, CWS assesses new development a water quantity SDC of \$275 per ESU and a water quality SDC of \$225 per ESU.

<sup>34</sup> Currently, the City of Sherwood's storm drainage SDC is \$0.043 per square foot of impervious surface.

pursuing grants for improvements related to this trail (see pages 20-21).

Metro manages the Regional Flexible Fund program. The Metro Council, advised by the Joint Policy Advisory Committee on Transportation, selects transportation programs and projects eligible for federal flexible funds. Regional flexible funds come from two different federal grant programs: the Surface Transportation Program and the Congestion Mitigation/Air Quality Program. The regional flexible fund allocation process identifies which projects in the Regional Transportation Plan will receive funding. Regional flexible funds are allocated every two years.

### Urban Renewal

Most of the Project Study Area is within the City's designated urban renewal area (see Figure 10). The Urban Renewal Plan directs money accrued through tax increment financing to projects in both Six Corners and Old Town. Notable projects have focused on Old Town, including purchasing fiber optics and purchasing properties for redevelopment purposes, such as for the new Civic building and the Cannery site.<sup>35</sup>

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<sup>35</sup> See Appendix A, Regulatory and Policy Framework Technical Memorandum, p. 32.)

## VIII. Conclusions

As discussed in this report, conditions in the Project Study Area are largely conducive to realizing a Town Center, as understood through the Metro definition as well as popular conceptions of an urban activity area with a strong community focus. Generally, the City's zoning designations and corresponding development requirements are consistent with the types and mix of uses, as well as the residential and commercial densities, expected in a Town Center. Most of the City's civic uses and major retailers lie within the Project Study Area. The Cedar Creek corridor, while limiting development within environmentally sensitive areas, is considered a community asset, providing open space and, eventually, connections for non-motorized travel between the City's two commercial areas as well as neighboring cities. Public utilities are available and generally sized<sup>36</sup> to support intensification of urban uses within the Project Study Area. While not a perfectly connected transportation system, the Project Study Area includes many facilities for pedestrians and bicycles. Transit is available, including two park-and-ride stops and bus shelters at some locations.

Based on the current concentrations of residential and employment densities, the logical areas to consider as Sherwood's Town Center include Six Corners and Old Town, supported by the neighborhoods between and surrounding these two activity centers. This Report has noted the strengths and weaknesses of locations throughout the Project Study Area for this type of designation.

Six Corners is strongly identified as the center of commercial retail activity for the City. Highway 99W is a crucial component to this vital

commercial area, but it also creates a physical barrier to making north-south connections – in particular for pedestrians, bicyclists and other non-motorized users. The area is predominantly built out with single-story buildings, large format retailers, strip commercial uses, and large areas of parking. While the development code allows for a diversity of uses and more intensive use of the land, this is not reflected in the current development pattern. Redevelopment of Six Corners in the near term is not likely due to the age and value of existing structures. Until redevelopment occurs, it may be difficult to improve transportation connectivity in areas where it is currently lacking.

In contrast, Old Town has retail uses at a size and scale that is more conducive to non-motorized modes of transportation. It also hosts most of the City's public buildings and includes higher-density residential uses in multi-story buildings. Barriers to more intensive development in Old Town include limited vacant space, small lots (under multiple ownerships) that are more costly to develop, and a more rigorous development review process. Transportation connectivity within Old Town is good, but there are barriers to connecting with adjacent areas, such as those posed by the railroad tracks and the current lack of bicycle facilities on Sherwood Boulevard.

The next step in this planning process will be to consider land use and transportation alternatives for designating Six Corners, Old Town, or some combination of these areas and surrounding neighborhoods, as Sherwood's Town Center. The existing conditions explored in this report will inform the development of these alternatives, which will be evaluated and presented to the public. The Town Center Plan will include policy and regulatory recommendations that support and enhance the vision of creating a vibrant Town Center in Sherwood.

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<sup>36</sup> See page 75 for conditions related to stormwater management system

**Appendix A: Policy and Regulatory Review**

# MEMORANDUM

**DATE:** July 20, 2012

**TO:** Sherwood Town Center Plan Project Management Team

**FROM:** Darci Rudzinski, Shayna Rehberg, Carolyn Reid - Angelo Planning Group  
Garth Appanaities, Chris Maciejewski - DKS Associates

**SUBJECT: Sherwood Town Center Plan  
Regulatory and Policy Framework Technical Memorandum (Task 2.1)**

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The purpose of this memorandum is to provide the key provisions of the planning regulations and policies guiding the development of the Sherwood Town Center Plan. Requirements and policies reviewed in this memorandum are relevant to planning within the Project Study Area (shown in Figure 1.) Pursuant to Task 2.1 in the scope, this memorandum addresses the following state, regional, and local regulatory and policy documents.

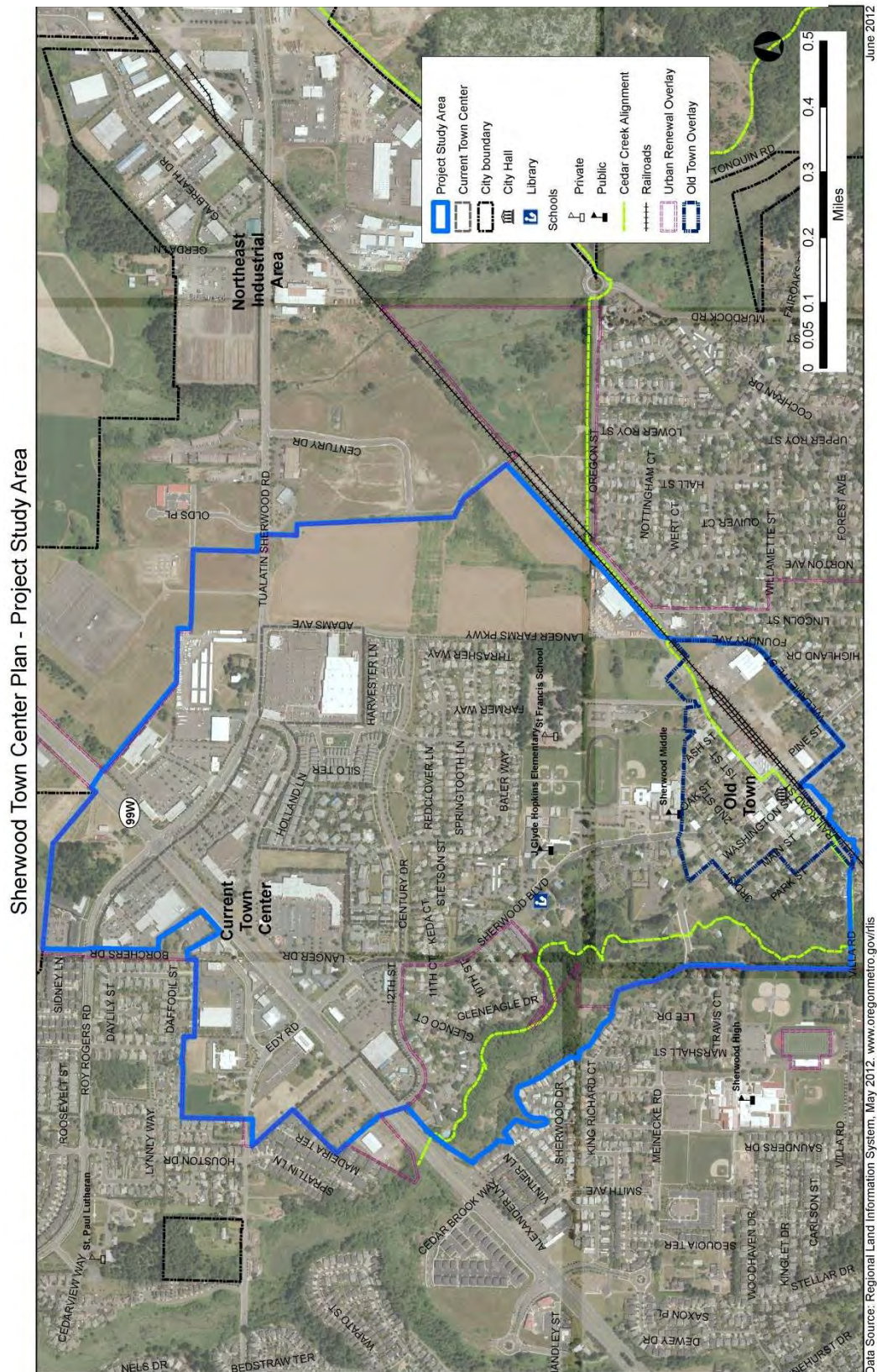
Regulatory/Policy Document	<i>Project Relevancy</i>	Page Number
<b><i>State Plans and Regulations</i></b>		<b>6</b>
Oregon Highway Plan (OHP) <a href="http://www.oregon.gov/ODOT/T/TP/pages/ohp.aspx#1999">http://www.oregon.gov/ODOT/T/TP/pages/ohp.aspx#1999</a> Oregon Highway Plan	<i>The OHP is an element and modal plan of the state's comprehensive transportation plan (OTP), guides the planning, operations, and financing of ODOT's Highway Division. Policies and requirements related to Highway 99W are reviewed.</i>	6
Access Management Rules, (OAR 734-051) <a href="http://arcweb.sos.state.or.us/pages/rules/oars_700/oar_734/734_051.html">http://arcweb.sos.state.or.us/pages/rules/oars_700/oar_734/734_051.html</a>	<i>Oregon Administrative Rule 734-051 defines the State's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. The provisions in the OAR apply to development along, and improvements to, Highway 99W.</i>	8
Transportation Planning Rule, (OAR 660-012-0060), Plan and Land Use Regulation	<i>This section of the TPR requires local jurisdictions to balance the need for development with the need for transportation improvements. Criteria for multimodal</i>	9

Regulatory/Policy Document	Project Relevancy	Page Number
Amendments  <a href="http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_660/660_012.html">http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_660/660_012.html</a>	<i>mixed-use areas (“MMAs”) (exemption from applying performance standards related to traffic congestion, delay, or travel time) are reviewed.</i>	
<b>Regional Plans and Regulations</b>		<b>10</b>
Metro 2035 Regional Transportation Plan (RTP)  <a href="http://www.oregonmetro.gov/index.cfm/go/by.web/id=25038#files">http://www.oregonmetro.gov/index.cfm/go/by.web/id=25038#files</a>	<i>The RTP provides the long-range blueprint for transportation in the Portland region. It presents the overarching policies and goals, system concepts for all modes of travel, and strategies for funding and local implementation. Local transportation plans must be consistent with the RTP.</i>	10
Metro Urban Growth Management Functional Plan (UGMFP), Title 6, Centers, Corridors, Station Communities and Main Streets  <a href="http://library.oregonmetro.gov/files/3.07_maps_-_title_4_6_14_eff_011812.clean.pdf">http://library.oregonmetro.gov/files/3.07_maps_-_title_4_6_14_eff_011812.clean.pdf</a>	<i>Requirements in Title 6 will guide Sherwood’s planning process; the Sherwood Town Center Plan must include strategies for enhancing the Town Center, consistent with the UGMFP.</i>	12
Southwest Corridor Plan  <a href="http://www.oregonmetro.gov/index.cfm/go/by.web/id=35302">http://www.oregonmetro.gov/index.cfm/go/by.web/id=35302</a>	<i>This transportation plan examines high capacity transit alternatives and potential roadway, bicycle and pedestrian improvements in the corridor, which include Highway 99W in Sherwood.</i>	13
<b>Local Plans and Regulations</b>		<b>16</b>
Washington County 2020 Transportation Plan (2003)  <a href="http://www.co.washington.or.us/LUT/Divisions/LongRange">http://www.co.washington.or.us/LUT/Divisions/LongRange</a>	<i>The County has jurisdiction over Tualatin-Sherwood Road within the Project Study Area; Town Center Plan recommendations will need to be consistent with the County Transportation Plan.</i>	16

Regulatory/Policy Document	Project Relevancy	Page Number
<a href="#">ePlanning/Publications/transp ortation-plan.cfm</a>		
Washington County Intelligent Transportation System (ITS) Master Plan  <a href="http://www.co.washington.or.us/lut/divisions/trafficengineering/programs/trafficmanagement/itsystem/plan.cfm">http://www.co.washington.or.us/lut/divisions/trafficengineering/programs/trafficmanagement/itsystem/plan.cfm</a>	<i>This Master Plan contains goals, objectives and plan phasing for deploying ITS in the county, which govern future improvements to Tualatin-Sherwood Road.</i>	17
City of Sherwood Comprehensive Plan  <a href="http://www.sherwoodoregon.gov/comprehensive-plan-ii">http://www.sherwoodoregon.gov/comprehensive-plan-ii</a>	<i>This document contains the City's adopted policies for land use, transportation, economic development, and urban design; policies that guide planning within the Project Study Area are reviewed.</i>	17
City of Sherwood Transportation System Plan (2005)  <a href="http://www.sherwoodoregon.gov/sherwood-transportation-plan-tsp">http://www.sherwoodoregon.gov/sherwood-transportation-plan-tsp</a>	<i>This plan guides planning and project development for all modes of transportation within the City. Standards for mobility, access management, and road design that apply to the study area, as well as planned projects, are summarized.</i>	23
OR 99W Capacity Allocation Program (CAP)  <a href="http://library.municode.com/index.aspx?clientId=16625">http://library.municode.com/index.aspx?clientId=16625</a>	<i>The CAP in City Code (16.106.070) limits development intensity as a strategy to minimize new trips on Highway 99W.</i>	24
Sherwood Cannery Planned Unit Development	<i>This adopted PUD includes several site-specific transportation projects that have the potential to impact traffic circulation in the Old Town area.</i>	25
City of Sherwood Zoning and Community Development Code (SZCDC)  <a href="http://library.municode.com/index.aspx?clientId=16625">http://library.municode.com/index.aspx?clientId=16625</a>	<i>The SZCDC regulates land development within the City. Requirements specific to zoning within the Project Study Area, and land development in general, are detailed.</i>	26

Regulatory/Policy Document	<i>Project Relevancy</i>	Page Number
City of Sherwood Economic Development Strategy (2007)  <a href="http://www.sherwoodoregon.gov/final-economic-development-strategy">http://www.sherwoodoregon.gov/final-economic-development-strategy</a>	<i>This policy document includes several strategies specific to Old Town and the Six Corners area for enhancing economic development.</i>	28
Downtown Sherwood Market Study (2008)  <a href="http://www.sherwoodoregon.gov/downtown-sherwood-market-study">http://www.sherwoodoregon.gov/downtown-sherwood-market-study</a>	<i>The Study provides an assessment of potential market support for retail uses in downtown Sherwood.</i>	31
The Sherwood Urban Renewal Plan and Report (Adopted 2000, Updated through 2012)  <a href="http://www.sherwoodoregon.gov/sites/default/files/files/city_boards/URA/Legislation/Sherwood%20URA%20Amended%20Plan%20-%202002%2022%2012.pdf">http://www.sherwoodoregon.gov/sites/default/files/files/city_boards/URA/Legislation/Sherwood%20URA%20Amended%20Plan%20-%202002%2022%2012.pdf</a>	<i>This plan guides redevelopment within the Urban Renewal Area and focuses tax increment financing funds on specific projects. Goals and objectives related to physical improvements and property acquisition within the Project Study Area are reviewed.</i>	32
Cedar Creek Trail/Tonquin Trail Master Plan  <a href="http://www.oregonmetro.gov/index.cfm/go/by.web/id=31143">http://www.oregonmetro.gov/index.cfm/go/by.web/id=31143</a>  <a href="https://www.sherwoodoregon.gov/cedar-creek-trail-feasibility-study">https://www.sherwoodoregon.gov/cedar-creek-trail-feasibility-study</a>	<i>Cedar Creek runs along the southwest edge of the Project Study Area. Recommendations of the Town Center Plan will need to reflect and be consistent with Cedar Creek-related goals and improvements.</i>	33

Figure 1 – Project Study Area Overview Map



## State Plans and Regulations

### Oregon Highway Plan

#### Policy 1A: State Highway Classification System

The state highway classification system includes five classifications: Interstate, Statewide, Regional, District, and Local Interest Roads, as well as four special purpose categories that overlay the basic classifications. State highways are classified for planning and management purposes.

The state facility in the Project Study Area is OR 99W (Highway 99W), and it is classified as a Statewide Highway, NHS, Freight Route, and Truck Route. It is intended to provide mobility, safe and efficient, high-speed, continuous-flow operation, and connections between and within cities and regions in the state, including connections to larger urban areas and areas that are not directly served by Interstate Highways.

#### Policy 1B: Land Use and Transportation

Policy 1B recognizes the role of both the State and local governments related to the state highway system and calls for a coordinated approach to land use and transportation planning. This policy enables special designations, such as a Special Transportation Area (STA) and an Urban Business Area (UBA), to be applied to state facilities to allow for greater flexibility in State highway access management and mobility standards.

#### Policy 1C: State Highway Freight System

Policy 1C addresses the need to balance the movement of goods and services with other uses. Action 1C.4 states that the timeliness of freight movements should be considered when developing and implementing plans and projects on freight routes. In the Project Study Area, Highway 99W is a designated freight route.

#### Policy 1F: Highway Mobility Standards

Policy 1F sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system. The standards are used to assess system needs as part of long range, comprehensive planning projects (such as this Town Center Plan project), during development review, and to demonstrate compliance with the Transportation Planning Rule (TPR). Mobility standards specifically for the Portland metropolitan region are included in Policy 1F, Table 7, as well as in the Regional Transportation Plan (RTP).

Policy 1F has been recently revised and the Oregon Transportation Commission adopted the amendments at its December 21, 2011 hearing. The amended Policy 1F standardizes a policy framework for considering mobility measures other than volume to capacity ratios. OHP Tables 6 and 7 have been amended and the v/c ratios are referred to as “targets.” The amendments clarify that Policy 1F applies primarily to transportation and land use planning decisions. Policy 1F provides direction for identifying (vehicular) highway system

deficiencies by defining targeted levels of highway system mobility, but does not prescribe what actions should be taken to address the deficiencies.

With respect to plan amendments, Policy 1F establishes ODOT's mobility targets for state highways as the standards for determining compliance and compliance with the TPR (OAR 660-012-0060). Mobility targets for state facilities are expressed in terms of volume-to-capacity (v/c) ratios. These ratios typically range between 0.0 and 1.0 and indicate the portion of available capacity that is being used at the intersection. A value of 1.0 indicates that the intersection is "full" and cannot accommodate additional traffic. The v/c targets are also expressed in terms of 1<sup>st</sup> hour and 2<sup>nd</sup> hour. The 1<sup>st</sup> hour is the "peak hour," which is when the most traffic is present on the system. This peak hour typically occurs during the evening commute period, but also may occur during the morning commute period or even during other times of the day depending on location and context. The "2<sup>nd</sup> hour" represents the time period adjacent to the "peak hour," either proceeding or following, which has the second highest traffic volume on the system during the same peak period.

Table 1 below presents the mobility targets that apply to Town Centers and Corridors in the Portland metropolitan region. In the case that the existing Town Center in Sherwood along Highway 99W was to no longer be designated as a Town Center, it also has the designation as a Corridor, and that mobility target would apply.

**Table 1: Mobility Targets in the Portland Metropolitan Region (OHP, Table 7)**

	<b>1st Hour</b>	<b>2<sup>nd</sup> Hour</b>
<b>Town Centers</b>	1.1	.99
<b>Corridors</b>	.99	.99

#### **Policy 1G: Major Improvements**

Policy 1G requires maintaining performance and improving safety on existing facilities by improving efficiency and management before adding capacity.

#### **Policy 2B: Off-System Improvements**

Policy 2B establishes ODOT's interest in improvements on local roads that can help maintain or improve safety and mobility on State roadways. ODOT supports local jurisdictions in adopting land use and access management policies to these ends. This policy recognizes that the State may provide financial assistance to local jurisdictions to make improvements to local transportation systems if the improvements would provide a cost-effective means of improving the operations of the State highway system.

**Policy 4D: Transportation Demand Management**

This policy establishes the State's interest in supporting transportation demand management (TDM) strategies that reduce peak period single occupant vehicle travel, thereby improving the flow of traffic on the state roadway system.

**Access Management Rules (OAR 734-051)**

Oregon Administrative Rule 734-051 ("access management rules") defines the State's role in managing access to highway facilities in order to maintain functional use and safety of the facilities and to protect the public investment in the facilities. The OAR provisions apply to Highway 99W within Sherwood. The access management rules include spacing standards for varying types of state roadways, as well as criteria for granting right of access and locating approaches onto state highway facilities.

OAR 734-051 has been amended by law (Senate Bill 264) to allow more consideration for economic development when developing and implementing access management rules. Changes include modifying how ODOT deals with approach road spacing, highway improvement requirements with development, and traffic impact analyses requirements for approach road permits. The law's provisions took effect on January 1, 2012.

The law established new spacing standards for unsignalized approaches to statewide highways and district highways and in urban areas where average daily traffic is more than 5,000 motor vehicles, shown in Table 2 below (Tables 2 and 4 in SB 264). Access points are areas of potential conflict between through traffic and vehicles entering or exiting the highway; increasing access corresponds to a decrease in safety and mobility.

**Table 2: Spacing Standards for Urban Non-Designated Statewide Highways (OR 99W)**

<b>Posted Speed (mph)</b>	<b>Spacing (feet)</b>
55 and higher	1,320
50	1,100
40-45	800
30-35	500
25 and lower	350

Because Highway 99W in Sherwood has a posted speed of 45 mph, spacing between unsignalized approaches should be at least 800 feet.

## Transportation Planning Rule (OAR 660-012-0060), Plan and Land Use Regulation Amendments

Section -0060 of the TPR applies to amendments to a locally adopted (and state acknowledged) functional plan, comprehensive plan or land use regulation. Section -0060 of the TPR requires local jurisdictions to balance the need for development with the need for transportation improvements. Specifically, Section -0060 establishes the end of the planning period as the measure for determining the “significant effect” a proposed change has on the transportation system, defines the transportation improvements that a local government can consider in determining significant effect, and identifies methods for the state and local jurisdictions to determine whether a needed transportation facility is reasonably likely to be provided within the planning horizon.

Section -0060 of the TPR was last amended in December 2011. New provisions include exempting proposed amendments to functional plans, comprehensive plans, or land use regulations in locally designated multimodal mixed-use areas (“MMAs”) from applying performance standards related to traffic congestion, delay, or travel time if specific criteria are met. Criteria include a requirement that the proposed map or text amendment affects only land entirely within a MMA. Subsection (8) of -0060 requires that a MMA include the following characteristics:

- (A) A concentration of a variety of land uses in a well-defined area, including the following:*
  - (i) Medium to high density residential development (12 or more units per acre);*
  - (ii) Offices or office buildings;*
  - (iii) Retail stores and services;*
  - (iv) Restaurants; and*
  - (v) Public open space or private open space which is available for public use, such as a park or plaza.*
- (B) Generally include civic or cultural uses;*
- (C) A core commercial area where multi-story buildings are permitted;*
- (D) Buildings and building entrances oriented to streets;*
- (E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;*
- (F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;*

*(G) One or more transit stops (in urban areas with fixed route transit service); and*

*(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.*

A local jurisdiction may designate a proposed MMA in an area that does not meet the definition of an MMA, as long as comprehensive plan and/or land use regulation amendments necessary to meet the definition are adopted concurrently (-0060 (10)(e)). The act of designating an MMA is also exempt from performance standards related to motor vehicle traffic congestion, delay, or travel time. However, other transportation performance standards, such as those related to safety and connectivity for all modes, may still be applicable.

Other recent amendments exempt zoning map amendments from a significant effect determination if the amendment is consistent with adopted comprehensive plan map designations and the adopted TSP (-0060(9)). In addition, new language prescribes under what circumstances local government can approve partial mitigation for transportation impacts, which include findings that the proposed amendment will “create direct benefits in terms of industrial or traded-sector jobs created or retained (-0060)(11).”

## Regional Plans and Regulations

### Metro 2035 Regional Transportation Plan (RTP)

Chapter 2 of the RTP gives transportation facilities in the region multiple designations based on the following modes and types of systems: regional street design, street and throughway system, transit system, freight system, bicycle system, and pedestrian system. The designations generally correspond to vision and concept statements. Only the regional street design classifications are associated with facility design guidance and only the street and throughway system, bicycle system, and pedestrian system designations are associated with policy statements. Regional street design, street and throughway system, bicycle system, and pedestrian system classifications for transportation facilities in the Project Study Area are presented in Table 3. Design concepts for Throughways (Freeways), Regional Streets, Community Boulevards, and Community Streets can be found in the RTP.

**Table 3: Study Area Facility Designations (Regional Transportation Plan)**

Facility	Regional Design Classification	Arterial and Throughway network	Regional Freight Network	Regional Bicycle network	Regional Pedestrian network	Regional Transit System
Highway 99W	Throughway	Principal Arterial	Main Roadway Route	Regional Bikeway	Not designated	Regional Bus
Tualatin-Sherwood Rd	Regional Street	Major Arterial	Road Connector	Regional Bikeway	Not designated	Not designated
Sherwood Blvd	Community Street	Minor Arterial	Not designated	Regional trail	Regional Trail	Regional Bus
Roy Rogers Rd	Community Boulevard	Minor Arterial	Road Connector	Regional Bikeway	Not designated	Not designated
Edy Rd	Not designated	Not designated	Not designated	Not designated	Not designated	Not designated

The Final 2035 RTP Project List includes the following capacity projects in the study area:

- RTP #10568 – Widen Roy Rogers Road to five lanes from Borchers Drive to Highway 99W.
- RTP #10568 – Widen Tualatin-Sherwood Road to five lanes from Highway 99W to Teton Avenue.
- RTP #10677 – Extension of Adams Avenue from Tualatin-Sherwood Road to Highway 99W and signalizing the intersection at Tualatin-Sherwood Road/Adams Avenue (Langer Farms Parkway).
- RTP #10736 – Extension of 124th Avenue from Tualatin-Sherwood Road to Tonquin Road
- RTP #11179 – Improvements consistent with the recommendation of the I-5 to 99W Connector Study. These projects generally include connectivity improvements to facilities north of Tualatin-Sherwood Road, such as extending Herman Road between the future Adams Avenue extension north of Tualatin-Sherwood Road and Gerda Lane. The construction of the “I-5/99W Southern Arterial” is not included in the financially constrained RTP project list.

Policy 1 in the Arterial and Throughway Network Vision (Chapter 2.5.2) for the region calls for connectivity facilitated by major arterials spaced at approximately one mile and minor arterials and collectors spaced at approximately one-half mile.

The RTP establishes a regional modal target of 45-55% non-drive-alone trips in Town Centers (Table 2.5). As noted with these targets: “The targets apply to trips to and within each 2040 design type. The targets reflect conditions needed in the year 2040 to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupancy vehicles.”

The RTP includes interim mobility standards (Table 2.4), but these have been updated by revised mobility targets in the OHP (OHP, Revised Table 7).

### **Metro Urban Growth Management Functional Plan (UGMFP), Title 6, Centers, Corridors, Station Communities and Main Streets**

Title 6 of the Urban Growth Management Functional Plan (UGMFP) addresses the “centers” design types from the regional 2040 Growth Concept, including the Central City (Downtown Portland), Regional Centers, Town Centers, and Station Communities as well as Corridors and Main Streets. Pursuant to Section 3.07.620(A), (B), (C), and (D), in order to be eligible for regional investment, the local jurisdiction must establish a boundary for Center, assess the Center, and adopt a plan to enhance the Center.

The assessment of a Center must include the following elements. These elements have been integrated into the project scope of the Sherwood Town Center Plan.

1. *Physical and market conditions in the area;*
2. *Physical and regulatory barriers to mixed-use, pedestrian-friendly and transit-supportive development in the area;*
3. *The city or county development code that applies to the area to determine how the code might be revised to encourage mixed-use, pedestrian-friendly and transit-supportive development;*
4. Existing and potential incentives to encourage mixed use pedestrian-friendly and transit-supportive development in the area.

Based on the assessment, a plan to enhance the Center should include at least the following elements. This plan is also included in the project scope during the development of implementation measures for the Town Center Plan. The transportation-related elements are the exception, which may be addressed in part during this planning process and then completed during the City’s next TSP update process.

1. *Actions to eliminate, overcome or reduce regulatory and other barriers to mixed-use, pedestrian-friendly and transit-supportive development;*
2. *Revisions to its comprehensive plan and land use regulations, if necessary, to allow:*
  - a. *In Regional Centers, Town Centers, Station Communities and Main Streets, the mix and intensity of uses specified in section 3.07.640;*
3. *Public investments and incentives to support mixed-use pedestrian-friendly and transit-supportive development; and*
4. *A plan to achieve the non-SOV mode share targets, adopted by the city or county pursuant to subsections 3.08.230A and B of the RTP, that includes:*

- a. The transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTPF;*
- b. A transportation system or demand management plan consistent with section 3.08.160 of the RTPF; and*
- c. A parking management program for the Center, Corridor, Station Community or Main Street, or portion thereof, consistent with section 3.08.410 of the RTPF.*

Title 6 also establishes how to be eligible for lower mobility standards (Section 3.07.630). During this planning process, new MMA requirements in the TPR will be considered, which allow exemption from mobility standards.

Finally, Title 6 (Section 3.07.640) provides guidance on the optimal density of residents and employees in Centers, the recommended mix of land uses, and housing variety.

- Resident and employee density – A density of 40 people per acre is recommended for Town Centers in order to make them vibrant and viable.
- Mix of land uses – The success of Centers relies on providing a variety of land uses in a walkable area, and Title 6 recommends a mix including housing, institutional uses, civic and government uses, and uses like grocery stores, restaurants, and others outlined in the 2009 report *State of the Centers: Investing in Our Communities*.
- Housing variety – Title 6 also calls for a mix of housing and this variety of housing should be established in a housing needs analysis for the City, prepared pursuant to ORS 197.296 and/or Statewide Planning Goal 10 (Housing).

### Southwest Corridor Plan

The Southwest Corridor Plan addresses the Barbur Boulevard/Highway 99W/I-5 corridor between Portland and Sherwood Town Center (see Figure 2.) The plan is being developed through a partnership of the cities of King City, Portland, Sherwood, Tigard, and Tualatin, Clackamas and Multnomah counties, ODOT, TriMet, and Metro. The intent of this project is to let the local plans and aspirations help shape and inform ultimate improvements so that all potential projects and ideas are screened through a local lens.

A brief overview of the project is summarized below:

- 2009 – The Joint Policy Advisory Committee on Transportation and the Metro Council designated the corridor as the next regional priority for high capacity transit expansion. Based on existing traffic and transit counts, the Southwest Corridor shows the greatest ridership projections for potential high capacity transit corridors in the region.
- December 2010 – Metro received a \$2 million grant from the Federal Transit Administration to analyze alternatives for improving transit in the corridor.

- Spring 2012 – Metro completed a public involvement process<sup>1</sup> to determine a vision and goals for the Southwest Corridor Plan. The outcomes of this process include: 1) bus rapid transit, light rail, roadway expansions/new roadways, rapid streetcar, and increasing local bus capacity are all transportation alternatives that must be included in the analysis. 2) Opportunities to expand the bicycle network and improve pedestrian mobility will also be studied.

Next steps in the planning process include:

1. Narrowing the range of potential projects
2. Developing a range of strategies for corridor improvements
3. Evaluating alternative strategies
4. Choosing a preferred strategy; and
5. Creating an implementation plan for the preferred strategy.

The first phase of the plan is expected to be completed by June 2013, followed by implementation of the shared investment strategy from 2013 onward.

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<sup>1</sup> *Southwest Corridor Plan: Scoping public involvement report*. February 2012. Oregon Metro.  
[http://library.oregonmetro.gov/files//sw\\_public\\_comment\\_report-scoping-feb2012.pdf](http://library.oregonmetro.gov/files//sw_public_comment_report-scoping-feb2012.pdf)

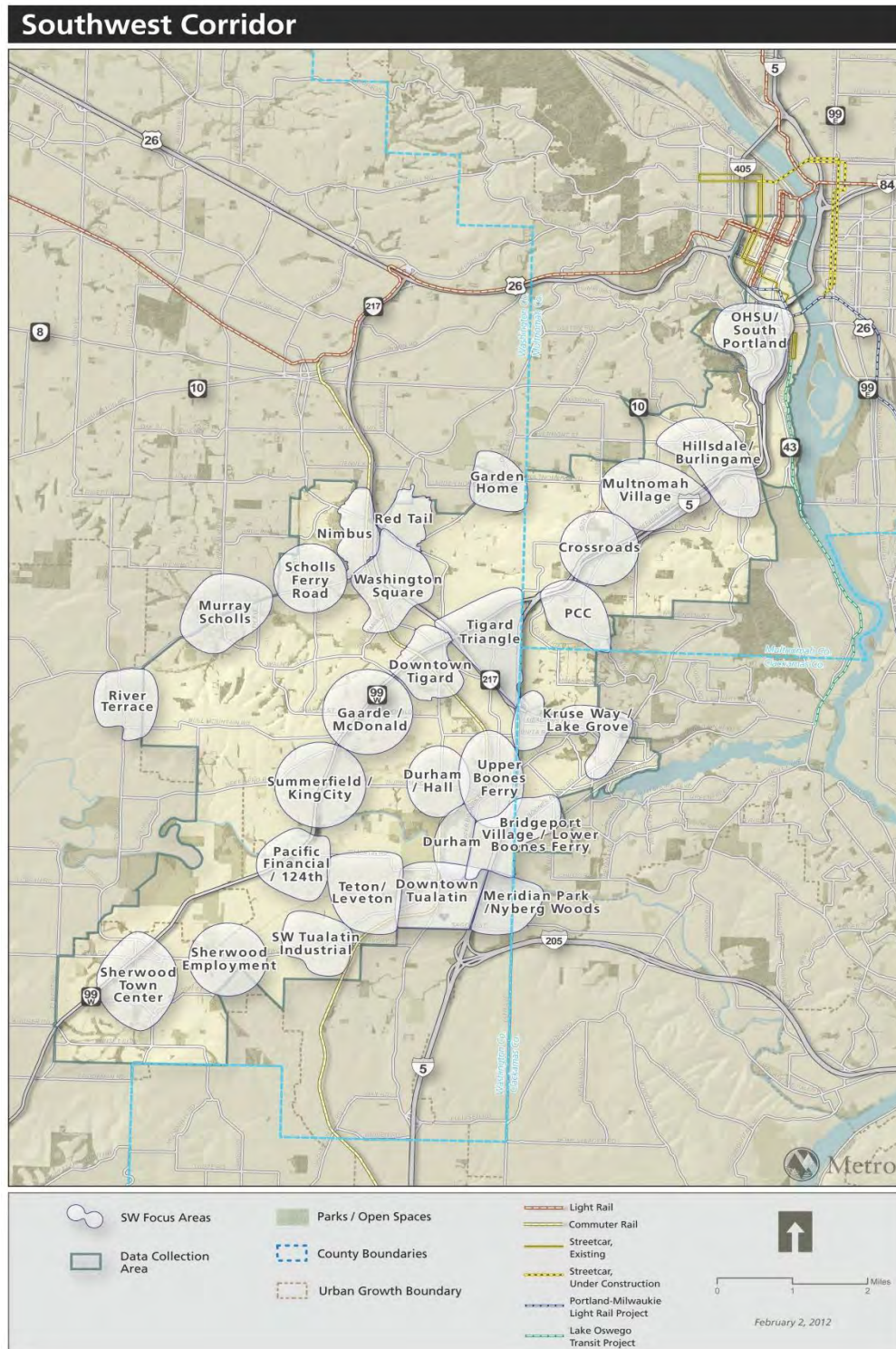


Figure 2 – Southwest Corridor Focus Areas

## Local Plans and Regulations

### Washington County 2020 Transportation Plan (2003)

The Washington County 2020 Transportation Plan is in the process of being updated; the following summary is of the currently adopted document. The Transportation Plan supports the adopted development patterns in the Community Plans, the Rural/Natural Resource Plan, and city Comprehensive Plans. The Transportation Plan also implements the applicable policies and strategies of the Community Plans and the Rural/Natural Resource Plan. The Transportation Plan addresses provisions of the RTP and TPR.

The Transportation Plan is a comprehensive analysis and identification of transportation needs associated with the development patterns described in the Community Plans and the Rural/Natural Resource Plan. It addresses the major roadway system (i.e., non-local roadways), transit, pedestrian and bicycle transportation issues and focuses on specific and system requirements. Existing and planned roads that are part of the major roadway system are classified in the Transportation Plan according to their existing or planned function, right-of-way, alignment, and dimensional standards. The local street system is designated in Community Plans and the Rural/Natural Resource Plan.

To the extent that the Sherwood Town Center Plan includes recommendations that pertain to County facilities and facilities addressed in the Washington County Transportation Plan, these recommendations will need to be coordinated with the Transportation Plan update process that is in progress in order to maintain consistency between the jurisdictions' long range plans.

The following roads in the Project Study Area are classified as arterials and collectors in the Washington County Transportation Plan:

#### Principal Arterial

Highway 99W

#### Arterial

Tualatin-Sherwood Road, Roy Rogers Road, Sherwood Boulevard

#### Collector

Borchers Drive, Langer Drive, Edy Road, 12th Street/Century Drive, Adams Avenue (Langer Farms Parkway)

The following project is identified in the Washington County Transportation Plan in the Project Study Area:

- Project 80 - Tualatin-Sherwood Rd (OR 99W to Teton) - Widen to 5 lanes [\$32 million].

## Washington County Intelligent Transportation System (ITS) Master Plan

The Washington County ITS Master Plan contains goals, objectives and plan phasing for deploying ITS in the county. No projects are identified in the immediate proximity to the Sherwood Town Center, however an arterial management system along Tualatin-Sherwood Road (I-5 to Teton Avenue) is included in the deployment plan.

While not specified in the plan, ITS corridor improvements along Tualatin-Sherwood Road for the segment from Teton Avenue to Highway 99W are about to enter the design phase. These improvements may include advanced traffic signal systems (adaptive control) and additional travel information components.

## City of Sherwood Comprehensive Plan

The City of Sherwood originally adopted *Comprehensive Plan II* (the Plan) in 1991. Elements of the Plan have been periodically updated, including the last update in 2009. Given the original adoption date, note that some data, findings, policies, and strategies in the Plan are outdated. That is something to consider during the development of the Town Center Plan and associated recommendations that may indicate needed updates to the Comprehensive Plan.

The Plan uses a one-map system wherein the Zoning Map also serves as the Plan Map. For this reason, specific land use designations will be detailed in the Zoning and Community Development Code section of this document, while this section will focus on the broader policies outlined in the Plan.

### Residential Land Use

- A significant portion of multifamily residential / high density residential zoned land is located within the Project Study Area. Housing data from the 1990s showed a housing mix of 82% single family and 18% multifamily. While Sherwood has zoned land to allow more multifamily housing, there has not been a market for this development. The city has identified a target housing mix of 65 percent single family and 35 percent multifamily housing.<sup>2</sup> Related to this goal, the city also 1) specifies that new higher density residential development must be located “to take advantage of arterial and major collector streets; nearby shopping, parks, mass transit and other major public facilities and services;”<sup>3</sup> and 2) will “maintain a minimum overall density of six (6) dwelling units an acre.”<sup>4</sup> Based on 2010 projections, the average density of buildable land in Sherwood is 6.9 dwelling units per acre.<sup>5</sup>

<sup>2</sup> *Comprehensive Plan II*, Chapter 4, p. 10-12

<sup>3</sup> *Comprehensive Plan II*, Chapter 4, Policy 1, p.13

<sup>4</sup> *Comprehensive Plan II*, Chapter 4, Policy 1, p.14

<sup>5</sup> *Comprehensive Plan II*, Chapter 4, Table IV-4, p. 15

- Preservation of existing residential neighborhoods is a significant priority. Sherwood has identified areas – mostly existing single family residential neighborhoods, including several within the Project Study Area – where infill development requires additional public notification.

#### Economic Development

- In 2006, the Sherwood Urban Renewal Policy Advisory Committee (SURPAC) led an update to the City's Economic Opportunities Analysis. The outcome was the Economic Development Strategy Report, reviewed later in this memorandum. The goals and objectives from the Report are reflected as policies and strategies in the Comprehensive Plan.
- The City's economic development policy goal is "The City will allocate land and monetary resources so as to encourage balanced economic growth consistent with Economic Development Strategy." There are six policies and associated strategies associated with this goal (in addition to the policies and strategies from the 2006 Economic Development Strategy Report). Policy 4 relates to improving regional access, with strategies for improving local access to the Planning Area via Highway 99W and maximizing the rail corridor and evaluating the feasibility of passenger service. Policy 5 speaks to diversification and expansion of commercial and industrial development; one of the stated strategies is to encourage the revitalization of the Old Town Commercial area by implementation of 1983's "Old Town Revitalization Plan" and the Old Town Overlay Zone. Policy 6 also pertains to the Project Study Area: "The City will seek funding through EDA or HUD for the rehabilitation of the Old Town and Washington Hill neighborhoods."

#### Commercial Land Use

- Commercial development currently makes up only one percent of the Sherwood planning area's land acreage, which is "concentrated in two principal areas: at Six Corners and in a five block portion of the downtown grid."<sup>6</sup> Based on the acknowledgment that Sherwood residents fill their commercial and retail needs by traveling to Tigard or Tualatin, the city developed a policy objective to provide more retail service at both the community and neighborhood levels. While the policy states that "commercial centers will be located so that they are easily accessible on major roadways by pedestrians, auto and mass transit," it stipulates that "neighborhood commercial centers will be designated in or near residential areas upon application when need and compatibility to the neighborhood can be shown."<sup>7</sup> This implies stricter discretionary control over neighborhood commercial development than community scale commercial development.

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<sup>6</sup> *Comprehensive Plan II*. Chapter 4, p. 26

<sup>7</sup> *Comprehensive Plan II*. Chapter 4, p. 30

- In terms of commercial development within the Project Study Area, the policies also specify that, “The older downtown commercial area will be preserved as a business district and unique shopping area,”<sup>8</sup> and that “Highway 99W is an appropriate location for commercial development at the highway’s intersections with City arterial and major collector roadways.”<sup>9</sup>
- The Plan’s commercial land use policy specifically reaffirms the goals, objectives, strategies, and improvement projects adopted in the 1983 *Sherwood Old Town Revitalization Plan*. These policies are realized through the Retail Commercial (RC), General Commercial (GC), Office Commercial (OC), and Neighborhood Commercial (NC) zoning designations, as well as the Old Town overlay. (These designations are described further in the Zoning and Community Development Code section of this document.)

#### Industrial Land Use

- The Northeast Industrial area encompasses most of the city’s existing and planned industrial development, located broadly along the Southern Pacific Railroad line and adjacent to Old Town. Large undeveloped parcels within the eastern edge of the Project Study Area are zoned for light industrial development as part of this area. The Plan notes that future industrial development in this area would require improved access to Highway 99W and I-5.<sup>10</sup> This potential development (and roadway modifications) would affect any variation of Town Center designation within the Project Study Area.
- In general, industrial policies emphasize the need for industrial development as a source of local employment and economic stability for Sherwood. One significant strategy the city is using is to create an “Employment Industrial” zone that is intended to be applied to a large group of parcels in the Urban Growth Area along the southeast side of the Northeast Industrial Area. This existing and future industrial employment center is also included in the Southwest Corridor Plan study area, called “Sherwood Employment” (see Figure 2).

#### Neighborhood Area Development Concepts

The Sherwood Planning Area is informally divided into neighborhood areas. The Central neighborhood area encompasses most of the Project Study Area with the following exceptions: 1) areas to the northwest of Highway 99W are considered part of the North neighborhood area; and 2) areas east of Langer Farms Parkway are considered part of the Northeast Industrial Area (future development of this area is described in the previous sub-

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<sup>8</sup> *Comprehensive Plan II*. Chapter 4, Policy 2, p. 28

<sup>9</sup> *Comprehensive Plan II*. Chapter 4, Policy 3, p. 28

<sup>10</sup> *Comprehensive Plan II*. Chapter 4, p. 31

section about Industrial Land Uses). Pertinent excerpts from the “Neighborhood Area Development Concepts” portion of the Plan are included below:

- Central neighborhood area: “The Plan shows no significant expansion of the Old Town Commercial Area. Expansion of the Six Corners commercial area is expected.”<sup>11</sup>
- North neighborhood area: “This area includes a major portion of the Plan’s high density residential development which has been located in the Six Corners Area. Commercial expansion of the Six Corners commercial area is planned in conjunction with planned road improvements...Commercial expansion along Highway 99W is expected.”<sup>12</sup>

### Community Design

Sherwood’s community design policy focuses on community and neighborhood identity. Several relevant strategies and commentary related to their implementation in relation to the Sherwood Town Center Plan are compiled below. Again, it is important to note the age of the original Comprehensive Plan and to evaluate how these strategies could be expanded upon or otherwise modified in order to support the future recommendations in the Town Center Plan.

- “Develop a civic/cultural center and plaza park as a community focus.” These elements have the potential to be a key part of the new Town Center plan.
- “Neighborhood scale facilities such as retail convenience centers, parks and elementary schools will be provided in or near residential areas.” The issue of scale addressed in this policy and others should be taken into consideration so that the new Town Center designation is the appropriate size.
- “Establish a system of interconnected parks, greenways and visual corridors throughout the Urban Area.” The Cedar Creek Trail makes up a large portion of the Project Study Area, and the Town Center Plan may address extending this into a larger system of greenways to address this policy.
- “Implement the Old Town design guidelines in the 1983 ‘Sherwood Old Town Revitalization Plan.’” According to said plan, the design standards are in place to “ensure that new buildings and exterior renovations are in keeping with the unique small town character found in Sherwood.” The design guidelines consider the Old Town Area to be made up of two distinct districts: 1) The Smockville Area, which contains the historic core and original central business district of the city, and 2) the

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<sup>11</sup> *Comprehensive Plan II*. Chapter 4, p. 36

<sup>12</sup> *Comprehensive Plan II*. Chapter 4, pp. 35-36

Cannery Area – a former warehouse area ripe for new development.<sup>13</sup> These existing character areas should be considered in creating a new Town Center identity.

### Environmental Resources

This section of the plan is relevant to the Project Study Area planning because of existing policies related to Highway 99W and the greenway corridor of the Cedar Creek Trail area, excerpted below.

- “Buffers along Highway 99W will be encouraged to minimize noise penetration.”<sup>14</sup> This strategy is described specifically for protecting residential areas from traffic noise, and is also mentioned in tandem with a strategy to develop a connected greenway network in the city: “Connections will be made along 99W to be used as a noise buffer and greenway link.”<sup>15</sup>
- Stella Olsen Park (which contains a large portion of Cedar Creek Trail) is a major activity node in the Project Study Area, and is envisioned in the Plan as follows: “Stella Olsen Park will continue to be the primary focus of major recreational activities. It will contain a variety of recreational opportunities and be related to the Old Town commercial center and central area schools...Expansion of Stella Olsen Park to the north to include the site now known as Glen Park is suggested. Additional public access to Stella Olsen Park and the remainder of the greenway is planned from North Sherwood Boulevard.”
- Additional connections between the Cedar Creek Trail area and Rock Creek (located east of the Project Study Area) are also planned. “An open space system consisting of the flood plains of Cedar Creek and Rock Creek will be acquired and preserved for public use as passive open space and natural drainage ways. Creek greenways may be linked to a regional greenway along the Tualatin River. A principal use of the greenways will be to provide for linkages between parks and major activity centers. Continuity between the Cedar Creek and Rock Creek greenways will be made by using connections through the school property on North Sherwood Boulevard.”<sup>16</sup>

### Transportation

Transportation policies in the Plan are taken directly from Sherwood’s 2005 Transportation System Plan (TSP). Policies that affect the development of the new Town Center Plan are described below.

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<sup>13</sup> *Sherwood Old Town Design Guidelines*. April 2005. Pp.1-2.

<sup>14</sup> *Comprehensive Plan II*. Chapter 5, p.17

<sup>15</sup> *Comprehensive Plan II*. Chapter 5, p.19

<sup>16</sup> *Comprehensive Plan II*. Chapter 5, p.24

- The Project Study Area includes existing and planned industrial uses, and inclusion of these areas within a potential Town Center designation – along with proximity to the North Industrial Area – must be considered for impact of future traffic patterns. The Project Study Area also includes several residential neighborhoods; minimizing through traffic in these areas is a priority. “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.”<sup>17</sup>
- The active transportation requirements of a Town Center will be supported by the following policy: “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.”<sup>18</sup>
- There are existing special provisions to allow on-street parking in Old Town. “On-street parking shall not be permitted on any street designated as an arterial, unless allowed by special provision within the Town Center<sup>19</sup> (Old Town) area or through the road modifications process outlined in the Sherwood Development Code.”<sup>20</sup>

#### **Transportation Policies for Old Town and Six Corners**

Goal 6 of the transportation policy chapter of the TSP applies specifically to Old Town and the Six Corners areas, and is included here in its entirety:

*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.*

<sup>17</sup> *Comprehensive Plan II*. Chapter 6, Goal 1, Policy 2, p.1

<sup>18</sup> *Comprehensive Plan II*. Chapter 6, Goal 3, Policy 2, p.4

<sup>19</sup> Language in both the TSP and *Comprehensive Plan II* refer to Old Town as the Town Center.

<sup>20</sup> *Comprehensive Plan II*. Chapter 6, Goal 3, Policy 1 2, p.5

### 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.

### **Freight Policies**

Freight movement is a policy priority on several roads and heavy rail connections to industrial areas that run through the Project Study Area, as shown in these two policies:

*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.<sup>21</sup>*

*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.<sup>22</sup>*

### **City of Sherwood Transportation System Plan (2005)**

Sherwood's most recent Transportation System Plan (TSP) was completed in 2005. Policies developed in this TSP update were used as the basis of the transportation chapter of *Comprehensive Plan II*, summarized in the previous section of this document.

The TSP includes several key classifications and standards that apply to the study area:

- The City of Sherwood intersection capacity standard is level of service (LOS) D.
- The following functional classification applies to roadways in the study area:
  - Highway 99W - Principal arterial
  - Tualatin-Sherwood Road / Roy Rogers Road – Arterial
  - Borchers Drive – Collector
  - Langer Drive – Collector
  - Edy Road – Collector
  - Sherwood Boulevard – Arterial
  - 12th Street / Century Drive – Collector

<sup>21</sup> *Comprehensive Plan II*. Chapter 6, Goal 7, Policy 3, p.9

<sup>22</sup> *Comprehensive Plan II*. Chapter 6, Goal 7, Policy 5, p.10

- Oregon Street – Collector
  - Adams Avenue / Langer Farms Parkway – Collector
  - Pine Street – Collector
  - Columbia Street – Local
- Access spacing requirements:
  - Washington County and ODOT standards are used for facilities under other jurisdictions
  - For City facilities: Arterial (600-1,000 feet), Collector (100-400 feet), all roads designed safely with adequate stacking and sight distance.
- Street design characteristics and widths are provided for each functional class.

The TSP identifies the following transportation projects in the study area:

#### **Street Projects:**

- Project 2 – Adams Avenue extension (3 lanes) from Tualatin-Sherwood Road to Home Depot
- Project 11 – Cannery Arterials – Phase 2 of the Downtown Sherwood Streetscape master Plan.
- Project 12 – Old Town Streets (Future Phases) – Phase 3 through 6 of the Downtown Sherwood Streetscape Master Plan
- Project 4 – Tualatin-Sherwood Road widening (5 lanes) Highway 99W to Cipole Road
- Project 5 – Roy Rogers Road widening (5 lanes) Borchers Drive to Highway 99W.

#### **Traffic Control Projects:**

- Project 14 – Edy Road/Borchers Drive additional traffic control measure
- Project 15 – Langer Drive/ Tualatin-Sherwood Road remove traffic signal and install raised median.
- Project 16 – Sherwood Boulevard/Langer Drive remove traffic signal and allow lefts in only (no lefts from Langer to Sherwood)
- Project 17 – Sherwood Boulevard/Century Drive install traffic signal or roundabout
- Project 19 – Adams Street /Tualatin-Sherwood Road install traffic signal.

#### **OR 99W Capacity Allocation Program (CAP)**

The CAP in Sherwood's City Code (16.106.070) limits development intensity as a strategy to minimize growth impacts to Highway 99W vehicular operations. Specifically, the CAP allows a maximum of 43 net new trips per acre added during the PM peak hour for most types of development. Uses that are exempt of the CAP requirements include churches and

schools (elementary, middle, and high school). Development in Old Town is exempt from the CAP requirement.

A traffic study and potential mitigation is required for proposed uses that add 10 or more new PM peak hour trips to specified Highway 99W intersections. (These intersections are generally full access intersections located between Sunset Boulevard and the future Adams Avenue extension, which will provide access to Home Depot). However, proposed low intensity industrial development is not required to mitigate impacts in order to comply with the CAP program. Low intensity industrial development is development in land zoned General Industrial or Light Industrial that generates less than eight net new PM peak hour trips per acre.

### **Sherwood Cannery Planned Unit Development**

The Cannery PUD is located at the site of the former cannery in Old Town near the railroad tracks. Several transportation projects related to the site have the potential to impact traffic circulation in the Old Town area, including:

- Construct improvements to improve the operations of Pine Street/1st Street to meet City performance standards and mitigate queuing impacts at the Pine Street railroad crossing. This shall be accomplished by implementing a modified circulation for the downtown streets that includes:
  - Install a diverter for south-westbound on 1st Street at Ash Street or Oak Street to require vehicles travelling towards Pine Street to divert to 2nd Street.
  - Remove one side of on-street parking Ash Street-2nd Street or Oak Street-2nd Street to provide two 12-foot travel lanes from the diverter to Pine Street. Convert to one-way traffic flow approaching Pine Street for this segment.
  - Install an all-way stop at Pine Street/2nd Street. Stripe the south-westbound approach of 2nd Street to have a left turn lane and a shared through/right-turn lane.
  - Install traffic calming measures on 2nd Street southwest of Pine Street to manage the impact of the added traffic.
- Restrict landscaping, monuments, or other obstructions within sight distance triangles at the access points to maintain adequate sight distances.
- Provide an enhanced at-grade pedestrian crossing of Pine Street to facilitate multi-modal circulation through the project site (e.g., signing, striping, lighting, a raised crossing, or pavement texturing).
- Construct Columbia Street northeast of Pine Street to City Standards as modified and approved by the City Engineer and install a sign indicating that

this roadway will be a through street in the future (connecting to Foundry Avenue).

- Because of the alignment configuration of Columbia Street southwest of Pine, the street shall be configured and signed as a one way street.
- Restrict parking on the southeast side of Columbia Street at a minimum within 50 feet of Pine Street (northeast of Pine Street).
- Prior to final detailed plan and site plan approval for either the east or west residential building, an additional traffic study must be prepared that, among other things, looks more closely at local street impacts on Willamette and intersections on a route from Highland to Oregon Street via Willamette.

### **City of Sherwood Zoning and Community Development Code (SZCDC)**

This section presents City code provisions that implement and relate to the UGMFP, Title 6 provisions regarding Centers, and that are consistent with multimodal mixed use area (“MMA”) provisions in OAR 660-012-0060. Title 6 and MMA provisions are outlined earlier in this review.

#### **Land Uses, Building Heights, and Front Yard Setbacks**

SZCDC Division II (Land Use and Development) establishes land use districts; each land use district includes development regulations for permitted and prohibited uses, building heights, and setbacks. A summary of these regulations is presented district by district in Attachment A. With Title 6 and MMA requirements in mind – specifically allowing a variety of uses, permitting multi-story buildings, and allowing buildings with no front setbacks – the following observations about the City’s existing land use districts are provided:

- Variety of uses – The City’s commercial land use districts – Neighborhood Commercial (NC), Office Commercial (OC), Office Retail (OR), and General Commercial (GC) – all allow high-density residential uses either through a Planned Unit Development (PUD) process or as secondary to a commercial use or uses in the same building. These districts progressively allow a greater number of uses, at greater intensity. MMA requirements could potentially be met in an area consisting of these commercial districts, or these commercial districts in combination with the High Density Residential (HDR) district and/or the Institutional and Public (IP) district.
- Residential density – Of the two highest density residential districts – Medium Density Residential High (MDRH) and High Density Residential (HDR) – only the HDR district meets the MMA threshold of allowing for at least 12 units per acre. (The MDRH district allows for 5.5 to 11 dwelling units per acre and the HDR district allows for 16.8 to 24 dwelling units per acre.) Townhomes are allowed in MDRH and HDR zones, with special townhome design requirements.

- Government offices/civic uses – Title 6 requirements encourage the siting of government offices and civic uses in Centers. In Sherwood, government offices are permitted outright in OR and OC districts; are permitted conditionally in all residential districts, the RC district, and the GC district; and are not permitted in the NC district.
- Prohibited and limited uses – Areas designated as a MMA are required to either prohibit or limit certain uses (industrial uses, automotive service stations, and drive-throughs). OC and OR districts do not permit these uses, whereas the NC and GC districts permits service stations conditionally, and the GC district permits drive-throughs outright.
- Multi-story buildings – The high-density residential and commercial districts allow for multi-story buildings, typically having building height limits of 30 to 50 feet (two to three or four stories). The caveat in the NC district is that maximum building heights are set to be consistent with the most permissive adjacent residential zone.
- Front yard setbacks – Front yard setbacks are generally not required in the commercial districts, with the exception of the NC district, which requires at least a 20-foot front yard setback. This is the same as in the HDR district.
- Other land use districts – The Employment Industrial (EI), Light Industrial (LI), and General Industrial (GI) districts are not reviewed here because industrial uses do not typify a Town Center and the City's permitted industrial uses are not consistent with MMA requirements. The Planned Unit Development (PUD) district permits Residential, Commercial, and Industrial PUDs. Permitted and prohibited uses and density requirements in PUDs are guided by the underlying zoning. Building height requirements may be more permissive and flexible through the PUD process, as is site design (including setbacks). Finally, the Old Town (OT) Overlay District allows uses as permitted in the RC, HDR, and MDRL zones. It sets maximum building heights at three stories (40 feet) in the Smockville Area and four stories (50 feet) in the Old Cannery Area. There are no minimum setback requirements. There is no parking required in the Smockville portion of Old Town and only 65% of normally required off-street parking is required in the Cannery portion of Old Town. Streets must be designed pursuant to the TSP and Downtown Streetscape Master Plan. The Old Cannery Area and Smockville Area each have their own site and building design standards.

#### **Building Orientation and Transit Access**

Site plan provisions require proposed commercial, multi-family, institutional and mixed-use development to be “oriented to the pedestrian and bicycle, and to existing and planned transit facilities.” The proposed development must have entrances oriented to streets and be

built with no or minimal setbacks pursuant to the underlying zoning, or must otherwise fulfill design standards similar in spirit (SZCDC Section 16.90.030.D.7).

#### **Circulation and Connectivity**

SZCDC Chapter 16.96 sets requirements for on-site pedestrian, bicycle, and vehicular requirements. SZCDC Section 16.106.30 requires adherence to a local connectivity plan established through the Transportation System Plan (TSP) and preparation of new plans that connect and are consistent with the local connectivity plan. Maximum block length for new streets, except for arterials, is 530 feet. Where full street crossings are provided at distances exceeding 1,200 feet, bicycle and pedestrian crossings must be provided at an average of 530 feet. (SZCDC Section 16.106.040.J on traffic calming includes raised crosswalks as one traffic calming measure.) SZCDC Section 16.106.040.J addresses transit facilities and requires connections to transit streets (that are designated in the TSP) as well as provision of or allowances/easements for transit amenities.

#### **Land Use Review**

Chapter 16.72 (Procedures for Processing Development Permits) establishes the different types of and procedures for development review. The City provides for expedited review through Type II quasi-judicial actions for expedited land divisions decided by the Planning Director, and “fast-track” Site Plan review for applications proposing less than 15,000 square feet of floor area. However, any project in the Old Town Overlay District is required to have a public hearing with decision by the Planning Commission via a Type IV review.

#### **City of Sherwood Economic Development Strategy Report (2007)**

The intent of developing the Economic Development Strategy Report (“Report”) was to provide the city with information “to fully understand market-based trends, local development conditions, and the fiscal benefits of specific types of commercial, office, and industrial development within a local and regional context.”<sup>23</sup> The first section of the Report provides a vision and goals and objectives for economic development city-wide. While none of the goals and objectives are specific to the Project Study Area, the outcomes of the Town Center Plan will need to be consistent with the City’s economic development strategy. Specific policies that have been echoed in the early stages of the Town Center Project include promoting Sherwood as the “Gateway to the Oregon wine country,” addressing the lack of lodging opportunities, encouraging restaurants, and prioritizing infrastructure improvement projects according to their anticipated economic benefit.

The Report includes a summary of economic development policies in the (1991) Comprehensive Plan and the Urban Renewal Plan and Report (see up to date information under these topic headings in this memorandum). The document also summarizes “Other Economic Development Initiatives” as follows:

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<sup>23</sup> *Economic Development Strategy*, Existing Economic Development Conditions, p.1

- *Vision for Old Town - 2000. This document includes goals and objectives for the future development of the Old Town area, some of which relate to economic development.*
- *Sports Town USA Initiative. The City has taken several steps to position itself as a regional destination for youth and amateur sporting events, including spending \$90,000 in 2004 to install artificial turf fields at the Sherwood High School for football and other sports.*
- *Hotel/Motel Initiative. The City Council has expressed interest in identifying a site and recruiting a tenant for a future hotel or motel within the city limits, which would support economic development and provide an additional source of tax revenue.*
- *Sherwood Broadband Initiative. The City operates as a broadband utility and owns several miles of fiber optic network cable. The City is studying ways that it can be used to promote, support, and expand local economic development opportunities.<sup>24</sup>*

The Existing Economic Conditions section of the Report provides information on the amount of land zoned for commercial or industrial uses and the number of acres within each that is considered developed, vacant, constrained or redevelopable. The Report includes information regarding the types of businesses and industries within the City, employment figures, and wages. Similar information specific to the Project Study Area has been updated and can be found in the Market Analysis Report.

The Existing Conditions section concludes with a summary of development constraints that limit economic development capacity under the headings of transportation, utilities, wetlands and riparian areas, and brownfield sites.<sup>25</sup> Of relevance to the Project Study Area is the mention of substantial segments of streets with poor pavement conditions in Old Town and, specifically, the need for improvements to Oregon Street between Old Town and Murdock Street to address deficient geometry. Major congestion due to inadequate road capacity was called out as a barrier to economic development in the Six Corners area; other congestion problems were identified at major intersections throughout the Sherwood Boulevard and Tualatin-Sherwood Road corridors. In general, the vacant commercial and industrial land was found to be lacking local street connections. Regarding natural resource constraints, the document identifies Cedar Creek in the Project Study Area as subject to Chapter 8 of the SZCDC, which includes protections that restrict development options in riparian areas and upland wildlife habitat. The City does not have a “brownfield” inventory that identifies former industrial areas with potential contamination issues, but the Report notes the work that was done to remediate the abandoned tannery and battery works located east of Old Town along the railroad tracks. The Economic Development Strategy also notes that the Urban Renewal Plan and Report and the Transportation System Plan give some indication of

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<sup>24</sup> *Economic Development Strategy*, Existing Economic Development Conditions, p.6

<sup>25</sup> *Economic Development Strategy*, Existing Economic Development Conditions, p.11

the physical constraints that limit economic development; these documents are summarized elsewhere in this memorandum.

The conclusions of the Report are based on the Economic Opportunities Analysis (“EOA”) done as part of the report, which included a buildable lands inventory and a trend analysis. The City also conducted a business survey, which provided insight on the types and sizes of companies doing business in Sherwood.<sup>26</sup> The EOA identifies economic development opportunities regarding future commercial, industrial, and other employment land need within the Sherwood UGB. Key short-term economic development strategy recommendations include:

- *Working with existing businesses to help them expand, as appropriate, on site in Sherwood;*
- *The City should continue to invest in the downtown area by redeveloping the Cannery site, enhancing public parking, and enhancing amenities (such as parks and wireless internet access); and*
- *A proactive marketing strategy aimed at further defining, enhancing, and attracting existing high-growth industry clusters is recommended. This includes industries such as:*
  - *Small to mid-size light manufacturing establishments*
  - *Specialty contractors and construction firms*
  - *Creative service individuals and establishments*
  - *Amusement, recreation, sporting and lodging services*
  - *Educational facilities*
  - *Nursing and health care support services*<sup>27</sup>

Specific key findings from the employment land needs analysis that may influence the Town Center Project more directly include:

- *Compared to Washington County as a whole, Sherwood is “housing rich and jobs poor” with jobs-to-population ratio of only 0.30 compared to close to 0.40 for Washington County.*
- *City of Sherwood economic development and land use policies can influence the future level of employment growth, and the jobs-population balance that is achieved over time. Future employment job growth in Sherwood is projected to be 5,347 jobs with the medium growth forecast.*

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<sup>26</sup> *Economic Development Strategy*, Economic Opportunities Analysis, p.7

<sup>27</sup> *Economic Development Strategy*, Economic Opportunities Analysis, p.48

- *Not all job growth would require new development. Based on findings contained in Metro's Urban Growth Report, Otak expects local infill, redevelopment, and home-based employment to accommodate none of the industrial jobs, 5-15% of all commercial-service jobs, and 30-40% of all commercial-retail jobs. This equates to up to a forecast level of up to 688 jobs being accommodated through infill, redevelopment, and home-based employment.*<sup>28</sup>

The conclusion of the Fiscal Impact Analysis included in the Report indicates that the existing development impact fees, review fees, and tax rates in the City are structured in a manner that could yield positive fiscal impacts from new commercial, office and industrial developments. The scope of the analysis does not include a fee comparison among local jurisdictions, but the Report includes a comparison of system development charge revenues<sup>29</sup> and a summary of estimated impact fees.<sup>30</sup>

The Economic Development Issues section of the Report provides a summary of the issues identified as a result of various data sources collected throughout the development of the Report, including the business survey, stakeholder interviews and state-maintained databases. Topic areas include jobs/housing imbalance, workforce development, business retention, business recruitment, tourism, and downtown revitalization. Under the last heading, the Report reiterates that the City's primary commercial areas are Old Town and the Six Corners area, and that an opportunity exists to comprehensively plan for expanded commercial growth near Six Corners while revitalizing the historic Old Town area. The Report states that the City should "continue to invest in the downtown area by redeveloping the Cannery site, enhancing public parking, and enhancing amenities (such as parks and wireless internet access)."<sup>31</sup>

The Recommended Action Plan identifies a timeline for each identified goal/objective, the lead and support agencies to accomplish the objective, and the resources necessary. For example, the objective, "Promote Sherwood as the 'Gateway to the Oregon wine county,'" is associated with the action "Develop a marketing strategy to promote Sherwood area wineries and tourism events, including as a destination gateway to the Yamhill wine country. Set annual targets for advertising, public outreach and communications."<sup>32</sup> The timeframe for the action is 1-3 years; the Chamber is listed as the lead, with the City Realtors in a supporting role, and city staff providing necessary resources for print/media.

### **Downtown Sherwood Market Study (2008)**

The Downtown Sherwood Market Study ("Study") was developed in partnership with the Oregon Downtown Development Association to provide the City with an assessment of

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<sup>28</sup> *Economic Development Strategy*, Economic Opportunities Analysis, p.49

<sup>29</sup> *Economic Development Strategy*, Fiscal Impact Analysis, Tables A-1 and A-2, p.7

<sup>30</sup> *Economic Development Strategy*, Fiscal Impact Analysis, Tables A-3, p.10

<sup>31</sup> *Economic Development Strategy*, Economic Development Issues, p.4

<sup>32</sup> *Economic Development Strategy*, Recommended Action Plan, Objective 2.4, p.4

potential market support for retail uses in the downtown commercial district. The Study includes a retail market analysis that included demographic and employment data for the City of Sherwood, the market area (defined as a 9-minute drive from City Hall), Washington County, and the Portland-Vancouver Metropolitan Statistical Area. It also includes opinion research, based on two electronic surveys (one for consumers and one for business owners). Based on this information, the Study presents a business development plan which highlights the competitive strengths of the downtown and details a program and next steps to capitalize on these strengths.

Findings of the Study show that the majority of the market area households (26%) are categorized as “up and coming families,” that own their own home, are considered affluent, and have children (see Exhibit 1.05 Demographic Snapshot). Retail demand analysis shows that there are business opportunities for specific retail categories, including clothing and clothing accessories, electronics and appliances, general merchandise, and food services and drinking establishments (Exhibit 1.09 Retail Supply/Demand Balance 2007). The Study concludes that the best business opportunities in downtown are for specialty retail, restaurants and entertainment-type businesses (p.23).

### **The Sherwood Urban Renewal Plan and Report (Adopted 2000, Updated through 2012)**

Sherwood’s Urban Renewal Plan and Report was developed under the guidance of the Sherwood Urban Renewal Planning Advisory Committee (SURPAC). It was adopted by the City Council on August 29, 2000 and has been updated several times, including a recent City Council action to increase the maximum indebtedness. There are 596 acres designated in the Urban Renewal Plan; most of the Town Center Plan Project Study Area is within the urban renewal area.<sup>33</sup> The purpose of the Urban Renewal Plan is to “eliminate blighting influences found in the Renewal Area, to implement goals and objectives of the City of Sherwood Comprehensive Plan, and to implement development strategies and objectives for the Sherwood Urban Renewal Area.” The agency and its activities are funded by tax increment financing – a method of capturing increases in property tax revenue to provide for future improvements within the designated area.

The Urban Renewal Plan includes a series of seven goals related to physical improvements within the Urban Renewal Area, such as building rehabilitation, streetscape improvements, and utility or public facility upgrades. Several goals and objectives relate directly to Old Town and/or Six Corners. One of the City’s urban renewal goals is to promote private development, redevelopment, and rehabilitation in both areas (Goal A). Stated objectives related to transportation improvements (Goal C) is to “improve the N. Sherwood Boulevard corridor connecting Old Town and Six Corners with visual amenities such as decorative

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<sup>33</sup> One notable area that is in the Town Center Plan Project Study Area but not in the urban renewal area is the Glen Eagle neighborhood.

lighting, landscaping, and removal of overhead wiring (C.4)” and improve pedestrian and bicycle access to and through both areas (C.5). Numerous objectives target Old Town improvements specifically, including those that relate to sporting events (A.4); rehabilitating building stock (B.1-3); pedestrian plazas (C.6); access to Stella Olsen Park (C.7); high-speed data transmission (D.2); public parking (E.1); public facilities (Goal F), and Cultural Arts (Goal G).

Additional subject areas in the urban renewal plan include proposed land uses and descriptions of projects to be undertaken in the urban renewal area; obligations imposed on redevelopers; the process for amending the plan; maximum indebtedness authorized under the plan; financing methods; and the process for relocating persons or businesses displaced by urban renewal activities.

The City’s webpage includes recent projects that have been, or are in the process of being, funded through urban renewal, including:

- *In late 2003 the Urban Renewal District invested \$300,000 to purchase fiber for Old Town. In purchasing the fiber, Sherwood now has a direct link to provide speed of light access to the internet. A large portion of Sherwood’s Old Town is now a “wireless internet hot spot”. An outgrowth of this investment is the formation of Sherwood Broadband, a city utility that provides high speed broadband service to businesses in Sherwood, Newberg and other parts of Yamhill County.*
- *The URA has purchased several properties in Old Town Sherwood that will be used for redevelopment purposes.*
- *The two most visible and important projects to the Sherwood URA are the building of the new Civic building in Old Town and the Downtown Street project. The Civic building is home to Sherwood City Hall on the second floor and a 14,000 square foot library. This facility is a major draw to patrons of Old Town.*
- *One of the most exciting projects which is now underway is the development of the Cannery site, a 6.5 acre parcel in the heart of the Sherwood Old Town that has been master planned to include, mixed use residential, office space, retail shops, a community plaza, and a Community Center.<sup>34</sup>*

### **Cedar Creek Trail/Tonquin Trail Master Plan**

Sherwood, Tualatin, Wilsonville, Clackamas County, Washington County, and ODOT are part of a partnership led by Metro that is currently developing the Tonquin Trail Master Plan. Within Sherwood, Cedar Creek Trail will be the “western leg of a regional trail system that will connect the Willamette River with the Tualatin River Wildlife Refuge,”<sup>35</sup> and is located in the green corridor along the southwest edge of the Project Study Area (see Figure 3).

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<sup>34</sup> City of Sherwood Urban Renewal Agency. <https://www.sherwoodoregon.gov/urban-renewal-agency>

<sup>35</sup> *Cedar Creek Trail Feasibility Study*. 2009. <https://www.sherwoodoregon.gov/cedar-creek-trail-feasibility-study>

While the final Tonquin Trail Master Plan is not yet complete (expected summer 2012), the portion of Cedar Creek Trail that runs through Stella Olsen Park is already built and the City has received funds to design and construct the trail from Stella Olsen Park north. An overview of planned improvements within the Project Study Area is shown in Figure 3 on page 35 and the accompanying annotations on page 36.



### Tile 9: Cedar Creek Corridor (Southern Portion)

Tonquin Trail Master Plan  
Preferred Alignment  
May 2012 | Source: Metro Data Resource Center



Figure 3 – Cedar Creek Trail Planned Improvements

**Tile 9: Cedar Creek Corridor (Southern Portion)**

Reference # (see Tile 9 map)	Comment
9A	Utilize existing Cedar Creek Trail
9B	Utilize existing grade-separated crossing at Washington Street; utilize existing trailhead immediately south of Washington Street (parking available north of Washington Street)
9C	Planned trail access for nearby senior center and elementary school
9D	Trail alignment to be sited on hillside immediately east of Cedar Creek (between Washington Street and Pacific Highway/Oregon 99W vicinity) to minimize wetland impacts; trail would traverse steep slopes (greater than 25%) in several locations
9E	Vegetation removal and mitigation necessary to accommodate trail throughout most portions of the Cedar Creek corridor
9F	Proposed trail/wildlife undercrossing of Pacific Highway/Oregon 99W (subject to Oregon Department of Transportation approval)
9G	Planned neighborhood connection and crossing enhancements at intersection of Pacific Highway/Oregon 99W and Meinecke Road
9H	Existing neighborhood connection (sidewalk)
9I	City of Sherwood to conduct further analysis to determine specific trail alignment in this area; trail design to be based on guidance provided in the Tonquin Trail Master Plan specific to the Cedar Creek corridor

Source: Metro (updated June 5, 2012)

[http://library.oregonmetro.gov/files//ttfinalpreferredalignmentmaps\\_may2012\\_9.pdf](http://library.oregonmetro.gov/files//ttfinalpreferredalignmentmaps_may2012_9.pdf)

## Attachment A

### Sherwood Zoning and Community Development Code (SZCDC)

#### SZCDC Division II (Land Use and Development)

Medium Density Residential High (MDRH) – provides for a variety of medium density housing and other related uses with a density of 5.5 to 11 dwelling units per acre, but at those densities does not meet the threshold set by TPR/MMA requirements of 12 units per acre

High Density Residential (HDR) – provides for higher density multi-family housing and other related uses with density of 16.8 to 24 dwelling units per acre. Maximum building height three stories (40 feet). Minimum 20-foot front yard setbacks.

Townhomes allowed in MDRH and HDR zones, with special townhome design requirements.

Office Commercial (OC) – allows office and supporting commercial uses, and high-density residential uses as a PUD or secondary to commercial uses; industrial uses, automobile sales and service stations, and drive-throughs are not permitted; maximum two-story (30 feet) building heights; no front setback required

Office Retail (OR) – allows office and commercial uses, and high-density residential uses as a PUD or secondary to commercial uses; industrial uses, automobile sales and service stations, and drive-throughs are not permitted; maximum three-story (45 feet) building heights; no front setback required.

Neighborhood Commercial (NC) – allows small-scale commercial uses, and high-density residential uses as a PUD or secondary to commercial uses; industrial uses and drive-throughs are not permitted; service stations may be permitted conditionally; maximum building heights are set to that of the most permissive adjacent residential zone; 20-foot minimum front yard setback.

General Commercial (GC) – allows a range of commercial uses, offices, and professional services, and high-density residential uses as a PUD or secondary to commercial uses; industrial uses are not permitted; drive-throughs may be permitted and service stations may be permitted conditionally; maximum building heights are 50-feet with exceptions when adjacent to a residential zone and when a height greater than 50 feet is sought as a conditional use; no front yard setback required, except when adjacent to a residential zone.

Institutional and Public (IP) – allows institutional and public use buildings and open space and recreational uses; maximum building heights are 50 feet except where the buildings are

within 100 feet of a residential zone; no minimum front setback required except where adjacent to a residential zone.

Planned Unit Development (PUD) – Residential, Commercial, and Industrial PUDs permitted; permitted and prohibited uses and density requirements guided by the underlying zoning; buildings height requirements more permissive; site design (including setbacks) more flexible.

No mixed use land use districts

#### Chapter 16.162

Old Town (OT) Overlay District – allows uses as permitted in the RC, HDR, and MDRL zones; maximum building heights of three stories (40 feet) in the "Smockville Area" and four stories (50 feet) in the "Old Cannery Area"; no minimum setback requirements; 65% of normally required off-street parking; streets pursuant to TSP and Downtown Streetscape Master Plan; site and building design standards for Old Cannery Area and Smockville Area.

**Appendix B: Existing and Future Traffic Conditions**

# MEMORANDUM (DRAFT)

**DATE:** August 24, 2012

**TO:** Sherwood Town Center PMT

**FROM:** Chris Maciejewski, PE, PTOE, DKS Associates  
Garth Appanaitis, DKS Associates  
Sai Sirandas, DKS Associates

**SUBJECT:** **Sherwood Town Center Plan**  
Existing Conditions Traffic Analysis

P#12088-000

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This memorandum presents the results of the existing conditions traffic analysis for the Sherwood Town Center Plan. This document includes a review of the transportation system facilities, a summary of motor vehicle crash analysis, and a summary of motor vehicle capacity analysis.

## BACKGROUND

Metro's 2040 Growth Concepts designate areas that provide a plan for growth throughout the region. Sherwood has one of the 30 designated "town centers" in the region, which indicates an area to "serve local populations with everyday needs."<sup>1</sup> While Sherwood's Town Center designation and boundary have existed since 2000, a formal plan for the area has not been prepared. This traffic analysis will provide one of the components of the transportation element that will mold the Town Center Plan.

## TRANSPORTATION SYSTEM OVERVIEW

The following section provides an overview of the study area, a summary of key transportation facilities, a summary of pedestrian and bicycle facilities, a review of transit facilities, and a review of crash data.

### Study Area

The project study area is approximately bounded by Meinecke Road and Old Town Sherwood to the south, Langer Farms Parkway to the east, Highway 99W/Home Depot intersection to the north and Borchers Drive to the west. The 15 key intersections identified as a part of this study are illustrated in Figure 1 and listed below:

1. OR 99W / Home Depot
2. Roy Rodgers Road / Borchers Drive
3. OR 99W / Tualatin-Sherwood Road - Roy Rogers Road
4. Tualatin-Sherwood Road / Shopping Center Signal
5. Tualatin-Sherwood Road / Baler Way

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<sup>1</sup> Community Investment strategy (State of the Centers – Investing in our Communities), Metro, May 2011.

6. Tualatin-Sherwood Road / Langer Farms Parkway
7. OR 99W / Langer Drive
8. Edy Road / Borchers Drive
9. OR 99W / Edy Road/ Sherwood Boulevard
10. Sherwood Boulevard / Langer Drive
11. Sherwood Boulevard / Century Drive
12. Sherwood Boulevard - Pine Street / 3rd Street
13. Century Drive / Langer Farms Parkway
14. Langer Farms Parkway / Oregon Street
15. OR 99W / Meinecke Road



# **LEGEND**

**0** - Study Intersection Number



Figure **1**

**STUDY AREA**

Table 1 summarizes key characteristics of each roadway within the study area, such as agency jurisdiction, functional class, the posted speed limits, number of lanes and the presence of sidewalks and bike lanes. Highway 99W, maintained under the jurisdiction of ODOT, is classified as a principal arterial and is a designated freight/truck route. It has a posted speed limit of 45 mph and is a four-lane divided highway for the majority of its route in Sherwood. However, the highway has three travel lanes in each direction on either side of Tualatin-Sherwood Road. ODOT also maintains jurisdiction over a portion of Edy Road (near Highway 99W), which is designated as a collector road. The Tualatin-Sherwood Road - Roy Rogers Road segment is classified as an arterial and falls under the jurisdiction of Washington County. It has a posted speed limit of 35 mph and a two-lane cross-section with a center turning lane for the majority of its length in the study area. Other arterials in the study area include Sherwood Boulevard, Oregon Street and Pine Street (partial) which are under the city's jurisdiction. Figure 1a shows the functional classification of streets in the study area.

**Table 1: Existing Key Study Area Roadway Characteristics**

Roadway	Agency Jurisdiction	Functional Classification <sup>A</sup>	Posted Speed Limit (mph)	Number of Lanes	Sidewalk	Bike Lane
OR 99W	ODOT	Principal Arterial/Freight Route	45	4/7	Partial	Yes
Tualatin-Sherwood Rd	County	Arterial	35/45 <sup>B</sup>	3/6	Yes	Yes
Roy Rogers Rd	County	Arterial	35	2/4	Yes	Partial
Sherwood Blvd	City	Arterial	20/25 <sup>D</sup>	3	Yes	Partial
Edy Rd	ODOT/City	Collector	25	2/3	Partial	Partial
Borchers Dr	City	Collector	25	2/3	Partial	No
Langer Farms Pkwy	City	Collector	25	3	Yes	No
Langer Dr	City	Collector	25	3	Yes	Partial
Century Dr - 12th St	City	Collector	25	2	Partial	No
Meinecke Rd	City	Collector	25	2/3	Yes	Yes
Washington St	City	Collector	25	2	Partial	No
3rd St	City	Collector	25	2	Yes	No
Oregon St	City	Arterial	35	2/3	Partial	No
Pine St	City	Arterial/Collector <sup>C</sup>	25	2	Yes	No

<sup>A</sup> As determined by the following references:

For ODOT: 1999 Oregon Highway Plan, Including Amendments November 1999 through January 2006.

For Washington County: Washington County 2020 Transportation Plan, Adopted October 29, 2002.

Figure F4 updated 9/6/07.

For Sherwood: City of Sherwood Transportation System Plan, March 15, 2005

<sup>B</sup> Tualatin-Sherwood Road is posted at 35 mph west of Langer Farms Parkway and 45 mph to the east.

<sup>C</sup> Pine Street is functionally classified as an arterial to north of 1st Street and a collector to the south.

<sup>D</sup> School zone on Sherwood Boulevard from 3rd Street to Gleneagle Drive is posted at 20 mph.

**Street Functional Classifications**

- Principal Arterial
- Arterial
- Collector
- Planned Collector
- Neighborhood
- Planned Neighborhood
- Local Roadway

**Trails**

- Existing Trail
- Proposed Tonquin/Cedar Creek Trail Alignment

**Proposed Project Study Area**

- Metro 2040 Concept Corridors
- Metro 2040 Concept Main Streets

**Current Town Center**

- Taxlots
- City Hall
- Library

**Schools**

- Private
- Public

**Other Features**

- Park
- Open space
- Community centers
- City boundary

**Map Labels**

St. Paul Lutheran, Pioneer Park, Tualatin River National Wildlife Refuge, Langer Park, J. Clyde Hopkins Elementary, St. Francis School, Sherwood MS, Sherwood Middle, Stella Olsen Park, Stella Olsen Park, Rudy Olsen Park, Veterans Park, Atley Estates Park, Tualatin River National Wildlife Refuge.

**Scale**

0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

**North Arrow**

Data Source: Regional Land Information System, May 2012: [www.mregionalinfo.org/mis](http://www.mregionalinfo.org/mis)

## **Pedestrian and Bicycle Facilities**

The following sections summarize the pedestrian and bicycle facilities, constraints, and volumes in the study area.

### ***Pedestrian Facilities***

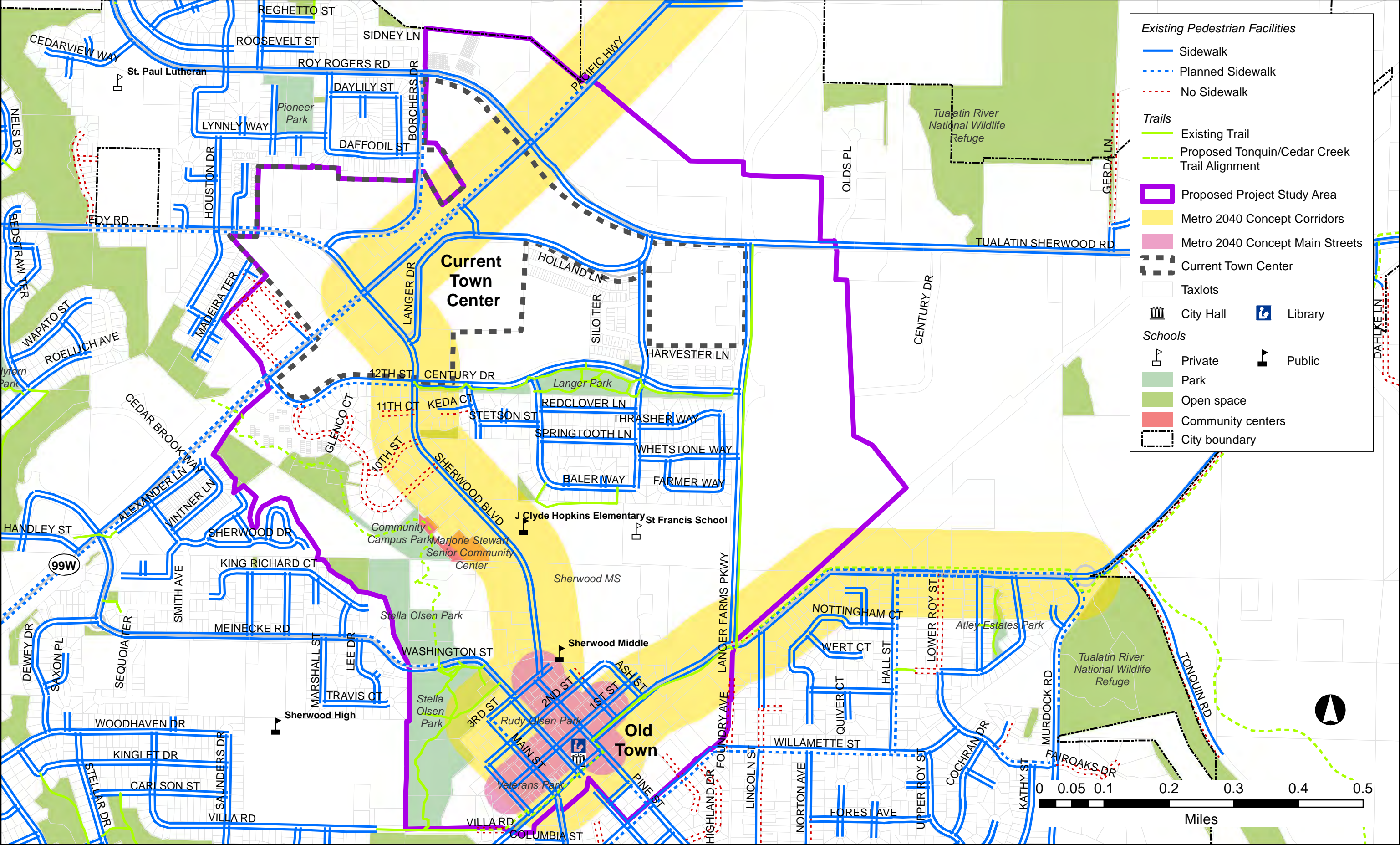
An inventory of the existing pedestrian facilities was conducted to identify any missing facilities and concerns related to pedestrian mobility in the study area. Figure 2a illustrates the existing sidewalks within the study area.

Currently, a large portion of the study area is well-connected by sidewalks. Sidewalks provide adequate connectivity on a majority of the arterials, collectors and local roadways including Sherwood Boulevard and to the east of Sherwood Boulevard. However, Highway 99W experiences significant gaps in sidewalk connectivity; a large portion of Highway 99W south of Sherwood Boulevard does not have sidewalks on either side of the highway. Further, sidewalks are not provided on Sherwood Boulevard - Edy Road to the west of Borchers Drive, and on the south side of 12th Street. Tualatin-Sherwood Road has continuous sidewalks on both sides through the study area. Pedestrian crossings are provided at all major intersections. Though the overall pedestrian connectivity is acceptable, there are some intermittent gaps in the study area.

Several crosswalks in the study area are closed, impeding pedestrian movements in the study area. Closed crossings on Highway 99W include the south crosswalks at the Home Depot intersection, Tualatin-Sherwood Road – Roy Rogers Road intersection, Edy Road – Sherwood Boulevard intersection, and the north crosswalk at the Meinecke Road intersection. The west crosswalk on Sherwood Boulevard at the intersection of Langer Drive is also closed. These closures can increase the crossing movements required by pedestrians to reach their destination. In some cases, a pedestrian may be required to cross three legs on an intersection rather than the desired (closed) leg. An example of this would be a pedestrian traveling from the medical offices on the southwest corner of Highway 99W/Edy Road-Sherwood Boulevard to the fast food establishments on the southeast corner. This relatively short trip would require a pedestrian to cross the west leg of Edy Road, the north leg of Highway 99W, and the east leg of Sherwood Boulevard, rather than being able to simply cross the south leg of Highway 99W. This series of movements increases the travel time for pedestrians as well as potential conflicts with motor vehicles.

Two major features in the study area also impede pedestrian mobility. First, there are no designated crossings of Highway 99W on the 1/3-mile stretch between Edy Road and Tualatin-Sherwood Road. This lack of connectivity impedes pedestrian travel between the two sides of the highway. In addition, a large area of developed land without public rights of way through the properties is situated between Old Town and the residential area to the north. This area contains schools, a church and other uses, and does not provide pedestrian connections between Sherwood Boulevard and Langer Farms Parkway.

Sherwood Town Center Plan - Transportation Base Map (Existing Pedestrian Facilities)



Data Source: Regional Land Information System, May 2012. [www.oregonmetro.gov/rlis](http://www.oregonmetro.gov/rlis)

### ***Bicycle Facilities***

Existing bicycle facilities according to the metro classification are shown in Figure 2b. Among the arterials, bike lanes are provided on Highway 99W through the study area, on Tualatin-Sherwood Road to the east of Highway 99W and on Sherwood Boulevard - Edy Road to the north of Century Drive. Most roadways in Sherwood do not provide bike lanes although the majority of the residential road volumes may be low enough to be safe for bicycle travel.

In addition to sidewalks and bicycle lanes, existing and proposed trail facilities are shown in Figures 2a and 2b. Currently, trail facilities along Oregon St, Langer Farms Parkway and Century Drive connect Old Town to Tualatin Sherwood Road and Langer Park. Existing trails can be regarded as local and do not provide opportunities for bicycle users and pedestrians to make long distance commutes to places outside the study area. Proposed trails in the Tonquin Trail Alignment<sup>2</sup> will connect Old Town to Highway 99W as well as Tonquin Road, Tualatin and the Willamette River to the east. The current barriers to pedestrian travel (Highway 99W crossing opportunities, lack of connectivity north of Old Town) also affect bicyclists.

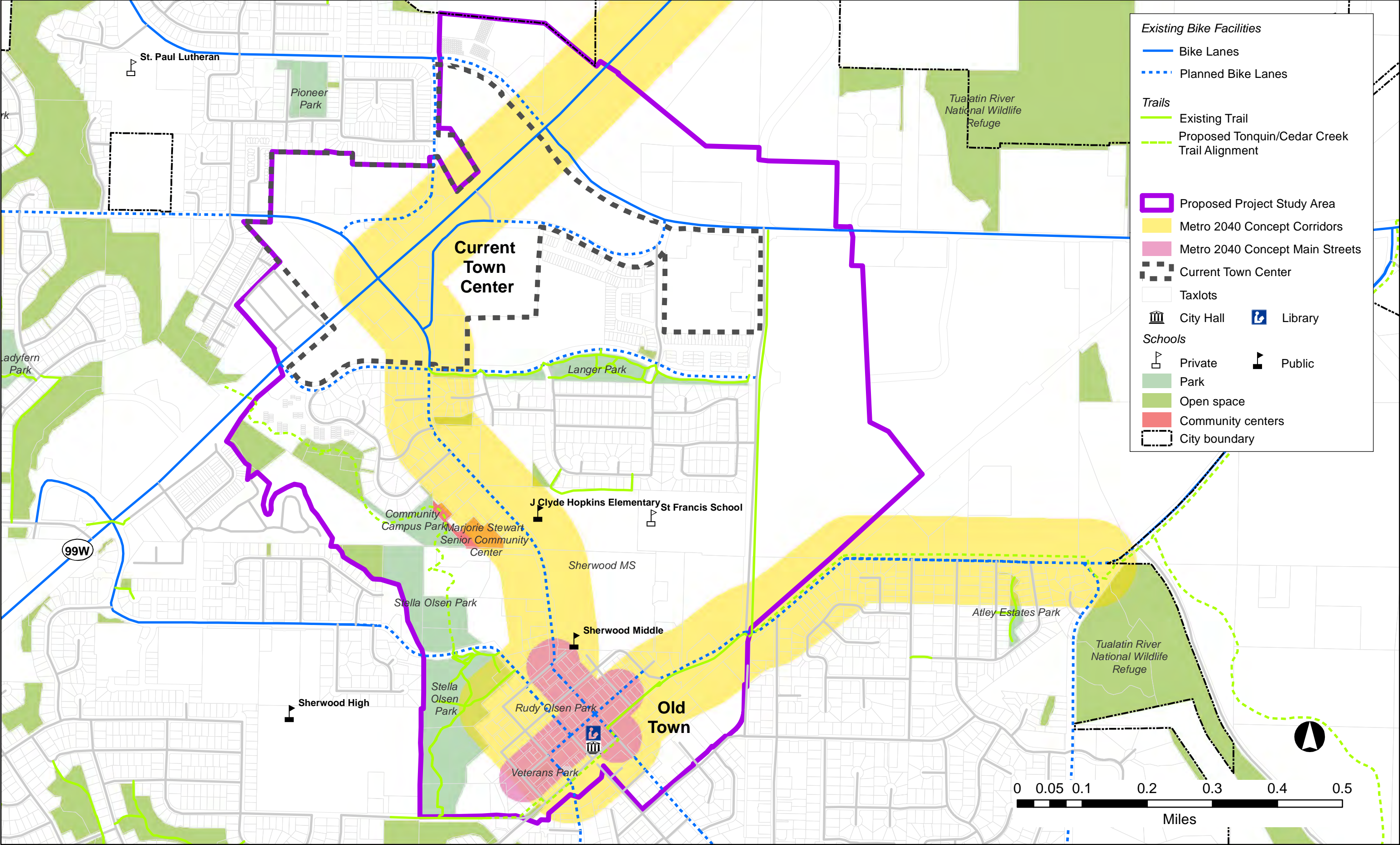
### ***Pedestrian and Bicycle Volumes***

Pedestrian and bicycle volumes during the PM peak hour were collected at the study intersections as multimodal turn count data. Existing pedestrian and bicycle volumes are shown in Figure 3. At most of the study intersections, bicycle volumes were generally low and range from zero to two movements each hour, with the exception of the Sherwood Boulevard - Pine Street /3rd street intersection where a total of 13 bikes were observed in the PM peak hour. Pedestrian crossing volumes were generally less than 10 (often zero). Among the intersections experiencing higher number of pedestrian crossings, the Tualatin-Sherwood Road/ Shopping Center Signal intersection had 37 pedestrian crossings during the PM peak hour. The Park and Ride on the north side of Tualatin-Sherwood Road and bus stops on both the north and south sides of the roadway contribute to this level of activity. Additionally, the Sherwood Boulevard - Pine Street/3rd street intersection had a total of 36 pedestrian crossings (in addition to the 13 bikes). The relatively high pedestrian counts at this intersection are likely due to the adjacent Sherwood Middle School and Old Town.

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<sup>2</sup> Oregon Metro <http://www.oregonmetro.gov/index.cfm/go/by.web/id=31143/> accessed July 2012.

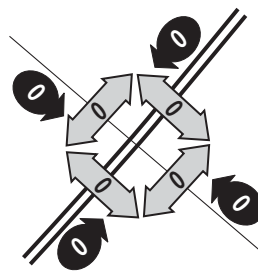
Sherwood Town Center Plan - Transportation Base Map (Existing Bike Facilities)



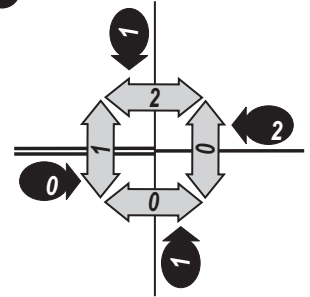
Data Source: Regional Land Information System, May 2012. [www.oregonmetro.gov/rhis](http://www.oregonmetro.gov/rhis)



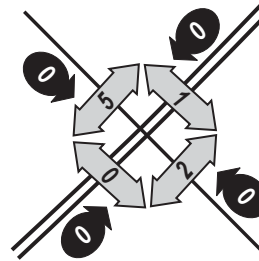
**1** OR 99W @ Home Depot



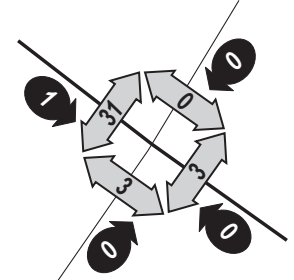
**2** Roy Rodgers Rd. @ Borchers Dr.



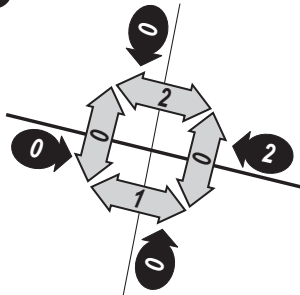
**3** OR 99W @ Roy Rodgers Rd./  
Tualatin-Sherwood Rd.



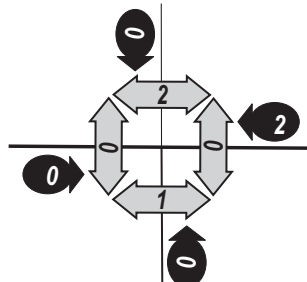
**4** Tualatin-Sherwood Rd. @  
Shopping Center Signal



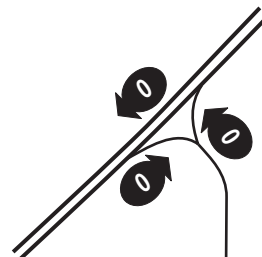
**5** Tualatin-Sherwood Rd. @ Baler Wy.



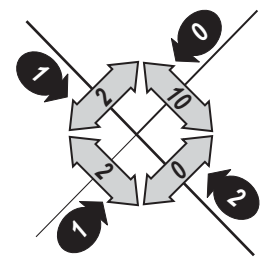
**6** Tualatin-Sherwood Rd. @  
Langer Farms Pkwy.



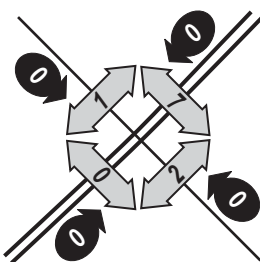
**7** OR 99W @ Langer Dr.



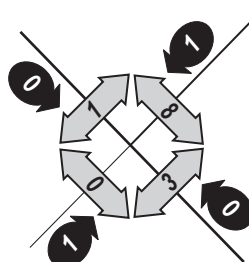
**8** Edy Rd. @ Borchers Dr.



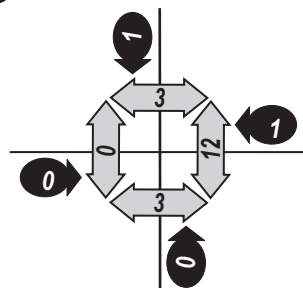
**9** OR 99W @ Edy Rd./Sherwood Blvd.



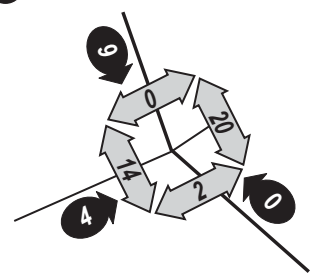
**10** Sherwood Blvd. @ Langer Dr.



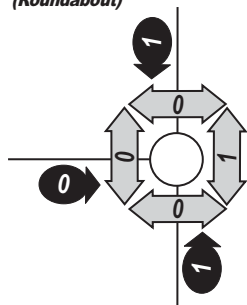
**11** Sherwood Blvd. @ Century Dr.



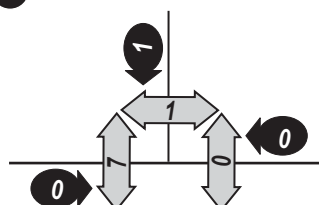
**12** Sherwood Blvd./Pine St. @ 3rd St.



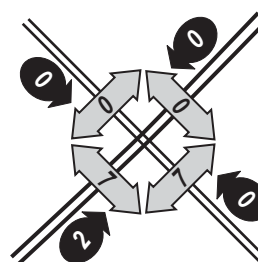
**13** Century Dr. @ Langer Farms Pkwy.  
(Roundabout)



**14** Langer Farms Pkwy. @ Oregon St.



**15** OR 99W @ Meinecke Rd.



# **LEGEND**

**0** - Study Intersection Number

- Pedestrian PM Peak Hour Volume

- Bicycle PM Peak Hour Volume

**DKS**



No Scale

Figure **4**

**EXISTING (2012) PM PEAK HOUR  
PEDESTRIAN & BICYCLE  
VOLUMES**

## **Transit**

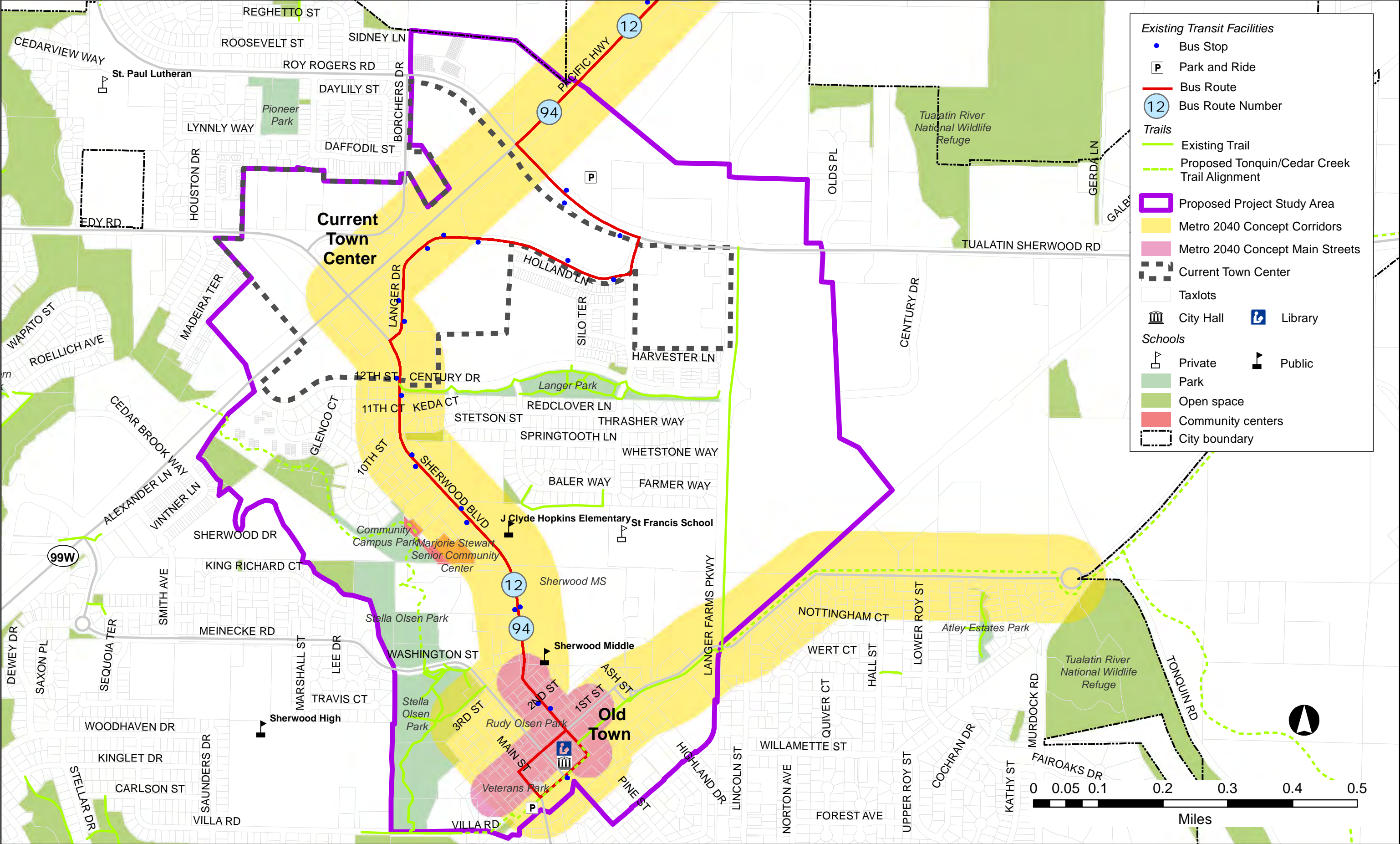
Within the study area, TriMet operates two bus lines, line 12 and line 94. Both lines travel on Highway 99W to Tualatin-Sherwood Road, then Baler Way to Langer Drive, and then onto Old Town Sherwood. There are several bus stops along the route as shown in Figure 4. The parking lot near the Regal Cinema (at the Tualatin-Sherwood Road/Shopping Center Signal) serves as a Park & Ride for the area.

Line 12 runs from Old Town Sherwood (Railroad Avenue/Washington Street) to downtown Portland. It operates seven days a week and runs approximately every 30-40 minutes or less during the weekdays from 4:30 AM to 11:30 PM. During the weekends line 12 runs approximately the same schedule as the weekdays. The typical travel time on this route between Old Town Sherwood and Downtown Portland is 65-70 minutes.

Line 94 is an Express bus that runs between Old Town Sherwood and downtown Portland. It only operates on weekdays during the peak commuting hours. In the northbound direction (to downtown Portland) the bus runs from about 5:45 AM to 8 AM with service every 15 minutes or less, and in the southbound direction (to Sherwood) the bus runs from 4:00 PM to 7:30 PM, again with service every 15 minutes or less. During PM peak hour, the typical travel time on this route from Downtown Portland to Old Town Sherwood is 55-60 minutes.

In addition to the above two TriMet bus lines, the Yamhill County Transit Area (YCTA) operates two bus lines, line 44 and line 45X, both providing service between Sherwood and Newberg, Dundee, Dayton, Lafayette and McMinnville to the south, and Tigard to the north. Both routes originate at SW Langer Drive (Shari's) and travel onto Highway 99W. Line 44 runs from about 6:00 AM to 7:00 PM, with service every hour during peak times and every two hours during off-peak times. Line 45X operates only two trips every weekday, one at 7:00 AM in the southbound direction and one at 5:45 PM in the northbound direction.

Sherwood Town Center Plan - Transportation Base Map (Existing Transit Facilities)



Data Source: Regional Land Information System, May 2012. [www.oregonmetro.gov/rhis](http://www.oregonmetro.gov/rhis)

**Crash Data Review**

Collision data from the most recent three years of available data (July 31, 2008 to July 31, 2011) for roadways in Sherwood was obtained from ODOT and reviewed.

**Intersection Crash Rates**

Over the three year period, a total of 83 crashes were reported at the study intersections, with the majority occurring at one of four intersections. The intersection of Highway 99W/Tualatin-Sherwood Road experienced 30 of the crashes, while the Tualatin-Sherwood Road shopping center traffic signal had 13 crashes, the Highway 99W/ Edy Road-Sherwood Boulevard intersection had 12 crashes, and the Highway 99W/Meinecke Road intersection had 11 crashes. The remaining study intersections had 4 crashes or less over the three year period.

As indicated by the list of locations with the most crashes, the total number of crashes experienced at an intersection is typically proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) is used to determine if the number of crashes should be considered high. Using this technique, a collision rate close to or greater than 1.0 MEV is commonly used to identify when collision occurrences are higher than average and should be further evaluated. As shown in Table 2, the collision rates for the study intersections are well below the threshold of 1.0 MEV.

**Table 2: Intersection Collision Rates (2008-2011)**

Intersection	July 2008- July 2009	July 2009- July 2010	July 2010- July 2011	Total Collisions (July 2008- July 2011)	PM Peak Hour Entering Volume	Crash Rate (crashes/ MEV)
OR 99W / Home Depot	0	0	0	0	2,908	0.00
Roy Rodgers Road / Borchers Drive	0	0	3	3	1,753	0.15
OR 99W / Tualatin-Sherwood Road - Roy Rogers Road	10	14	6	30	4,456	0.55
Tualatin-Sherwood Road / Shopping Center Signal	2	4	7	13	2,003	0.49
Tualatin-Sherwood Road / Baler Way	0	0	0	0	1,814	0.00
Tualatin-Sherwood Road / Langer Farms Parkway	0	1	0	1	1,722	0.04
OR 99W / Langer Drive	1	1	0	2	3,147	0.05
Edy Road / Borchers Drive	1	0	2	3	1,184	0.25
OR 99W / Edy Road - Sherwood Boulevard	2	4	6	12	4,052	0.24
Sherwood Boulevard / Langer Drive	2	2	0	4	1,435	0.27
Sherwood Boulevard / Century Drive	0	2	1	3	1,114	0.26
Sherwood Boulevard-Pine Street / 3rd Street	0	0	0	0	953	0.00
Century Drive / Langer Farms Parkway	0	0	1	1	350	0.28
Langer Farms Parkway / Oregon Street	0	0	0	0	580	0.00
OR 99W / Meinecke Road	2	5	4	11	3,316	0.27
Total Collisions	<b>20</b>	<b>33</b>	<b>30</b>	<b>83</b>	NA	NA

## **SPIS Review**

ODOT identifies the segment of Highway 99W in Sherwood between MP 14.91 and MP 15.09 as a top 5% Safety Performance Index System (SPIS) site for 2011 (calculated using crash data from 2008-2010). This segment includes the signalized intersection of Tualatin-Sherwood Road and Highway 99W. In the three year period from July 2008 to July 2011, a total of 30 crashes were recorded at this intersection, 14 of which involved injuries (1 major, 2 moderate and 11 minor) and the remaining 16 crashes were PDO only. The crash rate for this segment is approximately three times the average crash rate for principal arterials in suburban areas<sup>3</sup>.

The majority of the crashes (22 of 30) at this intersection were rear-end. These rear-end crashes occurred on all approaches to the intersection, but a majority occurred along Highway 99W (18 of the 22). This pattern is common at signalized intersections on high speed/high volume facilities. Furthermore, 12 crashes at this intersection were caused due to vehicles following too closely, which also is likely to have contributed to the rear end crashes. Among other crash causes were drivers disregarding the signal, improper turning, carelessness, inattention, and defective brakes.

Five of the crashes involved turning movements. Four of those five crashes occurred on Tualatin-Sherwood Road for vehicles turning right to travel north-eastbound on Highway 99W. This indicates a pattern that could be attributed to the yield condition and geometry of the right turn movement. The geometry and traffic control for this movement is subject to change with the Washington County improvements that are currently under design.

## **MOTOR VEHICLE**

The following sections summarize the motor vehicle traffic volumes and capacity analysis for the study intersections.

### **Traffic Counts**

Intersection turn movement counts for seven of the nine intersections on Highway 99W and Tualatin-Sherwood Road were conducted in February 2012 during the evening peak (4:00 to 6:00 PM) period. Counts for the Meinecke Road/Highway 99W intersection were conducted in April 2012, and the remaining seven intersection counts were conducted in June 2012 (prior to the end of the school year).

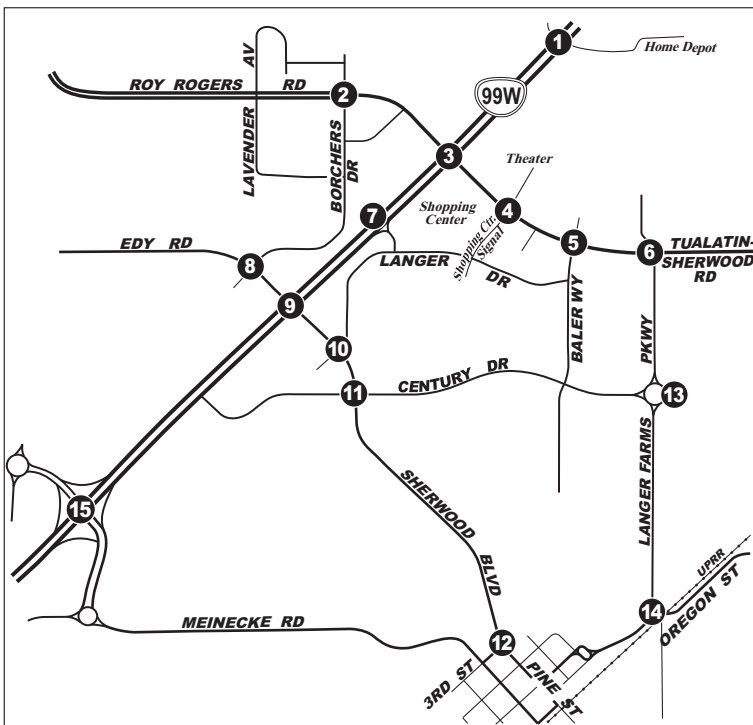
The PM peak hour through traffic volumes on Highway 99W collected in February 2012 were adjusted by a factor of 1.07 to reflect conditions during the highest traffic volume month of the year (for 30th highest hour analysis)<sup>4</sup>.

The system peak hour was found to occur between 4:30 to 5:30 p.m. The seasonally-factored and balanced PM peak hour turn movement volumes used in the traffic analysis are shown Figure 5.

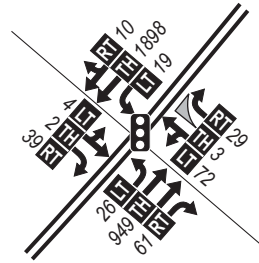
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<sup>3</sup> The crash rate for this segment is approximately 4.0 crashes per million vehicle miles traveled. The average crash rate for "other principal arterials in suburban areas" is approximately 1.3 crashes per million vehicle miles traveled based on statewide data.

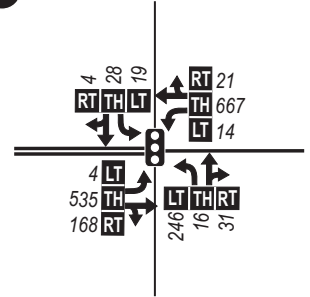
<sup>4</sup> The factor was based on ODOT's Automated Traffic Recorder (ATR) site 36-004 located just south of Sherwood, which is consistent with previous planning studies in the area. Using a "commuter trend" method would yield a similar adjustment factor that is within 3% of the adjusted volumes.



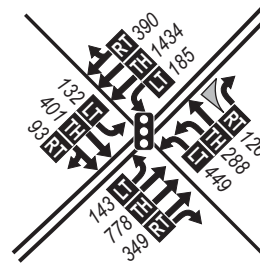
**1 OR 99W @ Home Depot**



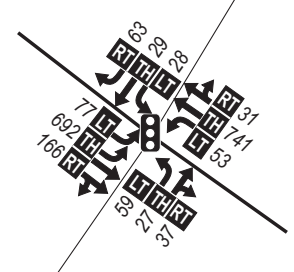
**2 Roy Rodgers Rd. @ Borchers Dr.**



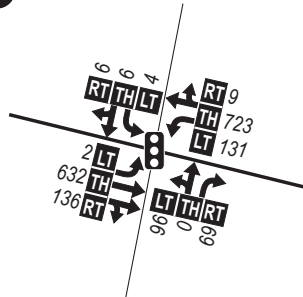
**3 OR 99W @ Roy Rodgers Rd./ Tualatin-Sherwood Rd.**



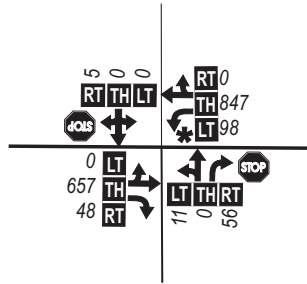
**4 Tualatin-Sherwood Rd. @ Shopping Center Signal**



**5 Tualatin-Sherwood Rd. @ Baler Wy.**

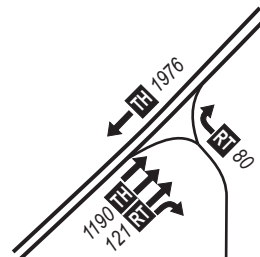


**6 Tualatin-Sherwood Rd. @ Langer Farms Pkwy.**



\*Two Way Left Turn Lane

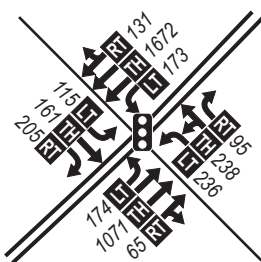
**7 OR 99W @ Langer Dr.**



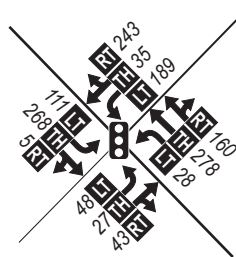
**8 Edy Rd. @ Borchers Dr.**



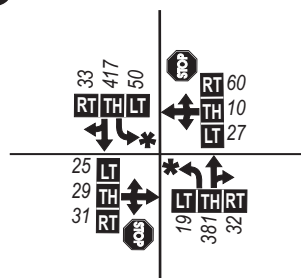
**9 OR 99W @ Edy Rd./Sherwood Blvd.**



**10 Sherwood Blvd. @ Langer Dr.**

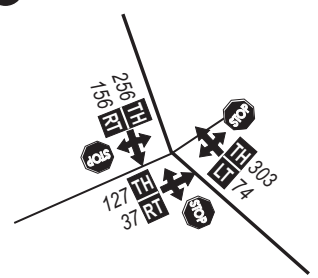


**11 Sherwood Blvd. @ Century Dr.**

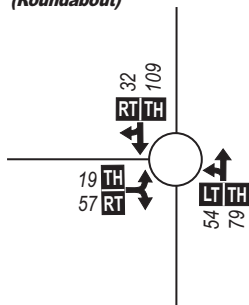


\*Two Way Left Turn Lane

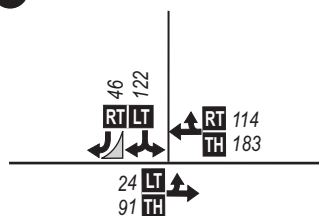
**12 Sherwood Blvd./Pine St. @ 3rd St.**



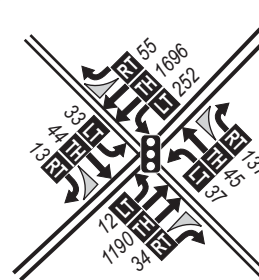
**13 Century Dr. @ Langer Farms Pkwy. (Roundabout)**



**14 Langer Farms Pkwy. @ Oregon St.**



**15 OR 99W @ Meinecke Rd.**



# **LEGEND**

- 0** - Study Intersection Number
- Stop Sign
- Traffic Signal
- Lane Configuration
- 000 - PM Peak Hour Traffic Volumes
- Volume Turn Movement

**DKS**



Figure **7**

**EXISTING (2012) PM PEAK HOUR  
TRAFFIC VOLUMES &  
LANE GEOMETRY**

## Performance Measures

Level of service (LOS) and volume to capacity (v/c) ratios as defined in the *2000 Highway Capacity Manual*<sup>5</sup> (HCM) are two measures of effectiveness (MOEs) that are used as the basis for intersection operations and mobility standards. Explanations of each are given below.

**Level of Service:** While analysis of traffic flows is useful in attempting to reach an understanding of the general nature of traffic in an area, traffic volume alone indicates neither the ability of the street network to carry additional traffic nor the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Intersections are the controlling bottlenecks of traffic flow, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

An intersection's level of service (LOS) is similar to a "report card" rating, based on average vehicle delay. Level of Service A, B and C indicates conditions where vehicles can move freely. Level of service D and E are progressively worse. For signalized intersections, level of service F represents conditions where the average delay for all vehicles through the intersection exceeds 80 seconds per vehicle, generally indicated by long queues and delays. Under this operating condition, delay is highly variable, and it is difficult to estimate average delay accurately because congestion often extends into and is affected by adjacent intersections.

**Volume to capacity (v/c) ratio:** It is the peak hour traffic volume at an intersection divided by the maximum volume that intersection can handle. For example, when a v/c is 0.80, peak hour traffic is using 80 percent of the intersection capacity. If traffic volumes exceed capacity, excessive queues will form and will lengthen until demand subsides below the available capacity (e.g. vehicles waiting to travel through a signalized intersection may have to wait for multiple signal cycles). When the v/c approaches 1.0, intersection operation becomes unstable and small disruptions can cause traffic flow to break down.

### ***Jurisdictional Standards***

Performance standards for study intersections vary depending on the jurisdiction of the intersecting roadways. Study roadways are currently under three jurisdictions – ODOT, Washington County, and the City of Sherwood. Intersection standards are based on the hierarchy of intersecting roadway (ODOT being the highest, County the second highest, and City being the lowest).

The five Highway 99W intersections and the Edy Road/Borchers Drive intersection are under ODOT jurisdiction and are subject to intersection volume-to-capacity ratio (v/c) standards as defined in the Oregon Highway Plan (OHP) for the Portland Metropolitan Region<sup>6</sup>, the maximum v/c ratio is 0.99. The four study intersections along Roy Rogers Road and Tualatin-Sherwood Road fall under County standards. The maximum v/c ratio is 0.99 for signalized intersections, and the minimum operational standard for unsignalized intersections is LOS E<sup>7</sup>. For the

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<sup>5</sup> *Highway Capacity Manual*, Transportation Research Board, 2000.

<sup>6</sup> 1999 Oregon Highway Plan, Table 7, December 13, 2000. Amended December 2011.

<sup>7</sup> Washington County 2020 Transportation Plan, Adopted October 29, 2002, Table 5.

five intersections under City jurisdiction, the City of Sherwood standard of level of service (LOS) D or better<sup>8</sup> is applicable.

Metro's Regional Transportation Functional Plan (RTFP) provides interim mobility standards for transportation facilities during the peak hours<sup>9</sup> based on the 2040 design type for each location. Table 3 summarizes the 2040 design type and mobility standard for each study area intersection. The majority of the intersections are located along corridor designations or within employment or neighborhood areas and have a standard of 0.99. The intersection of Sherwood Boulevard/3<sup>rd</sup> Street has a standard of 1.1 by virtue of the Main Street designation. In addition, study intersections within an adopted Town Center boundary would have a v/c standard of 1.1 or better during the peak hour.

**Table 3: Study Intersection Design Type and RTFP Mobility Standard**

Location	2040 Design Type <sup>10</sup>	Peak Hour	2 <sup>nd</sup> Hour
OR 99W / Home Depot	Corridor	0.99	0.99
OR 99W / Roy Rogers Road -Tualatin-Sherwood Road	Corridor	0.99	0.99
OR 99W / Langer Drive	Corridor	0.99	0.99
Edy Road / Borchers Drive	Neighborhood	0.99	0.99
OR 99W / Edy Road/ Sherwood Boulevard	Corridor	0.99	0.99
OR 99W / Meinecke Road	Employment Area	0.99	0.99
Roy Rogers Road / Borchers Drive	Neighborhood/ Employment Area	0.99	0.99
Tualatin-Sherwood Road / Shopping Center Signal	Neighborhood/ Employment Area	0.99	0.99
Tualatin-Sherwood Road / Baler Way	Neighborhood/ Employment Area	0.99	0.99
Tualatin-Sherwood Road / Langer Farms Parkway	Neighborhood/ Employment Area	0.99	0.99
Sherwood Boulevard / Langer Drive	Corridor	0.99	0.99
Sherwood Boulevard / Century Drive-12 <sup>th</sup> Street	Corridor	0.99	0.99
Sherwood Boulevard-Pine Street / 3rd Street	Main Street	1.1	0.99
Century Drive / Langer Farms Parkway	Neighborhood/ Employment Area	0.99	0.99
Langer Farms Parkway / Oregon Street	Corridor	0.99	0.99

Note: With adoption of a Town Center, intersections within the boundary would have a v/c ratio of 1.1 during the peak hour.

<sup>8</sup> Page 8-25, City of Sherwood Transportation System Plan, March 15, 2005.

<sup>9</sup> Regional Transportation Functional Plan, Table 3.08-2, Metro, September 8, 2010.

<sup>10</sup> The Town Center designation and associated mobility target is dependent on adoption of a Town Center Plan, per Section 3.07 of the Metro Code (Urban Growth Management Functional Plan). Adoption of a Town Center would modify the mobility target for areas within the designation to a V/C ratio of 1.1 during the Peak Hour.

## Capacity Analysis

Existing PM peak hour traffic operations were analyzed using HCM 2000 methodology<sup>11</sup> for v/c ratios and intersection level of service for all intersections, except for the Century Drive/Langer Farms Parkway roundabout which was analyzed using the HCM 2010 methodology for level of service. Based on field observations during the PM peak period, adjustments were made to the lane utilization factors on 99W<sup>12</sup>. In the study area, Highway 99W picks up a third through northbound and southbound travel lane. However, there is not an even distribution of traffic on that third through lane since it drops just north of Roy Rogers Road - Tualatin-Sherwood Road and south of Edy Road - Sherwood Boulevard. Approximately 15 percent of through vehicles use the third lane. To account for the imbalance the lane utilization factor in Synchro was adjusted for the impacted movements.

Adjustments were also made to the saturation flow rates for the eastbound and westbound through movements at Highway 99W/Tualatin-Sherwood Road to better reflect field conditions.<sup>13</sup> During the PM peak the eastbound and westbound movements at this intersection are near capacity. The eastbound through movement becomes two through lanes about 300 feet west of the intersection. To account for the single through lane feeding into two through lanes, the default saturation flow rate was reduced. In the westbound direction the saturation flow rate was also reduced based on field measurements.

Along Highway 99W the traffic signals run as actuated-coordinated, meaning that the system is set up to allow vehicles traveling along Highway 99W to generally travel through multiple intersections without stopping. However, along Roy Rogers Road and Tualatin-Sherwood Road, the traffic signals run as actuated but not uncoordinated.

As shown in Table 4, all study intersections met their respective jurisdiction standards during the PM peak hour. The Edy Road/Borchers Drive intersection has a v/c ratio that is approaching the mobility standard (though cannot exceed it under observed counted conditions) due to the heavy volume of left turns from Borchers Drive. Additional field observations are needed to calibrate the actual critical gap parameter in Synchro to reflect a v/c < 1.0 for this location.

The signalized intersection of Tualatin-Sherwood Road - Roy Rogers Road/ Highway 99W also has a high v/c ratio (v/c > 0.9). There is an increase in delay due to queuing of vehicles on the westbound through approach on Tualatin Sherwood Road. It was observed in the field<sup>14</sup> that vehicle queues on Tualatin-Sherwood Road from Highway 99W regularly extend through the adjacent signalized intersection (Shopping Center signal) and occasionally (for about 15 minutes of the peak hour) through the traffic signal at Baler Way and beyond.

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<sup>11</sup> HCM methodology is based on analysis of individual ("isolated") intersections. While the analysis methodology accounts for some adjacent impacts such as signal progression and arrival of groups of vehicles (platoons) related to traffic signal timing details, a limitation of the methodology is that it does not account for vehicle queues that may block adjacent intersections. However, some adjustments to saturation flow rates (as noted) were made to account for the impacts of adjacent intersections.

<sup>12</sup> PM peak field observations on March 6, March 8, and April 3, 2012.

<sup>13</sup> Eastbound through saturation flow was set to 2975 vehicles per hour, and the westbound through was set to 1800 vehicles per hour.

<sup>14</sup> Tuesday March 6, 2012, Thursday March 8 2012, and Tuesday April 3, 2012 for p.m. peak hour queuing

**Table 4: Existing PM Peak Hour Intersection Operations**

Intersection	Control	Mobility Standard		Existing Operations			Meet Standard? (Agency/ RTFP)
		Agency	RTFP (v/c) <sup>15</sup>	Delay (s)	LOS	v/c	
ODOT							
OR 99W / Home Depot	Signal	v/c ≤ 0.99	≤0.99	13.6	B	0.72	Yes/Yes
OR 99W / Tualatin-Sherwood Road - Roy Rodgers Road	Signal	v/c ≤ 0.99	≤0.99	43.1	D	0.93	Yes/Yes
OR 99W / Langer Drive	TWSC	v/c ≤ 0.99	≤0.99	-	A	0.42	Yes/Yes
Edy Road / Borchers Drive	TWSC	v/c ≤ 0.99	≤0.99	-	A/F	1.03*	Yes/Yes
OR 99W / Edy Road - Sherwood Boulevard	Signal	v/c ≤ 0.99	≤0.99	34.6	C	0.88	Yes/Yes
OR 99W / Meinecke Road	Signal	v/c ≤ 0.99	≤0.99	16.4	B	0.62	Yes/Yes
Washington County							
Roy Rodgers Road / Borchers Drive	Signal	v/c ≤ 0.99	≤0.99	19.4	B	0.73	Yes/Yes
Tualatin-Sherwood Road / Shopping Center Signal	Signal	v/c ≤ 0.99	≤0.99	17.4	B	0.43	Yes/Yes
Tualatin-Sherwood Road / Baler Way	Signal	v/c ≤ 0.99	≤0.99	11.4	B	0.62	Yes/Yes
Tualatin-Sherwood Road / Langer Farms Parkway	TWSC	LOS E	≤0.99	-	B/C	-	Yes/Yes
City of Sherwood							
Sherwood Boulevard / Langer Drive	Signal	LOS D	≤0.99	18.8	B	-	Yes/Yes
Sherwood Boulevard / Century Drive/12 <sup>th</sup> Street	TWSC	LOS D	≤0.99	-	A/D	-	Yes/Yes
Sherwood Boulevard-Pine Street / 3rd Street	AWSC	LOS D	≤1.1	-	B/B	-	Yes/Yes
Century Drive / Langer Farms Parkway	TWSC	LOS D	≤0.99	-	A	-	Yes/Yes
Langer Farms Parkway / Oregon Street	Signal	LOS D	≤0.99	9.2	A	0.43	Yes/Yes

**Notes:**

\* Field observations are needed to calibrate the actual critical gap parameter in Synchro to reflect a  $v/c < 1.0$  for this location.  
(Default parameters were used for this analysis)

Control: AWSC = All-Way Stop Control, RAB = Roundabout, TWSC = Two-Way Stop Control

Signalized intersection: LOS = Level of Service, V/C = Volume-to-Capacity Ratio;

Unsignalized intersection: LOS = Major Street LOS/Minor Street LOS **Bold** values do not meet standards.

<sup>15</sup> The adoption of a Town Center plan would allow intersections within the boundary to have a mobility target of  $v/c \leq 1.1$

# MEMORANDUM (DRAFT)

**DATE:** August 24, 2012  
**TO:** Sherwood Town Center PMT  
**FROM:** Chris Maciejewski, PE, PTOE, DKS Associates  
Garth Appanaitis, DKS Associates  
**SUBJECT:** **Sherwood Town Center Plan**  
Future Baseline Traffic Analysis

P# 12088-000

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This memorandum presents the future baseline traffic analysis for the Sherwood Town Center Plan. The following sections summarize the assumptions and methodology used to forecast year 2035 PM peak hour traffic volumes, the resulting traffic forecasts, and a capacity analysis of the study intersections.

## TRAFFIC FORECASTING

This section summarizes the assumptions and methodology that were used to develop future year 2035 PM peak hour traffic volumes at the study intersections.

### Travel Demand Model

The year 2035 traffic volumes were projected using a refined travel demand model based on the West Side Metro travel demand model developed by Washington County<sup>1</sup>. The model is generally based on Metro's 2035 Regional Transportation Plan (RTP)<sup>2</sup> financially constrained transportation system street network and Metro's "Beta" land use<sup>3</sup> and contains additional refinements and calibration. A review of the land use in the model indicated that future land use growth in TAZ 994 was lower than allowed in current zoning and the comprehensive plan<sup>4</sup>. While the land use is generally consistent with the underlying zoning in the area, the land use totals do not seem to account for the development scale and type allowed in the Langer PUD. Therefore, the land use and resulting trips in the model for TAZ 994 were adjusted to retain consistency with the comprehensive plan through coordination with Washington County.<sup>5</sup>

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<sup>1</sup> Phone conversation with Steve L. Kelley, Washington County, March 5, 2012.

<sup>2</sup> 2035 Regional Transportation Plan. Metro. June 2010.

<sup>3</sup> Administrative Interpretation of 2035 Regional Transportation Plan, No 2012-2, Letter from John Williams, Metro, May 2, 2012.

<sup>4</sup> Transportation Analysis Zone (TAZ) 994 is generally bounded by Hwy 99W and Cedar Creek to the west, Home Depot to the north, Olds Place to the east, and Railroad Street to the south. The zone includes Sherwood Plaza, Old Town, and other residential/schools.

<sup>5</sup> Phone conversation with Steve L. Kelley, Washington County, June 4, 2012.

To further refine the forecasts, a sub-area model was developed for the study area that includes all public streets and utilizes HCM node delays for trip assignment in order to evaluate changes in circulation and traffic control. The boundaries for the sub-area model include 124<sup>th</sup> Avenue at Highway 99W to the northeast, Roy Rogers Road at the UGB to the northwest, Highway 99W at Meinecke Parkway to the southwest, the rail south of Old Town, and 124<sup>th</sup> Avenue to the east.

## Roadway Network Assumptions

As noted, the West Side Metro travel demand model street network is generally consistent with the financially-constrained project list in Metro's RTP. One modification in the Washington County model from the 2035 RTP system is the removal of the proposed Tualatin River crossing that would connect Lower Boones Ferry Road to Tualatin Road<sup>6</sup>. The major transportation projects located near the study area that are assumed to be in place for the 2035 baseline scenario are listed in Table 1.

**Table 1: Reasonably Likely Transportation Projects in the Study Area**

RTP #	Facility	Extents	Project Description
10708	Roy Rogers Road	Borchers Drive to Hwy 99W	Widen to 5 lanes (see additional project description and implications)
10568	Tualatin-Sherwood Road	Hwy 99W to Teton Road	Widen to 5 lanes (see additional project description and implications)
10677	Adams Avenue (North)	Tualatin-Sherwood Rd to Hwy 99W	Extend Adams Avenue as 3-lane facility to Hwy 99W and signalizing the intersection at Tualatin-Sherwood Road/Adams Avenue (Langer Farms Parkway)
10736	124 <sup>th</sup> Avenue	Tualatin-Sherwood Road to Tonquin Road	Extend 124 <sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road (5 lanes)
10590	Tonquin Road	Oregon Street to Grahams Ferry Road	Improve to three lanes for enhanced safety and capacity
10674	Oregon Street / Tonquin Road	Intersection	Improvements to provide congestion relief and address safety issues (roundabout or traffic signal)
11179	99W Connector Study Recommendations	Various	Most improvements consistent with the recommendation of the I-5 to 99W Connector Study (RTP# 11179). These projects generally include connectivity improvements to facilities north of Tualatin-Sherwood Road, such as extending Herman Road between the future Adams Avenue extension north of Tualatin-Sherwood Road and Gerda Lane. The construction of the "I-5/99W Southern Arterial" is not assumed for this project because it is not included in the financially constrained RTP project list.

<sup>6</sup> This project is not included in the Washington County model to be consistent with local planning actions of the City of Tualatin to remove the project from urban renewal district funding.

RTP #	Facility	Extents	Project Description
N/A	SW Tualatin Concept Area	Various	Improvements consistent with the SW Tualatin Concept area – Extend a collector north-south between Tualatin-Sherwood Road and Tonquin Road (possibly 115 <sup>th</sup> Avenue). Improve east-west connectivity to the area between the new north-south collector and 124 <sup>th</sup> Avenue.
N/A	Tonquin Employment Area	Various	Improvements consistent with the Tonquin Employment Area Plan – extend an east-west collector roadway between Oregon Street and 124 <sup>th</sup> Avenue.
10702	Town Center Signal and Intersection Improvements	Various	Improve 3-leg intersection at Edy/Borchers, remove traffic signal at Baler/Tualatin-Sherwood Road, remove traffic signal at Langer Drive/Sherwood Boulevard, add traffic signal at Century Drive/Sherwood Boulevard.
10699	Oregon Street	Murdock Road to rail crossing	Construct road to 3-lane collector standards
10700	Arrow Street (Herman Road)	Adams Avenue to Gerda Lane	Construct road to collector standards.
N/A	Century Road	Langer Farm Parkway to Tualatin-Sherwood Road	Extend roadway with site development of the Langer properties, as noted in development agreement.

**Note:**

N/A – Project is not identified as “financially constrained” in the RTP project list, but the project is assumed to occur in conjunction with future development based on local planning efforts (master plans, concept plans, etc).

***Tualatin-Sherwood Road & Roy Rogers Widening Projects***

Two projects listed in Table 1 include widening along the Tualatin-Sherwood Road/Roy Rogers Road corridor (RTP 10708 and 10568). A portion of the corridor widening project was recently included on Washington County’s Major Streets Transportation Improvement Program (MSTIP) 3d list. The county is currently analyzing alternatives for corridor design between Borchers Drive and Langer Farms Parkway.

Four alternatives are currently being considered (there is not a preferred alternative at this time). The four concepts generally widen the corridor between Borchers Drive and Langer Farms Parkway, with the same design elements at the Hwy 99W/Tualatin-Sherwood Road intersection westward along Roy Rogers Road. The variations in design among the alternatives primarily deal with access and control treatment between Highway 99W and Langer Farms Parkway, including minor variations in travel lanes and turn pockets. A summary of the alternative variations follows:

- Option 1 (Remove the Theater/Shopping Center Signal) – The existing shopping center access would be limited to right-in-right-out movements from the side street with stop sign control.
- Option 2 (Maintain all Signals) – All existing access and control would be maintained along the corridor.
- Option 3 (Remove the Baler Way Signal) – The existing Baler Way intersection would be limited to right-in-right-out movements from the side street with stop sign control.
- Option 4 (Remove Two Signal and Install a New Signal) – Both the shopping center access and Baler Way signals would be removed and limited to right-in-right-out access from the stop-controlled side

streets. A new traffic signal would be added in the general vicinity of the existing eastbound right-in shopping access.

The Sherwood Town Center project will consider the ongoing analysis and recommendations of the County's widening project. For the purposes of the existing Town Center analysis (2035 Baseline Traffic Analysis), Option 3 is assumed since it is most consistent with existing plans (Sherwood TSP projects and RTP Project number 10702). However, the Town Center Plan will not preclude the selection of an ultimate design for the corridor.

## **Traffic Forecasting Methodology**

Calibration was performed on the 2010 base year model using the existing 30<sup>th</sup> highest hourly volumes (30<sup>th</sup> HV) at the study intersections. A future year 2035 sub-area model was then developed by coding the planned improvements into the model network and re-assigning the 2035 Metro model trip tables. The 2035 future year volumes were then estimated by a post-processing methodology that includes adding the growth increment between the 2010 base year and 2035 future year models to base year counts. This approach is consistent with methodologies outlined in the National Cooperative Highway Research Program (NCHRP) Report 255, Highway Traffic Data for Urbanized Area Project Planning and Design.

## **Year 2035 Baseline Traffic Volumes**

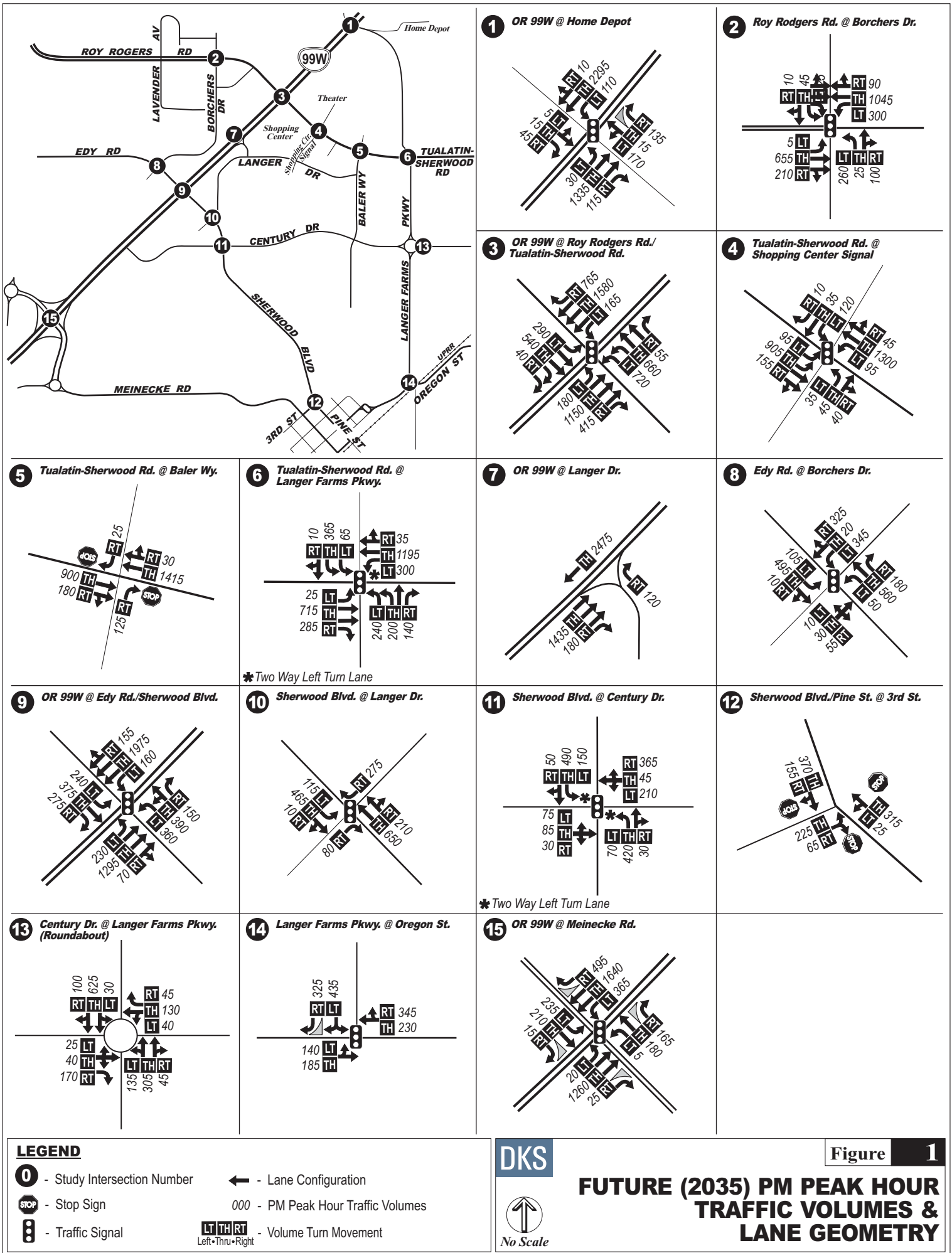
A number of transportation improvements and street extensions (listed in Table 1) have the potential to influence future traffic circulation in the study area. Improvements that influence traffic volumes in the north-south direction include 124<sup>th</sup> Avenue extension and Adams Avenue extension. Improvements that have the potential to influence traffic circulation in the east-west direction include widening Tualatin-Sherwood Road, improvements north of Tualatin-Sherwood Road consistent with the 99W Connector recommendations (including Arrow Street), the collector extension through the Tonquin Employment Area, the extension of Century Road, and improvements to Oregon Street. In addition, intersection improvements in the Town Center area identified in Table 1 have the potential to influence future traffic circulation.

Traffic volumes throughout the study area would generally increase from existing volumes. PM peak hour traffic volumes would increase on Tualatin-Sherwood Road approximately 200 to 300 vehicles in the eastbound direction and 400 to 600 vehicles in the westbound direction. PM peak hour traffic volumes would generally increase along OR 99W by approximately 200 to 500 vehicles in each direction at intersections through the study area. However, traffic volumes would have minor decreases (less than 50 vehicles during the PM peak hour) at a few intersections due to the control changes or additional capacity on parallel routes. The 2035 PM peak hour no-build traffic volumes are shown in Figure 1.

In addition to growth during the peak hour, future traffic demand is likely to spread to adjacent time periods and create a longer "peak" demand. Existing peak hour factors (PHF) in the study area are generally 0.92 or greater and are assumed to slightly increase as the peak demand spreads in the future.<sup>7</sup>

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<sup>7</sup> Existing PHF less than 0.92 would increase to 0.92, existing 0.92-0.94 would increase to 0.95, existing 0.95-0.96 would increase to 0.97.



## FUTURE YEAR 2035 BASELINE TRAFFIC OPERATIONS

The study intersections were evaluated for future year 2035 baseline operations (assuming the projects listed in Table 1) during the PM peak hour. Level of service (LOS) and volume to capacity (v/c) ratios as defined in the *2000 Highway Capacity Manual*<sup>8</sup> (HCM) are two measures of effectiveness (MOEs) that are used as the basis for intersection operations and mobility standards. Explanations of each are given below.

### Level of Service

While analysis of traffic flows is useful in attempting to reach an understanding of the general nature of traffic in an area, traffic volume alone indicates neither the ability of the street network to carry additional traffic nor the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Intersections are the controlling bottlenecks of traffic flow, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

An intersection's level of service (LOS) is similar to a "report card" rating, based on average vehicle delay. Level of Service A, B and C indicates conditions where vehicles can move freely. Level of service D and E are progressively worse. For signalized intersections, level of service F represents conditions where the average delay for all vehicles through the intersection exceeds 80 seconds per vehicle, generally indicated by long queues and delays. Under this operating condition, delay is highly variable, and it is difficult to estimate average delay accurately because congestion often extends into and is affected by adjacent intersections.

### Volume to Capacity Ratios

Volume to capacity (v/c) ratio is the peak hour traffic volume at an intersection divided by the maximum volume that intersection can handle. For example, when a v/c is 0.80, peak hour traffic is using 80 percent of the intersection capacity. If traffic volumes exceed capacity, excessive queues will form and will lengthen until demand subsides below the available capacity (e.g. vehicles waiting to travel through a signalized intersection may have to wait for multiple signal cycles). When the v/c approaches 1.0, intersection operation becomes unstable and small disruptions can cause traffic flow to break down.

### Jurisdictional Standards

Performance standards for the study intersections are the same in the future year 2035 traffic analysis as in the current year analysis.

The five Highway 99W intersections and the Edy Road/Borchers Drive intersection are under ODOT jurisdiction and are subject to intersection volume-to-capacity ratio (v/c) standards as defined in the Oregon Highway Plan (OHP) for the Portland Metropolitan Region<sup>9</sup>, the maximum v/c ratio is 0.99. The four study intersections along Roy Rogers Road and Tualatin-Sherwood Road fall under County standards. The maximum v/c ratio is 0.99 for

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<sup>8</sup> *Highway Capacity Manual*, Transportation Research Board, 2000.

<sup>9</sup> 1999 Oregon Highway Plan, Table 7, December 13, 2000. Amended December 2011.

signalized intersections, and the minimum operational standard for unsignalized intersections is LOS E<sup>10</sup>. For the five intersections under City jurisdiction, the City of Sherwood standard of level of service (LOS) D or better<sup>11</sup> is applicable.

Metro's Regional Transportation Functional Plan (RTFP) provides interim mobility standards for transportation facilities during the peak hours<sup>12</sup> based on the 2040 design type for each location. Table 2 summarizes the 2040 design type and mobility standard for each study area intersection. The majority of the intersections are located along corridor designations or within employment or neighborhood areas and have a standard of 0.99. The intersection of Sherwood Boulevard/3<sup>rd</sup> Street has a standard of 1.1 by virtue of the Main Street designation. In addition, study intersections within an adopted Town Center boundary would have a v/c standard of 1.1 or better during the peak hour.

**Table 2: Study Intersection Design Type and RTFP Mobility Standard**

Location	2040 Design Type <sup>13</sup>	Peak Hour	2 <sup>nd</sup> Hour
OR 99W / Home Depot	Corridor	0.99	0.99
OR 99W / Roy Rogers Road -Tualatin-Sherwood Road	Corridor	0.99	0.99
OR 99W / Langer Drive	Corridor	0.99	0.99
Edy Road / Borchers Drive	Neighborhood	0.99	0.99
OR 99W / Edy Road/ Sherwood Boulevard	Corridor	0.99	0.99
OR 99W / Meinecke Road	Employment Area	0.99	0.99
Roy Rogers Road / Borchers Drive	Neighborhood/Employment Area	0.99	0.99
Tualatin-Sherwood Road / Shopping Center Signal	Neighborhood/Employment	0.99	0.99
Tualatin-Sherwood Road / Baler Way	Neighborhood/Employment	0.99	0.99
Tualatin-Sherwood Road / Langer Farms Parkway	Neighborhood/Employment	0.99	0.99
Sherwood Boulevard / Langer Drive	Corridor	0.99	0.99
Sherwood Boulevard / Century Drive-12 <sup>th</sup> Street	Corridor	0.99	0.99
Sherwood Boulevard-Pine Street / 3 <sup>rd</sup> Street	Main Street	1.1	0.99
Century Drive / Langer Farms Parkway	Neighborhood/ Employment Area	0.99	0.99
Langer Farms Parkway / Oregon Street	Corridor	0.99	0.99

Note: With adoption of a Town Center, intersections within the boundary would have a v/c ratio of 1.1 during the peak hour.

<sup>10</sup> Washington County 2020 Transportation Plan, Adopted October 29, 2002, Table 5.

<sup>11</sup> Page 8-25, City of Sherwood Transportation System Plan, March 15, 2005.

<sup>12</sup> Regional Transportation Functional Plan, Table 3.08-2, Metro, September 8, 2010.

<sup>13</sup> The Town Center designation and associated mobility target is dependent on adoption of a Town Center Plan, per Section 3.07 of the Metro Code (Urban Growth Management Functional Plan). Adoption of a Town Center would allow areas within the designation to operate at a V/C ratio of 1.1 during the Peak Hour.

## Intersection Operations

Future year 2035 baseline PM peak hour traffic operations were analyzed using HCM methodology<sup>14</sup>. Several intersections would have improved intersection operations during the 2035 PM peak hour when compared to existing conditions due to assumed improvements at these locations (Table 1). However, the majority of intersections would experience degraded intersection operations (increased vehicle delay and v/c) due to increased traffic volume in year 2035. Many locations would degrade by one or two levels of service (e.g. drop from LOS B in existing conditions to LOS D in future conditions), however most locations would continue to meet both agency and RTFP operational standards. Three intersections along Highway 99W would not meet ODOT nor RTFP standards. The intersections of Hwy 99W/ Home Depot (future Adams Avenue extension) and Highway 99W Tualatin-Sherwood Road would have v/c ratios just above the v/c standard of 0.99. If the intersections were included within an adopted Town Center boundary, both would be within the Town Center mobility target of 1.1. The Highway 99W intersection at Edy Road would have a v/c ratio above 1.2, still above the town center standard of 1.1.

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<sup>14</sup> HCM 2000 methodology was used for stop-controlled and signalized intersections. HCM 2010 methodology (consistent with research conducted through NCHRP 572) was used to analyze the roundabout at Century Drive/Langer Farms Parkway.

**Table 3: Year 2035 PM Peak Hour Baseline Intersection Operations**

Intersection	Control (year 2035)	Mobility Standard		Existing Year			Year 2035			2035 Meet Standard? (Agency/RTFP)
		Agency	RTFP (v/c) <sup>15</sup>	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	
<b>ODOT</b>										
OR 99W / Home Depot	Signal	v/c ≤ 0.99	≤0.99	13.6	B	0.72	36.8	D	<b>1.00</b>	<b>No/No</b>
OR 99W / Roy Rogers Road - Tualatin-Sherwood	Signal	v/c ≤ 0.99	≤0.99	43.1	D	0.93	56.0	E	<b>1.04</b>	<b>No/No</b>
OR 99W / Langer Drive	TWSC	v/c ≤ 0.99	≤0.99	-	A/A	0.09	-	A/B	0.17	Yes/Yes
Edy Road / Borchers Drive	Signal <sup>A</sup>	v/c ≤ 0.99	≤0.99	-	A/F	1.03	31.5	C	0.72	Yes/Yes
OR 99W / Edy Road/ Sherwood Boulevard	Signal	v/c ≤ 0.99	≤0.99	34.6	C	0.88	100.8	F	<b>1.22</b>	<b>No/No</b>
OR 99W / Meinecke Road	Signal	v/c ≤ 0.99	≤0.99	16.4	B	0.62	40.1	D	0.99	Yes/Yes
<b>Washington County</b>										
Roy Rogers Road / Borchers Drive	Signal	v/c ≤ 0.99	≤0.99	19.4	B	0.73	23.6	C	0.79	Yes/Yes
Tualatin-Sherwood Road / Shopping Center Signal	Signal	v/c ≤ 0.99	≤0.99	17.4	B	0.43	27.8	C	0.57	Yes/Yes
Tualatin-Sherwood Road / Baler Way	TWSC <sup>B</sup>	v/c ≤ 0.99	≤0.99	11.4	B	0.62	-	A/B	0.15	Yes/Yes
Tualatin-Sherwood Road / Langer Farms Parkway	Signal <sup>C</sup>	LOS E	≤0.99	-	B/C	0.13	36.4	D	0.88	Yes/Yes
<b>City of Sherwood</b>										
Sherwood Boulevard /Langer Drive	TWSC <sup>D</sup>	LOS D	≤0.99	18.8	B	0.40	-	B/C	0.52	Yes/Yes
Sherwood Boulevard / Century Drive-12 <sup>th</sup> Street	Signal <sup>E</sup>	LOS D	≤0.99	-	A/D	0.39	15.7	B	0.80	Yes/Yes
Sherwood Boulevard-Pine Street / 3rd Street	AWSC	LOS D	≤1.1	-	B	0.60	22.2	C	0.83	Yes/Yes
Century Drive / Langer Farms Parkway	RAB <sup>F</sup>	LOS D	≤0.99	4.5	A	0.63	32.7	D	0.89	Yes/Yes
Langer Farms Parkway / Oregon Street	Signal	LOS D	≤0.99	9.2	A	0.43	28.9	C	0.88	Yes/Yes

**Notes:**

Control: AWSC = All-Way Stop Control, RAB = Roundabout TWSC = Two-Way Stop Control

<sup>A</sup> TWSC under existing conditions; <sup>B</sup> Signal under existing conditions; <sup>C</sup> TWSC under existing conditions;

<sup>D</sup> Signal under existing conditions; <sup>E</sup> TWSC under existing conditions; <sup>F</sup> TWSC under existing conditions

*Signalized intersection:* LOS = Level of Service, V/C = Volume-to-Capacity Ratio; *Unsignalized intersection:* LOS = Major Street LOS/Minor Street LOS

**BOLD** values do not meet standards.

<sup>15</sup> The adoption of a Town Center plan would allow intersections within the boundary to have a mobility target of v/c ≤1.1

**Appendix C: Sherwood Town Center Plan Market Analysis**



## **CITY OF SHERWOOD, OR MARKET ANALYSIS**

**In support of:**

## **CITY OF SHERWOOD TOWN CENTER PLAN**

PREPARED FOR:

CITY OF SHERWOOD

JULY 2012



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## **I. INTRODUCTION**

This market study is prepared as one component of the City of Sherwood Town Center Plan project. This project, initiated in 2012, is assessing a broad area in central Sherwood to either affirm or modify the currently designated Town Center. The project will result in a Plan that defines the boundary of the Town Center, describes the vision for the area, and helps meet the Metro and State criteria for regional investments.

As part of this effort, Johnson Reid has prepared a market analysis of major land use categories in the area. This analysis outlines current and anticipated market conditions impacting viable development forms in the Plan Area. The anticipated demand for a range of prospective product types will inform the concept planning process in terms of mix of uses, likely development forms, and scale of supportable uses.

## **II. KEY CONCLUSIONS**

- Sherwood has experienced strong growth in population over the last two decades. It enjoys a high average income and many family households. The City can expect strong growth to continue over the coming decades.
- Sherwood can expect continued growth in all of the major land use categories: Residential, Retail, Office and Industrial. As Sherwood and the rest of the region face economic, political, and environmental constraints to boundary expansion, infill and redevelopment will play a key part in the future growth of the city.
- The lower rents achievable in the suburban environment will limit some of the development types that the market is likely to bring to the area. However, in an environment where most existing uses are single-story with ample surface parking, significant increases in density can be achieved while still relying on “low-rise” construction to control costs. Two- to three-story buildings, perhaps with higher building coverage, and reduced parking and other design considerations can greatly increase the intensity of land use.
- The following table presents the 20-year demand for different land uses types in the Sherwood Market Area. The healthy overall demand in the larger market area provides flexibility in planning for the Study Area. This demand will not all be captured in the Study Area, but represents the larger pool of demand from which the Plan Area can draw. (This table does not include additional retail, office and industrial demand allotted to the Tonquin Employment Area and Brookman Addition area. These areas are discussed in more detail in this report.)



**FIGURE 1: PROJECTED DEMAND BY LAND USE  
PRIMARY MARKET AREA**

Land Use Category	New Space Demanded - 2012 - 2032					
	Base Scenario	Acreage	High Growth	Acreage	Low Growth	Acreage
Ownership Residential	2,272 units	na	2,450 units	na	2,090 units	na
Rental Residential	445 units	na	480 units	na	410 units	na
Retail/Commercial	487,595 sf	44.8	527,000 sf	48.4	448,590 sf	41.2
Office	140,700 sf	10.8	152,000 sf	11.6	129,440 sf	9.9
Industrial Total	409,100 sf	42.7	442,000 sf	46.1	376,370 sf	39.3
Warehouse/Distribution	224,000 sf	23.4	242,000 sf	25.3	206,080 sf	21.5
General Industrial	111,900 sf	11.7	121,000 sf	12.6	102,950 sf	10.7
Tech/Flex Space	73,200 sf	7.6	79,000 sf	8.2	67,340 sf	7.0

<sup>1</sup> High and low growth scenarios represent base case +/- 8% growth respectively.

<sup>2</sup> Acreage based on the following FAR assumptions: Retail .25 FAR; Office .3 FAR; Industrial .22 FAR

SOURCES: Claritas, Census, Oregon Employment Department, ULI, Johnson Reid LLC

- The Six Corners area and Sherwood Old Town areas feature some similarities and differences. Each presents advantages and challenges as a designated Town Center, based largely on their current development patterns and different levels of access. These differences are discussed in detail in this report.
- The following table summarizes the development forms which are currently likely to appear in new development in the sub-districts, *absent public policy changes or incentives*.

**FIGURE 2: VIABLE NEAR-TO-MID TERM DEVELOPMENT FORMS**

Land Use	Sherwood Town Center		Sherwood Old Town	
	Form	Achievable Pricing	Form	Achievable Pricing
Rental Housing:	2 - 3 story	\$1.30/sf/yr	2 - 3 story, or above mixed use	\$1.30/sf/yr
For-Sale Housing:	2 - 3 story, Townhome	\$160 /sf	2 - 3 story, Townhome	\$160 /sf
Retail:	Single story	\$25/sf/yr	Single story, or below mixed use	\$18/sf/yr
Office:	2 - 3 story	\$22/sf/yr	1 - 2 story	\$18/sf/yr
Industrial:	1 story workspace, w/ 2-story office	\$12/sf/yr	1 story workspace, w/ 2-story office	\$12/sf/yr
Parking:	Surface		Surface, or tuck-under	

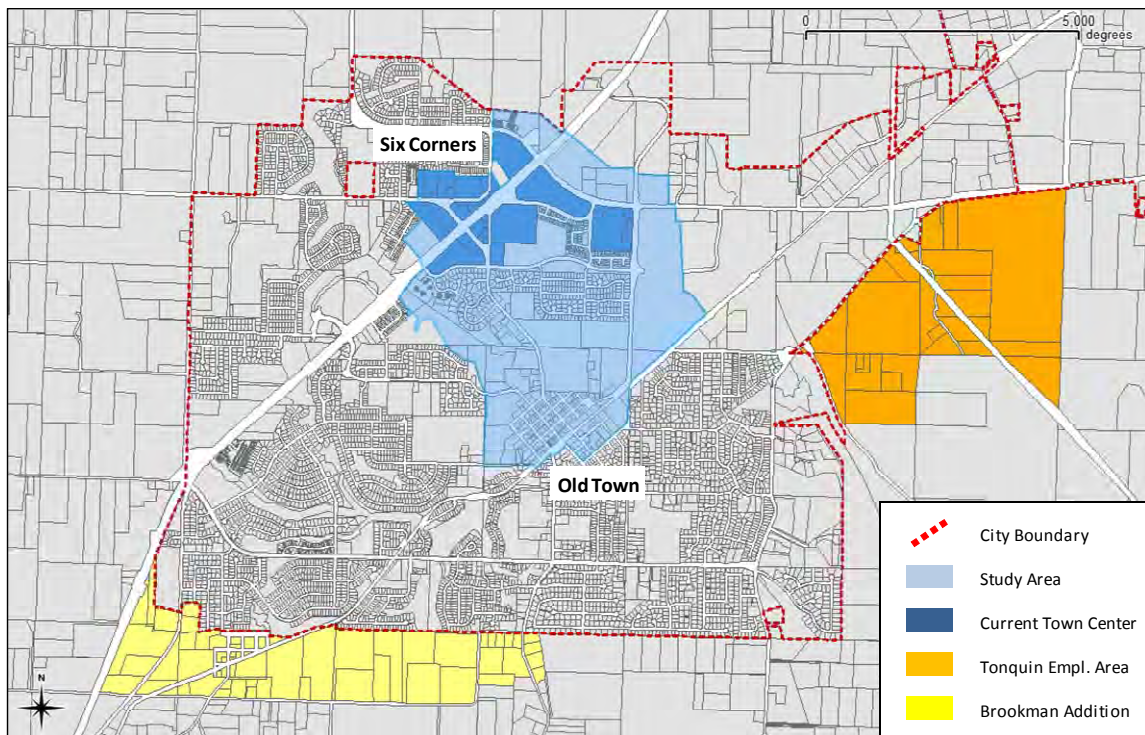
SOURCE: Johnson Reid LLC



### III. STUDY AREA & PRIMARY MARKET AREA

A study area has been designated for this project which encompasses the current designated Town Center (Six Corners), as well as additional areas mostly to the southeast, including Sherwood's Old Town neighborhood. The current Town Center spans Highway 99w, between Tualatin-Sherwood Road and 12<sup>th</sup> Street. This analysis discusses the development potential and location differences within the study area.

**FIGURE 3.1: STUDY AREA AND CURRENT TOWN CENTER**



Source: Metro RLIS, Johnson Reid LLC

For the purpose of discussing market conditions and assessing demand for different land use types, this study adopts the entire City as the Primary Market Area (PMA). The Citywide Primary Market Area includes the recently planned areas of the Tonquin Employment Area, and the Brookman Addition. The plans prepared for these two areas include projections for employment, and in the case of the Brookman Addition, new households. From the market perspective, the study area is one part of the broader Sherwood market, served by the same pool of demand. In addition, many market indicators are consistent across most of the city. This report will specify when it is discussing the City versus the Study Area.



#### IV. SHERWOOD DEMOGRAPHIC AND MARKET TRENDS

The characteristics of the households and employment in Sherwood form the key foundation for projecting demand for land uses, and thus growth into the future.

##### **Demographics**

The Primary Market Area has an estimated population of 18,250 residents in 2012, residing in 6,340 households. This is an average of 2.88 people per household. Figure 4.1 displays the past trends and projected trends for population and income in the PMA.

Five-year projected trends are generated by Claritas Inc., a third-party market research firm. They anticipate somewhat slower growth in population and incomes than that seen over the previous decade. (The study period for this analysis is 20 years. The 5-year projections presented here were factored into the 20-year housing growth projections presented later in this report.)

**FIGURE 4.1: HOUSEHOLD & INCOME TRENDS, CITY OF SHERWOOD**

<b>POPULATION, HOUSEHOLDS, FAMILIES, AND YEAR-ROUND HOUSING UNITS</b>					
	<b>2000 (Census)</b>	<b>2012 (Est.)</b>	<b>Growth Rate 00-12</b>	<b>2017 (Proj.)</b>	<b>Growth Rate 12-17</b>
Population	11,791	18,256	3.7%	20,220	2.1%
Households	4,253	6,339	3.4%	7,021	2.1%
Families	3,299	4,875	3.3%	5,400	2.1%
<b>Household Size</b>	2.77	2.88	0.3%	2.88	0.0%
<b>PER CAPITA AND AVERAGE HOUSEHOLD INCOME</b>					
	<b>2000 (Census)</b>	<b>2012 (Est.)</b>	<b>Growth Rate 00-12</b>	<b>2017 (Proj.)</b>	<b>Growth Rate 12-17</b>
Per Capita (\$)	25,793	31,047	1.6%	35,138	1.2%
Median HH (\$)	62,518	82,579	2.3%	99,456	1.9%
Average HH (\$)	70,605	89,596	2.0%	105,049	1.6%

SOURCE: PSU Population Research Center, Claritas Inc., US Census, Johnson Reid LLC

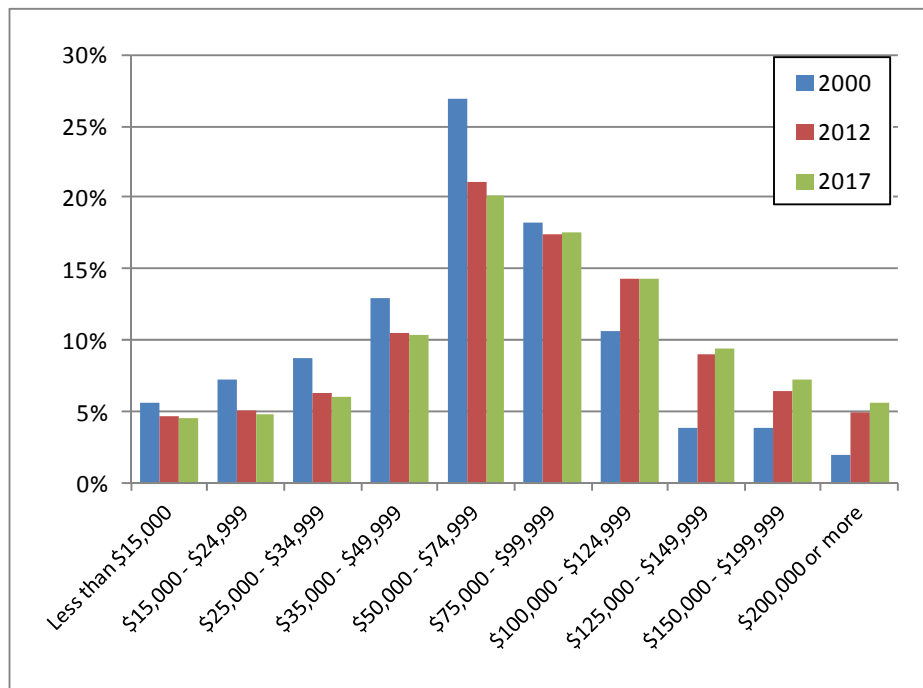
Growth trends in the city are positive for future housing demand. Sherwood grew very quickly between 2000 and 2012, adding nearly 6,500 people, or 55% population growth. The annual growth rate of 3.7% far outpaced the Washington County and statewide rates (1.8% and 1.1% respectively.)

At the same time, the average household size grew to 2.9 people, indicating that many of these new households are families. The average household size in Washington County was 2.6 in 2010.



On average, Sherwood has also become a higher-income community. The median household income of \$82,500 far exceeds the countywide median of \$66,500 (2010). The median income in the Metro area as a whole is an even lower \$53,000.

**FIGURE 4.2: HOUSEHOLDS BY ANNUAL INCOME, CITY OF SHERWOOD**



SOURCE: Claritas Inc., Johnson Reid LLC

Figure 4.2 shows the distribution of households by annual income in 2000 and 2012, and projected to 2017. The figure shows a greater concentration of incomes on the lower half of the spectrum in 2000. The largest share of households are in the \$50,000 to \$75,000 per year range, though this cohort is shrinking in relation to the higher income cohorts as average incomes grow with inflation. Those households earning over \$50,000 per year outnumber those making less. The trend towards higher income is expected to continue.

### **Employment**

In 2010, there were just over 4,500 jobs in the City of Sherwood, or 0.7 jobs per household. This is a relatively low jobs-to-household ratio, indicating that many Sherwood residents commute outside of the city for employment. The jobs-to-household ratio for all of Washington County is 1.2, and across the state it is 1.1.

Figure 4.3 shows the growth in employment between 2002 and 2010 from the US Census Local Employment Dynamics database. (The unusual time period reflects the data limitations of the



database.) Overall, employment grew at 5% per year during that period, outpacing population growth.

The largest industries by employment are education and health, leisure and hospitality, manufacturing, and retail.

**FIGURE 4.3: EMPLOYMENT TRENDS BY INDUSTRY**  
**CITY OF SHERWOOD, 2002 - 2010**

Industry	2002	2010		Ann. Growth 2002 - 2010
	Employment	Employment	% of Total	
<b>TOTAL NONFARM EMPLOYMENT</b>	3,041	4,523	100%	5%
Construction	353	290	6%	-2%
Manufacturing	629	641	14%	0%
Wholesale Trade	145	207	5%	5%
Retail Trade	411	622	14%	5%
Transportation, Warehousing, Utilities	23	29	1%	3%
Information	48	56	1%	2%
Financial Activities	85	213	5%	12%
Professional & Business Services	263	411	9%	6%
Educational & Health Services	502	976	22%	9%
Leisure & Hospitality	285	713	16%	12%
Other Services	211	219	5%	0%
Government	86	146	3%	7%

SOURCE: US Census Local Employment Dynamics, Johnson Reid LLC

In terms of rate of growth, financial activities, and leisure and hospitality (including restaurants, arts and tourist-oriented businesses) grew the fastest. The manufacturing sector, while still an important share of local employment, saw very little total growth. Construction employment fell somewhat, a pattern seen across the region after the housing “boom” faded.

The following table presents a projection of employment growth into the future, based on estimates from the Oregon Employment Department of the growth rates for each industry over the next ten years in Region 2 (Washington and Multnomah Counties). These regional projections provide an imperfect estimate of employment growth in Sherwood, but are the best generally available.

The projections see growth of just under 2,000 jobs over the next 20 years, within the *current City limits*, a growth rate of 1.9%. The most growth is expected in the education and health sectors, leisure and hospitality, and professional and business services. Construction is expected to make a rebound as well.

Manufacturing employment is projected to continue to grow, bucking national trends. The region remains strong in manufacturing, and the Sherwood/Tualatin industrial area is a key cluster of industrial businesses in the Portland Metro area. The area has many prime industrial



parcels remaining while many other parts of the Metro area face a low inventory of industrial lands.

The region and State are focusing economic development efforts on the Advanced Manufacturing category, which refers to companies which use high-tech equipment and sophisticated processes to build or add value to products. Advanced manufacturing might include high-tech products, apparel, medical products, food processing and more. These industries generate advancements in manufacturing which are not yet available to competitors, particularly overseas.

Other areas of focus for economic development are clean technology, high tech, forest products, and outdoor gear and apparel. With ample buildable industrial parcels in a range of sizes, the industrial lands stretching from northeast Sherwood into west Tualatin are a prime Metro-area location for many of these types of industry.

**FIGURE 4.4: EMPLOYMENT FORECAST BY INDUSTRY**  
**CITY OF SHERWOOD, 2012 - 2032**

City of Tualatin		Projected Annual Growth Rate <sup>1</sup>	Total Employment 1/					'11-'31
Employment Sector	2010		2012	2017	2022	2027	2032	Change
Construction	290	2.9%	307	355	411	455	504	197
Manufacturing	641	1.4%	659	704	753	790	828	170
Wholesale Trade	207	2.0%	216	239	264	283	304	89
Retail Trade	622	1.5%	641	692	747	788	831	190
Transport, Warehousing, Utilities	29	1.8%	30	33	36	38	41	11
Information	56	1.9%	58	64	70	75	80	21
Financial Activities	213	1.3%	219	234	250	262	275	56
Professional & Business Services	411	2.5%	432	488	552	602	656	224
Education & Health Services	976	2.8%	1,031	1,183	1,357	1,495	1,646	615
Leisure & Hospitality	713	2.0%	742	819	905	971	1,041	299
Other Services	219	1.6%	226	245	265	280	296	70
Government	146	0.9%	149	155	162	167	172	23
<b>Total</b>		<b>1.9%</b>	<b>4,709</b>	<b>5,211</b>	<b>5,772</b>	<b>6,205</b>	<b>6,674</b>	<b>1,965</b>

<sup>1</sup> Source: Oregon Emp. Dept.: Projected growth rate for Region 2 (Multnomah and Washington Counties), 2010 - 2020

SOURCES: Oregon Employment Department, Johnson Reid LLC

The Tonquin Employment Area and the Brookman Addition area are planned to accommodate many more jobs in addition to this growth. The Tonquin Employment Area plans for 2,290 additional jobs over 20 years, 1,910 of which are projected to be light industrial jobs. The Brookman Addition concept plan calls for roughly 28 acres of commercial and industrial uses, accommodating new 1,209 jobs.

The concept plans for these areas do not break down projected employment by the industry categories listed above. The following table summarizes the employment projections for the two. (The land demand figures presented in the following section of this report combine these projections with the above projections.)



**FIGURE 4.5: PROJECTED 20-YEAR EMPLOYMENT FORECAST  
BROOKMAN ADDITION AND TONQUIN EMPLOYMENT AREA PLANNING AREAS**

Job Category	Brookman Addition	Tonquin Emp. Area	Total Employment
Retail/Commercial	29	382	411
Office	774		774
Industrial	226	1,910	2,136
<i>Jobs:</i>	<i>1,029</i>	<i>2,292</i>	<i>3,321</i>

SOURCES: City of Sherwood

#### **Implications of Demographic Trends**

Like the region and most of the country, Sherwood currently faces headwinds against new real estate development over the next few years. The greatest factors are the remaining unsold inventory of homes and lots, depressed employment and wage levels, lack of financing for new development, and depressed pricing and occupancy levels making investment in unproven real estate a riskier proposition.

However, it seems that we are much closer to the end of this cycle than the beginning. There has been a strong return of interest in developing rental properties over the past year or two across the Metro area. Also, the return of employment and consumer spending is stabilizing the commercial real estate market and is slowly refilling vacant space.

The Town Center Plan being designed through this process has a long-term horizon, which exceeds these immediate challenges. A return to growth will certainly take place during the planning horizon, with the only uncertainty being the length of time spent in this “trough” and the strength of the growth cycle to follow.

Sherwood is now established as a desirable small city in the Metro area and the strong growth seen over the last decade should continue into the future. The city’s role as a relatively well-to-do family community will continue to draw new residents and employment to support them.

Sherwood will also continue to experience the general growth pressure from Washington County as the county continues to be the fastest growing part of the Metro area in terms of households and good jobs.

Overall, Sherwood is well positioned to take advantage of the next real estate growth cycle.

#### **Real Estate Pricing Trends**

The current real estate environment presents many challenges to accurate price discovery in a smaller market such as Sherwood. The primary challenge is the significant decrease in market transactions in recent years to serve as comparable examples. In addition, some of the few sales which have occurred have been distressed sales, occurring at unusually low prices. While



the distressed price may be the current “market price”, it will not be a good guide to the achievable pricing level when the market stabilizes or positive growth returns.

With these challenges in mind, Johnson Reid surveyed a variety of third-party sources to estimate current pricing and lease levels for different real estate categories. The estimates presented here are based on recent market transactions, properties currently for lease or sale, and forecasts of future “stabilized” pricing levels, which better represent the likely mid-term to long-term reality, based on our professional opinion.

The range represents variation in location and quality within the community. These factors, as they pertain to the study area are discussed more in a following section.

**FIGURE 4.6: ESTIMATED PRICING AND LEASE LEVELS, SHERWOOD**

Property Type	Estimated Price Range Per Square Foot			Notes
Detached housing (for sale)	\$120	-	\$150	\$260,000 median price
Attached housing (for sale)	\$95	-	\$110	\$150,000 median price
Rental housing	\$0.90	-	\$1.30	per month
Retail (lease rate)	\$18	-	\$25	NNN, annual
Office (lease rate)	\$14	-	\$18	NNN, annual
<b><u>Land</u></b>				
Single-family finished lot	\$10	-	\$14	
Single-family raw land	\$6	-	\$8	
Multi-family raw land	\$6	-	\$9	
Commercial	\$5	-	\$7	
Industrial	\$3	-	\$5	

Sources: RMLS, Loopnet, New Home Trends, properties, Johnson Reid

Relative to other parts of the Metro area, pricing levels are somewhat low, other than in the homeownership markets, where median price is somewhat higher. These pricing levels will impact the range of development types that are feasible in the Study Area. Higher density types will be more difficult to achieve. However, significant density can still be added with low-rise construction types, as discussed in a following section.



## V. SUMMARY OF LAND USE DEMAND

Basic trends in household and employment growth in the Primary Market Area point to healthy continuing demand for residential, commercial and industrial uses into the future. These broad growth and demand projections create flexibility in the planning for different uses in the Sherwood Town Center Plan area.

The table below summarizes the projections of 20-year demand in the market area. Residential demand is presented in terms of housing units. Non-residential uses are presented in square feet of building space.

JOHNSON REID uses a residential model that calculates demand for new ownership and rental housing based on the income level, age, and growth profiles of the market area. The profile of probable owners vs. renters is derived from Census data for the area. In general, those in younger age cohorts and with lower income are likely to rent units, while older households and those with higher income are more likely to own their homes. Note that the residential demand for housing in the Brookman Addition area, is included in the total projected demand presented here.

Retail demand is based on the growth of the number of households in the market area. The projected spending of these households is compared to estimates of spending per square foot to determine the amount of retail space this new spending will support.

Office and industrial demand is based on the employment growth projection presented in Figure 4.4. Estimates of the amount of work done in the office or industrial environment within each industry sector are used to estimate the amount of each type of space demanded.

The following table presents the demand projected by JOHNSON REID in the current City boundaries, not including the Tonquin Employment Area and Brookman Addition areas. (The exception is that the projection of housing demand *does* include housing units in Brookman Addition.)



**FIGURE 5.1: PROJECTED SPACE NEED  
MAJOR LAND USE TYPES  
CITY OF SHERWOOD, CURRENT BOUNDARIES**

Land Use Category	New Space Demanded - 2012 - 2032								
	Base Scenario		Acreage	High Growth		Acreage	Low Growth		Acreage
Ownership Residential	2,272	units	na	2,450	units	na	2,090	units	na
Rental Residential	445	units	na	480	units	na	410	units	na
Retail/Commercial	487,595	sf	44.8	527,000	sf	48.4	448,590	sf	41.2
Office	140,700	sf	10.8	152,000	sf	11.6	129,440	sf	9.9
Industrial Total	409,100	sf	42.7	442,000	sf	46.1	376,370	sf	39.3
<i>Warehouse/Distribution</i>	224,000	sf	23.4	242,000	sf	25.3	206,080	sf	21.5
<i>General Industrial</i>	111,900	sf	11.7	121,000	sf	12.6	102,950	sf	10.7
<i>Tech/Flex Space</i>	73,200	sf	7.6	79,000	sf	8.2	67,340	sf	7.0

<sup>1</sup> High and low growth scenarios represent base case +/- 8% growth respectively.

<sup>2</sup> Acreage based on the following FAR assumptions: Retail .25 FAR; Office .3 FAR; Industrial .22 FAR

SOURCES: Claritas, Census, Oregon Employment Department, ULI, Johnson Reid LLC

Demand for non-residential land uses is converted into estimates of acreage by applying standard Floor Area Ratios to the estimated space demanded. Residential acreage is highly dependent on the type and density of the units proposed. Therefore JOHNSON REID did not make an attempt to determine specific housing types as part of this analysis. Subsequent phases of the land use planning project will address this issue.

The following table presents the combined 20-year demand from the above table, with the addition of the planned employment growth in the Tonquin and Brookman areas. The addition of these areas greatly increases the projections of space demanded. The projections in Figure 5.1 are demand-driven, based on estimated household and employment growth. The employment projections for the Tonquin and Brookman areas were prepared through separate planning processes and are largely supply driven, based on the amount of new commercial and industrial land programmed in these new plan areas.



**FIGURE 5.2: TOTAL PROJECTED SPACE NEED  
MAJOR LAND USE TYPES  
PRIMARY MARKET AREA**

Land Use Category	New Space Demanded - 2012 - 2032								
	Base Scenario		Acreage	High Growth		Acreage	Low Growth		Acreage
Ownership Residential	2,272	units	na	2,450	units	na	2,090	units	na
Rental Residential	445	units	na	480	units	na	410	units	na
Retail/Commercial	662,597	sf	60.8	716,000	sf	65.7	609,590	sf	56.0
Office	314,766	sf	24.1	340,000	sf	26.0	289,580	sf	22.2
Industrial Total	1,730,032	sf	180.5	1,868,000	sf	194.9	1,591,630	sf	166.1
<i>Warehouse/Distribution</i>	947,267	sf	98.8	1,023,000	sf	106.7	871,490	sf	90.9
<i>General Industrial</i>	473,211	sf	49.4	511,000	sf	53.3	435,350	sf	45.4
<i>Tech/Flex Space</i>	309,553	sf	32.3	334,000	sf	34.9	284,790	sf	29.7

<sup>1</sup> High and low growth scenarios represent base case +/- 8% growth respectively.

<sup>2</sup> Acreage based on the following FAR assumptions: Retail .25 FAR; Office .3 FAR; Industrial .22 FAR

SOURCES: City of Sherwood Tonquin Employment Area and Brookman Addition Concept Plans, Johnson Reid LLC

### **What this Table Represents**

The demand projections presented above represent the demand in the *total Primary Market Area*, which in this case is the City of Sherwood, plus the two Concept Plan areas. Figure 5.1 may better represent the amount of demand applicable to the Study Area itself, as the additional demand presented in Figure 5.2 is allocated to the Concept Plan areas themselves.

How much of this demand might ultimately be met by new community development within the Town Center will be determined by policy decisions and market forces alike. As this planning process moves forward, these projections can serve as a guide in determining the boundaries of the Town Center and how best to plan land uses in this area.

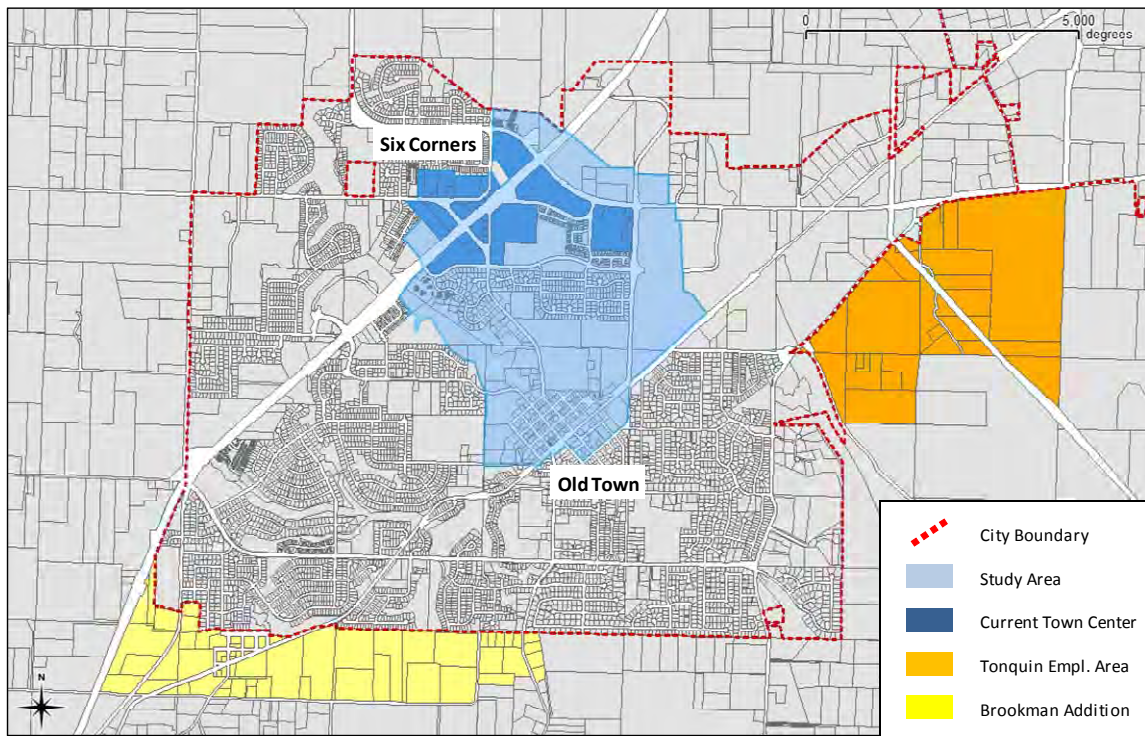
In general, these findings point to good growth potential for all uses over the next 20 year period based on past and projected trends.



## VI. LOCATION ANALYSIS

This Section discusses the regional context of Sherwood and its Town Center as well as the location attributes of the Study Area.

**FIGURE 6.1: SHERWOOD AND TOWN CENTER STUDY AREA**



Source: Metro RLIS, Johnson Reid LLC

### **Regional Context**

The City of Sherwood is a community of over 18,000 people located in the southwest corner of the Portland metropolitan area, in Washington County. Until relatively recently the city has been a small town, removed from the freeway, and supported by the surrounding agricultural and industrial uses. But over the past two decades, the city has grown quickly as a bedroom community for families and retirees, as well as a retail center for surrounding unincorporated lands.

While the population of Sherwood grew at a rate 3.7% annually between 2000 and 2012, employment grew at a faster rate of 5% in recent years, meaning that jobs are slowly catching up to population over time. Still, the ratio of jobs to households is 0.7, while in Washington County there are 1.2 jobs per household. This indicates that part of Sherwood's role is as a



desirable and safe community for many households commuting outside of the city for employment.

Development in Sherwood has been led by the residential sector, as well as retail development. Since 2000, an estimated 88% of new permitted homes have been single-family detached houses, though recent years have seen the development of new multi-family units as well, including some large apartment complexes and mixed-use projects in Old Town.

Sherwood is also a key retail center in the southwest Metro area featuring many large highway-oriented shopping centers in the Six Corners area. Retail accounts for 14% of local employment, about as much as the manufacturing and hospitality sectors. Education and health services provide the most jobs at 22% of the total (as of 2010).

Sherwood features many large developable tracts for a range of land uses, from residential, to commercial to industrial. There will be a projected demand for each of these as the community continues brisk growth in coming decades. The City has the potential to attract new employers. Significant new employers would support residential and retail growth, and increase local employment opportunities.

Going forward, Sherwood can plan to increase and concentrate new development density near key corridors and station areas to meet the criteria of a Town Center and transit destination. The remainder of this report discusses the development potential of the Study Area.

### **Location Characteristics of the Study Area**

The designated Study Area for this project stretches from the current designated Town Center in the northwest, to Sherwood's traditional Old Town neighborhood to the south (see Figure 6.1). In between is a mixture of residential neighborhoods at a range of densities, and large institutional campus properties of the local school district and the St. Francis church and private school.

This section discusses the current development character of the Study Area and the market conditions for different land uses. This section discusses separately the Six Corners area and its immediate environs, and the Old Town and its immediate environs. Much of the housing in between lies within 0.5 miles of both areas and might reasonably be considered part of either, though some distinctions are drawn below.

**Six Corners:** The Six Corners area is a collection of large retail-oriented shopping centers along Highway 99W in northwest Sherwood. The shopping centers are typically auto-oriented with grocery or big-box anchors, flanked by smaller in-line storefronts and some corner pads, surrounding surface parking lots. The shopping centers serve Sherwood and the surrounding area, drawing customers from Newberg and unincorporated areas to the south and west, as well as residents from Tualatin and King City.



The immediate area has other commercial uses as well, including a Providence Medical Group building and range of smaller and older commercial buildings. There has been residential development in the immediate area, including some of the more recent and higher-density development in Sherwood, such as Hunters Ridge and attached communities along SW Century Drive.

As a Town Center, the area has some advantages and potential challenges:

#### Advantages

- Strong access and high-visibility
- Much greater pass-through traffic than Old Town
- Some, large, relatively unconstrained parcels still available
- Adjacent to some of Sherwood's higher density residential uses
- Near rural/natural amenities outside of town

#### Challenges

- Auto-oriented, shopping center character predominates
- Retail is traditionally a low-density use
- Location on north edge of city, rather than center
- Highway bisects the area, hindering cohesion

#### Conditions for Residential Use

The currently designated Town Center is largely built out with retail uses, however some of the immediate area is well suited for residential development. Multiple examples of recent residential development are present just outside of the Six Corners area.

In general, land fronting on the highway or Tualatin-Sherwood Road is not the best suited to residential use. The amount of traffic is disruptive to residents, and the land likely has higher economic value for commercial uses due to access, visibility and high car counts. There are some large apartment complexes further to the south located directly on the highway, and so this form is viable, but if commercial uses are allowed in the same zoning they are the more likely use to find on the highway.

Looking more broadly at the northern half of the Study Area, the areas somewhat separated from the highway are well-suited for residential development, be it ownership or rental. The areas to the south of the shopping center, around SW Century Drive provide an nice residential environment but have largely been developed since 1990. They are unlikely to redevelop soon. Large parcels do remain in the area, such as the area to the east of Sherwood Plaza shopping center, and areas around Providence and Hunters Ridge properties. These provide some potential to add further residential density to the area. The large Langer property to the east is currently planned for non-residential uses.



#### Conditions for Retail Use

The Six Corners area is obviously excellently situated for retail development. As currently configured, it will continue to be most attractive for auto-oriented shopping center retail.

Retail as part of a mixed-use development, such as that seen at Hunters Ridge, may be possible over time in other parts of the north Study Area if it is included in a thoughtful planned development. The challenge is to site it near enough existing or planned residential development to provide some foot traffic in addition to car traffic. The odds of vertical mixed use development being added directly to the current large shopping center properties are small.

#### Conditions for Office Use

Sherwood has the potential to add more office space over time, as employment grows in sectors such as professional and financial services and information technology. The north end of the Study Area around Six Corners would be a good place to add such uses.

While office uses need good access, they typically do not need the high visibility that retail tenants prefer, and can therefore be located near the arterials, but not directly on the arterials. Also, office developments are more tolerant of minor topographical variations. Office is often used to buffer residential areas from industry or intense retail activity.

Some of the remaining larger parcels in the north Study Area may be good candidates for a larger office building (see discussion of development forms in the following section).

#### Conditions for Industrial Use

The area contains some lands zoned for light industrial use on the east side. The area stretching from east Sherwood to Tualatin has proven to be a successful industrial preserve, featuring many thriving companies and significant employment concentration. As part of this cluster, Sherwood's industrial lands can expect to meet good demand over coming decades.

However, given the sheer area of the industrially-zoned lands between Sherwood and Tualatin, Sherwood might consider different uses for some of this land, particularly if it will be included in the Town Center.

Industrial uses are not a natural fit for a mixed-use environment such as a Town Center, featuring significant residential areas. Industrial users can produce noise, smells, dust, truck traffic and other externalities which are not a natural fit with other uses. Industrial uses tend to be very low density, and tend not to generate pedestrian traffic. They also tend to locate on inexpensive land undesirable for most other uses.

**Sherwood Old Town Neighborhood:** The Sherwood Old Town neighborhood is located in the southern end of the Study Area. It contains the City's traditional core and many of its oldest buildings. The area was built up around the heavy rail which runs through the center of it, which served local farmers and industry. Today, Old Town is home to many small, locally-own businesses, Sherwood's civic buildings, and park space.



Old Town is characterized by a small city-grid layout, with many blocks featuring alley access through the center. Many old homes remain in Old Town, some of which have been converted to commercial and office use. Recently there have been two prominent mixed-use developments as well, featuring residential units over commercial space. There are also many vacant lots in Old Town, providing future development opportunities.

Old Town lies close to the geographic center of the city. To the south and east are single-family neighborhoods. To the west is Stella Olson Park, school properties and more low-density residential neighborhoods. Old Town can be accessed from the north by Sherwood Boulevard or Langer Farms Parkway, and from the west by Meinecke Road.

Old Town is bordered by many institutional uses to the north including the local elementary and middle-schools and the St. Francis private school. These school campuses create somewhat of a barrier for pedestrians between Old Town and the rest of the Study Area to the north. However, the residential areas in the middle of the Study Area (for instance around SW Century Drive) are still within .5 miles of Old Town.

As a Town Center, the area has some advantages and potential challenges:

#### Advantages

- Traditional town center
- Historic character, walkable area
- Heart of civic uses including new library and City Hall and parks
- Street grid facilitates mixed uses and density
- Remaining vacant parcels, but scattered

#### Challenges

- Visibility and awareness from outside the community
- Vacant parcels are somewhat small and scattered
- While Old Town may add density, adjacent areas are low density
- Fractured ownership among vacant parcels

#### Conditions for Residential Use

In general the Old Town area, and the south portion of the Study Area, is well-suited for residential use. Central Sherwood is largely residential in character, while the commercial uses in Old Town are on a small scale conducive to living and working in close proximity.

New residential development in Old Town itself is likely to be of higher density than the historical single-family uses. To make redevelopment feasible, attached housing of two to three stories is likely. Ownership and rental uses are possible in the area.

#### Conditions for Retail Use

Old Town is well-suited for smaller, locally-focused retail use. The area features many restaurants and commercial services. While these smaller types of users are limited in size, they are the best suited for vertical mixed-use development, and lower traffic streets.



Larger retail development, such as a shopping center or even small strip center, is unlikely to occur in the Old Town area due to higher-visibility opportunities in other parts of the city.

#### Conditions for Office Use

As with retail, the Old Town area has the most potential to add smaller office users serving the local market. These users are suited to be the ground floor use of a mixed-use development. New office development in the Old Town area is likely to be either mixed-use or a one- or two-story building. Given the size of development parcels in Old Town, they are likely to be modest in size.

However, the southern end of the Langer property on the east side of the Study Area is very near Old Town and might be suitable for larger office buildings. In addition, there are some older legacy industrial uses near Old Town which may eventually be suitable for office use, and would provide larger development parcels. However, as new office buildings get larger, they will prefer greater access and visibility from major arterials.

#### Conditions for Industrial Use

There are legacy industrial uses in the area which may remain indefinitely. Over the long term, perhaps many decades, parcels this area will provide a higher economic return for other uses, and industrial uses can be expected to redevelop. Given the presence of largely vacant parcels in the area, these properties may need to fill in over time, before older industrial users have economic incentive to move on.

Industrial uses are not a natural fit for a mixed-use environment such as a Town Center, featuring significant residential areas. Industrial users can produce noise, smells, dust, truck traffic and other externalities which are not a natural fit with other uses. Industrial uses tend to be very low density and locate on inexpensive land undesirable for most other uses.



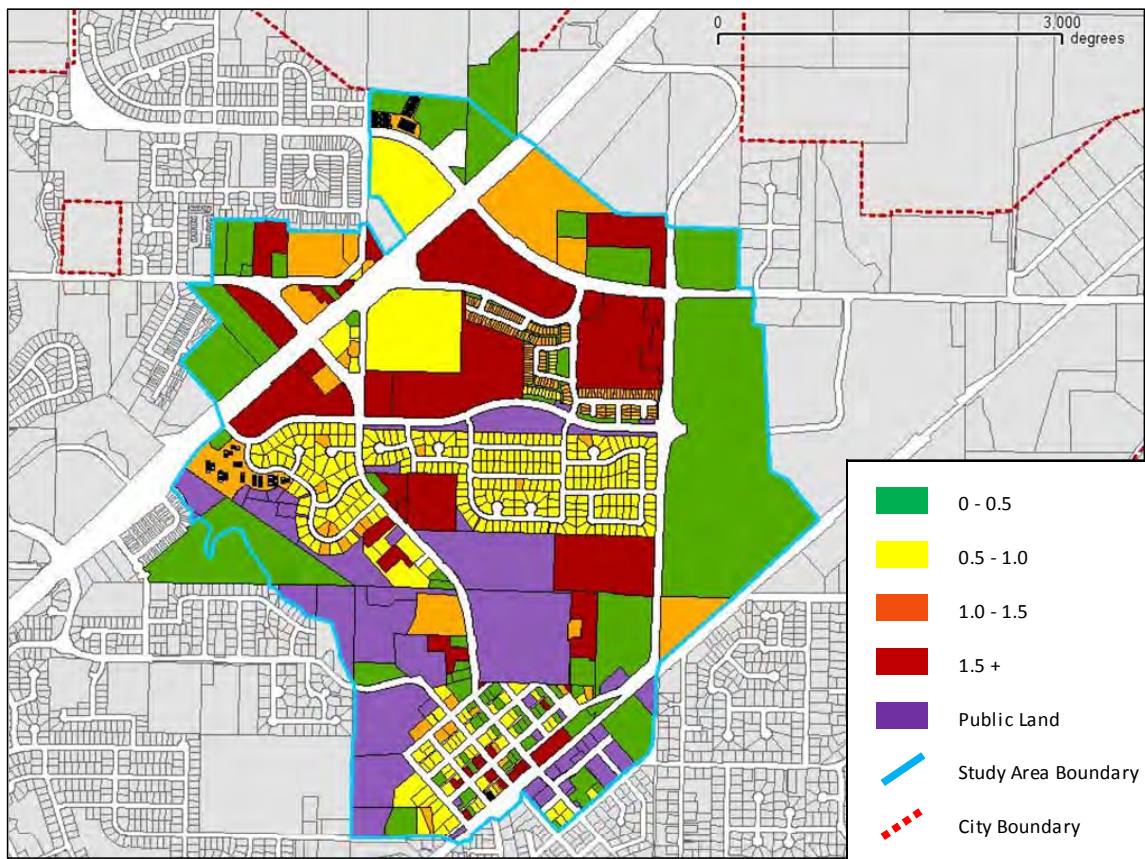
## VII. IMPROVEMENT-TO-LAND VALUE RATIO

One common measure of the “developability” of a parcel is the ratio of the improvement (building) value to the land value (I:L Ratio). Because land value tends to remain steady or increase, a low relative value for the built improvement can demonstrate that the value of a particular building has deteriorated to the point where it might be a good candidate for redevelopment. If a parcel is vacant, it will have a I:L Ratio of zero.

The I:L Ratio is most useful for assessing larger areas such as the study area. For any specific parcel, the I:L Ratio can be deceiving for any number of reasons. For instance, available data on valuations may be incorrect, or the property may be somehow constrained, or legally encumbered, or simply belong to an owner with no plan to change it for a long period.

For these reasons, I:L Ratio data should be used as one indicator among others on the likelihood of redevelopment of any specific property.

**FIGURE 7.1: I:L RATIO, SHERWOOD TOWN CENTER STUDY AREA**



SOURCES: Metro RLIS, Johnson Reid LLC



Figure 7.1 shows the estimated I:L Ratio of parcels in the study area, based on available data from the Metro RLIS system. Those properties with lower ratios are more likely to develop or redevelop while those with a higher ratio are considered less likely.

In the case of Sherwood, properties with an I:L Ratio of 0.5 or higher should be considered poor candidates to redevelop in the near to mid-term. Those properties shown in green have the lowest I:L Ratio because they are vacant or have a low-value improvement. Those properties are the best candidates for development in the next 10 to 20 years.

*For reference, a table of Improvement-to-Land Value Ratios for the Project Study Area parcels will accompany this memo in excel format.*



## VIII. DEVELOPMENT FORMS

This Section discusses the feasibility of new development within the Study Area. The goal of this discussion is to provide a picture of development parameters under current and expected market conditions. The parameters of economic viability provided here are meant to inform the creation of redevelopment alternatives in subsequent phases of this planning process.

### **Likely Development Forms**

This section discusses the development forms that are likely for the different land uses across the Study Area in Sherwood. The specific boundaries of a new or revised Town Center (if any) have not been identified at this stage of the process, and therefore this discussion addresses the two broad sub-districts identified in the previous section. These areas include a range of neighborhoods characterized by different existing land uses. Therefore, this discussion is general by necessity.

*The development forms discussed do not reflect the impact of public policy and design initiatives which might result from this planning process, and might influence the density and design of what is ultimately developed within the Town Center.*

The four land use types under consideration are Residential, Office, Retail, and Light Industrial.

### **Summary of Development Forms:**

The following table summarizes the development forms which are currently likely to appear in new development in the sub-districts, *absent public policy changes or incentives*.

**FIGURE 8.1: VIABLE NEAR-TO-MID TERM DEVELOPMENT FORMS**

Land Use	Sherwood Town Center		Sherwood Old Town	
	Form	Achievable Pricing	Form	Achievable Pricing
Rental Housing:	2 - 3 story	\$1.30/sf/yr	2 - 3 story, or above mixed use	\$1.30/sf/yr
For-Sale Housing:	2 - 3 story, Townhome	\$160 /sf	2 - 3 story, Townhome	\$160 /sf
Retail:	Single story	\$25/sf/yr	Single story, or below mixed use	\$18/sf/yr
Office:	2 - 3 story	\$22/sf/yr	1 - 2 story	\$18/sf/yr
Industrial:	1 story workspace, w/ 2-story office	\$12/sf/yr	1 story workspace, w/ 2-story office	\$12/sf/yr
Parking:	Surface		Surface, or tuck-under	

SOURCE: Johnson Reid LLC

**Low-Rise vs. Mid-Rise Development:**

The density of development forms is driven by achievable pricing/rent levels at the site in question. In a metropolitan environment, the highest rents and land values are typically found in the center of the largest city. Not coincidentally, this is where the most density occurs in the built environment. The central city is where high-rises, full-site coverage buildings, and parking garages are found. In short, the higher rent levels achievable in the city center justify the cost of more intense use of the land.

As one moves away from the central city, towards the suburban environment, achievable rents and land values tend to decrease steadily. In most suburban environments, achievable rent levels will support low-rise construction without some form of additional subsidy. (“Suburban” in this context means anything outside of Downtown Portland, and the immediately surrounding inner neighborhoods.)

Low-rise development is typically limited to three or four stories, and utilizes wood frame construction. The shift from four to five stories often includes switching to concrete and steel frame construction, which adds substantial cost. Unless achievable rents also rise, a building that is feasible with low-rise construction can become infeasible by adding a single story.

Major factors which increase in cost for denser development can include materials, structured parking, specialized labor and equipment, building elements such as elevators and firewalls, and costs of entitlement and the approval process. Because of this dynamic, most locations outside of Portland’s central city face difficulty in achieving a built form over three stories in height without subsidy.

The lower rents which are currently achievable in Sherwood will limit some of the development types that the market is likely to bring to the area. However, in an environment where most existing uses are single-story with ample surface parking, significant increases in density can be achieved while still relying on “low-rise” wood construction to control costs. Two- to three-story buildings, perhaps with reduced parking and other design considerations can greatly increase the intensity of land use, without necessitating the higher construction costs of concrete and steel mid-rise buildings.



**Likely Residential Forms:**

Currently, the prevalent multi-family development type in Sherwood is a two-to-three story walk-up garden apartment, with surface parking. Such properties are wood construction, with apartment flats and occasionally two-story units. Such properties generally feature an FAR of .75 or less, and commonly no more than 0.5 FAR. The achieved density may be anywhere from 14 to 30 dwelling units per acre. (Note that the greatest allowed density in Sherwood is currently 24 units per acre).

The following table presents examples of two common suburban development forms.



**FIGURE 8.2: LOW-RISE RESIDENTIAL, EXAMPLES**

<p>Garden Apartment or Condominiums with Surface Parking</p>	<p>Typically wood frame construction with surface parking, carports or stand-alone garages. Construction is usually two to three stories high, with a density approaching 30 units per acre. This is a predominant form outside the central city.</p>	
<p>Attached Duplex/ Townhomes</p>	<p>Also typically wood frame, these units often have parking under the unit from street or back alley. Projects can be fee simple or with condominium ownership of the ground. 16 to 22 units per acre.</p>	

Source: Johnson Reid LLC

Attached for-sale condos become rarer as one moves away from the central city. Typically, if condos are found in the suburbs it is in a specialized environment such as on a golf course, or in a retirement village. In recent years, during the heated real estate market, condo development began to spread from its traditional location in the central city, driven by high demand and pricing which has softened considerably.

JOHNSON REID believes it is unlikely that the market will deliver condos to suburban communities in any great number for some time. This is because houses in these areas remain relatively affordable in comparison to the pricing level of a new-construction condo unit. As Town Centers or transit station communities develop with attractive amenities over time, condominium development will become more attractive. The next strong real estate up-cycle making this type of development feasible may be 15 to 20 years away, but the actual timing is unpredictable.

For-sale townhomes are a more viable development form in outer locations than condo flats. Built in attached groups of two to four, with sufficient common and green space, these should be a viable form in the Sherwood market area. Townhomes can achieve a density of 16 to 22 units per net acre.



With the end of the “housing boom” in 2007, rental housing has regained its important place as a good housing option for many segments of the population. It remains the most likely use for most housing forms denser than townhome development.

Within the Study Area, most of the area would be appropriate for these types of housing, depending on zoning. The Old Town area is currently more likely to support mixed-use development with attached housing types built over commercial uses. The compact street grid and mix of uses in Old Town is more conducive to this form.

### **Likely Office Forms:**

There is a variety of office space in Sherwood, offering a range of ages, conditions, and formats. Low rise office forms can range from small single-user commercial buildings to larger office-park style buildings.

While office development in Sherwood may be limited to three stories, low-rise construction still allows for a range of attractive design in new office development, including brick facing or large window surface designs. These forms can also achieve considerable employment density.

As with residential uses, three stories can allow for the development of significant density. Such office construction typically relies on surface parking, which can limit the floor area ratio that the building itself can achieve (0.3 to 0.35 are typical market-driven FAR). In the suburban environment structured parking is very rare, and often seen only near hospitals and regional shopping malls.

The greatest challenge to large-scale office development can be drawing the interest of large employers to an area. Town Centers may have to feature amenities and perhaps a strong overall marketing vision to introduce and draw employers to the mixed-use atmosphere.

**FIGURE 8.3: LOW-RISE OFFICE, EXAMPLES**



Larger office buildings like these may be more suitable to the north of the Study Area. In keeping with the mixed-use nature of Old Town, a more likely form of development might be smaller office spaces meant for small firms and individuals. More modest in scale, these forms can fit comfortably next to residential and retail uses, including on the ground or upper floors of mixed use projects.



### **Retail:**

The Study Area features two main types of retail uses: auto-oriented shopping centers in the Town Center area, and small-scale local retail in the Old Town area.

In Sherwood, retail tends to be single-story with surface or street parking. Multi-story retail is essentially non-existent outside of shopping malls and Downtown Portland. Typical FAR for suburban retail is 0.2 to 0.3 to allow for ample parking.

It should also be noted that parking is essential to retail success. Only in very dense areas can businesses thrive with no off-street auto parking. Parking needs to be convenient, but can be formatted in different ways – for instance, shared parking for a district. Storefront businesses with ample on-street parking and perhaps a lot within convenient walking distance may not require surface parking of their own.

In the Study Area, some small-format retail will also be viable as the ground-floor use in a mixed-use project. Currently, the Old Town neighborhood would be more conducive to this development form.

If mixed-use is to be added in the north Study Area, it should be part of a larger planned development, for instance as a master-planned development on one of the largest remaining development parcels. A significant concentration of other uses must be in near proximity to support mixed use.

**FIGURE 8.4: LOW-RISE MIXED USE, EXAMPLE  
RESIDENTIAL OR OFFICE OVER RETAIL**



Old Town Lofts, Sherwood: Mixed use residential over commercial



Lake Norman, NC: Example of low-rise residential over retail mixed use. Significant density added with low-rise development.

### **Light Industrial:**



The development form of industrial uses is almost uniformly single-story. Industrial businesses often seek the lowest-rent real estate of all the land use categories (other than rural uses), and therefore inexpensive construction types in areas with relatively low land values are the most likely location. The exception is high-value, high-tech manufacturing businesses. However, these businesses do not typically locate in Town Center environments.

In addition, true industrial uses can be disruptive to residential or office or other uses in a mixed use environment, due to noise, fumes, traffic, and hours of operation. Industrial areas programmed in the station communities may be best left segregated to the extent possible for these reasons.

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## Appendix E:

# Alternatives Evaluation Report

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# Alternatives Evaluation Report

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## Sherwood Town Center Plan



**Public Review Draft  
January 10, 2013**

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# I. Introduction

## Project Background

In Spring 2012 the City of Sherwood received a Transportation Growth Management Grant (TGM) from the Oregon Department of Transportation to develop a Town Center Plan for the City. A “Town Center” is a regional designation and is defined as a center of activity for a community. Town Centers have a strong sense of community identity and act as the “principal centers of urban life in the region.”<sup>1</sup>

In 2000, the Sherwood City Council provided direction to Metro to designate the commercial area on Highway 99W as Sherwood’s Town Center. Before the highway was widened, Tualatin - Sherwood Road, Sherwood Boulevard and Highway 99W intersected in a way that created “Six Corners,” a name that is still in use for this area. The Town Center designation was based on the recognition that Six Corners is the city’s main retail commercial area. However, historic settlement patterns as well as recent development and investment in Old Town suggests that this area could also be considered a “Town Center.”

The outcome of this planning process will be a draft Sherwood Town Center Plan that includes a recommended boundary, within which specific goals, policies and regulations apply, and implementation measures that are consistent with a vision statement for the Town Center. This process is focused on a study area that includes Old

Town<sup>2</sup> to the south, commercial areas in and around the Six Corners area on Highway 99W to the north, Cedar Creek to the west, and Langer Farms Parkway to the east; however, areas outside of the study area may be included in the final Town Center boundary as appropriate.

## Process and Outreach

A Technical Advisory Committee (TAC) and Stakeholder Advisory Committee (SAC) have been meeting regularly since June 2012 to review policy-related and technical materials associated with the project. In separate briefings, a Steering Committee comprised of the Sherwood Planning Commission has been guiding the direction of the project and providing recommendations. These committees met in September 2012 to discuss existing land use, economic, and traffic conditions within the study area. Using an Existing Conditions Report<sup>3</sup> for background, committee members discussed attributes of a “town center” and considered a draft vision statement meant to both describe and inspire actions associated with a future Sherwood Town Center. The Existing Conditions Report also identified a variety of opportunities within the study area that might contribute to a successful town center, as well as some potential barriers to achieving that vision.

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<sup>1</sup> Urban Growth Management Functional Plan, Section 3.07.610

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<sup>2</sup> As referenced in this report, Old Town is an area that is encompassed by the Old Town Overlay District on the City’s Zoning Map. See Figure 10 in Existing Conditions Report, available through the project website:

<http://www.sherwoodoregon.gov/sherwood-town-center-plan>.

<sup>3</sup> The *Existing Conditions Report* is available through the project website:

<http://www.sherwoodoregon.gov/sherwood-town-center-plan>.

Information from the Sherwood Town Center Plan process was presented at an Open House on October 3, 2012. Citizens who attended the Open House were invited to use this information, along with their personal knowledge of the city, to discuss geographically specific areas that might be considered for a Town Center designation.

Feedback from Open House participants, along with the input received from TAC and SAC meetings and initial interviews with key stakeholders, informed the development of three land use and transportation alternatives described in Section II. Based on land use and transportation improvement assumptions specific to each alternative, the consultant team analyzed future traffic conditions under each scenario. The objective of the transportation analysis is to provide a comparison of the alternatives and identify potential impacts. The results of this transportation sensitivity analysis are found in Appendix A.

The TAC and SAC discussed the three Town Center alternatives at the November committee meetings. These comments are summarized in Section III, under “Community Input.”

The project’s Public Involvement Plan helps guide public outreach and involvement and is available via the project website <http://www.sherwoodoregon.gov/sherwood-town-center-plan>. The City is maintaining a distribution list to ensure that information, including opportunities for participating in the planning process, is distributed in a timely manner to those who have indicated an interest in the project.

## Goals and Objectives

An initial step in the planning process was identifying draft goals and objectives for the Sherwood Town Center Plan project. These were developed to guide the planning process and provide a framework for the evaluation criteria that have been used to assess potential development and redevelopment scenarios. A general overview of how development of the alternatives has been guided by the objectives is included below, organized under the major goal headings.<sup>4</sup>

### Goal 1 – Community Involvement

Objectives under this goal include involving those individuals or groups that are impacted by and/or benefit from the plan and providing a variety of tools to allow all community members of Sherwood the opportunity to learn about and participate in the planning process. The community involvement and outreach program for this planning process will continue to help the City achieve this objective. While there has been good representation from both residents and business interests throughout the study area, up to this point, participation from commercial interests on Highway 99W and in the northern portion of the study area has not been commensurate with the amount of land included in the study area, indicating that this area may be underrepresented.

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<sup>4</sup> A complete list of the objectives can be found in the Town Center Goals, Objectives and Evaluation Criteria document on the project website, <http://www.sherwoodoregon.gov/sherwood-town-center-plan>.

## Goal 2 – Town Center Vision

Objectives for the Town Center Vision include establishing a vision statement that describes the uses, activities, look, and feel of the future Sherwood Town Center, determining the Town Center boundaries, and creating opportunities for public/private partnerships to achieve the vision. A draft vision statement was developed based on input from the Steering Committee (see Appendix B). This planning process will result in a recommended Town Center boundary, as well as a refined vision statement and implementation strategies to achieve the vision.

## Goal 3 – Land Use and Transportation

Objectives under Goal 3 are further categorized under Urban Vibrancy, Transportation and Efficiency, Economic Development, and Active Transportation. These objectives are largely embodied in the evaluation criteria; some are specifically expressed in the evaluation of the “integrated land use and transportation system” (criterion #6 – see page 19). Objectives include proposing modifications to planned land uses, transportation improvements, funding mechanisms, and public/private partnerships necessary to support the ultimate Town Center designation. These objectives will be fulfilled through the Town Center Plan, which will establish the boundary, describe the desired characteristics of the Sherwood Town Center, and will include associated new or modified city policy, regulations, and future actions to implement the plan.

## Goal 4 – Plan Coordination

Objectives under this goal are intended to ensure that the Sherwood Town Center designation and plan is consistent with existing local and regional plans and land use regulations. As described in greater detail

under Section III, this planning process has been informed by Metro’s Urban Growth Management Functional Plan. City staff has also ensured that the Town Center Plan process and the ongoing Southwest Corridor Plan process have been coordinated and have informed each other. The resulting Town Center Plan will demonstrate consistency with Local, Regional, and State plans and requirements, or will propose amendments to ensure that consistency.

## Goal 5 – Implementation

Objectives under Implementation include amending the Sherwood Comprehensive Plan to include the Town Center Plan and proposing amendments to the TSP and the Development Code to implement the plan. Consistency with applicable regional and state requirements is also an objective under this goal. This planning process will include the adoption of the Town Center Plan and any amendments to the Sherwood Comprehensive Plan, TSP, and/or Development Code necessary to implement the Town Center Plan.

## II. Town Center Alternatives

The three alternatives – “Old Town” Town Center, “All Study Area” Town Center, and “Edges” Town Center – are described in this section; graphics to illustrate the alternatives are provided in Appendix C. While the alternatives are presented as distinct packages of land use, transportation, and urban design elements within a given boundary, what could emerge as a preferred alternative may “mix and match” elements of different alternatives, and/or incorporate new elements or a different boundary than are illustrated in any of the three alternatives presented here.

### Overview

All of the Town Center alternatives assume:

- ✦ An increase in commercial and residential land use intensity within the identified Town Center boundary from development on vacant land, as well as from infill and redevelopment;
- ✦ High Capacity Transit (HCT) service to the identified Town Center;<sup>5</sup>
- ✦ Roadway improvements to accommodate the level of growth reflected in the land use assumptions;

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<sup>5</sup> The alternatives identify potential High-Capacity Transit routes and station locations that would fit with the land use character and transportation improvements assumed for each scenario. These designations, if included in a Town Center Plan, would be preliminary and intended to help inform the Southwest Corridor Plan process, through which further planning and refinements will take place.

- ✦ Enhanced gateways to mark the transition to the Town Center with signage, public art, signature development or other visual cues; and
- ✦ New and enhanced facilities for pedestrians and bicyclists (Appendix D).<sup>6</sup>

However, each of the three alternatives takes a different approach to where and/or to what degree these elements occur. The key differences between the alternatives on these elements are summarized in [Table 1](#) beginning on page 11.

The alternatives recognize the inherent differences between existing commercial and civic areas and the character of mixed development that would be suitable in each:

- ✦ Old Town is an active, downtown “main street” area that will benefit from selective redevelopment and infill as well as improved connections to Highway 99W, schools and parks, and nearby residential neighborhoods.

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<sup>6</sup> The transportation network includes a number of planned pedestrian and bicycle improvements that are currently included in an adopted plan or part of a transportation project that will improve overall non-motorized connectivity within the study area (for example, the Cedar Creek trail). The consultant team has also identified improvements that are specific to one or more of the Town Center alternatives and would further enhance the bicycle and pedestrian system in a manner that is consistent with the type of land use and intensity assumed. Bicycle and pedestrian improvements are shown in Appendix D; the map identifies if the improvement is currently planned or if it is a new concept associated with an alternative or alternatives.

- ⊕ Mixed-use development in Six Corners would occur on a larger scale with opportunities to reorient existing buildings towards active streets and/or add new “liner buildings” close to the street in what today are large parking lots.

## “Old Town” Town Center

The “Old Town” Town Center designation focuses wholly on Old Town and the residential neighborhood immediately to the south, with an emphasis on connections to other key destinations, such as the Six Corners area, Snyder Park, and the Cedar Creek Trail. Mixed use (residential and commercial) infill, renovation of historic properties, and redevelopment increase density to better support transit and provide the opportunity for more employment and living options in the heart of Old Town. The increase in residents and workers in the area supports new businesses and amenities, energizing Old Town and providing an attractive and accessible destination for all Sherwood residents and workers as well as visitors from throughout the region.

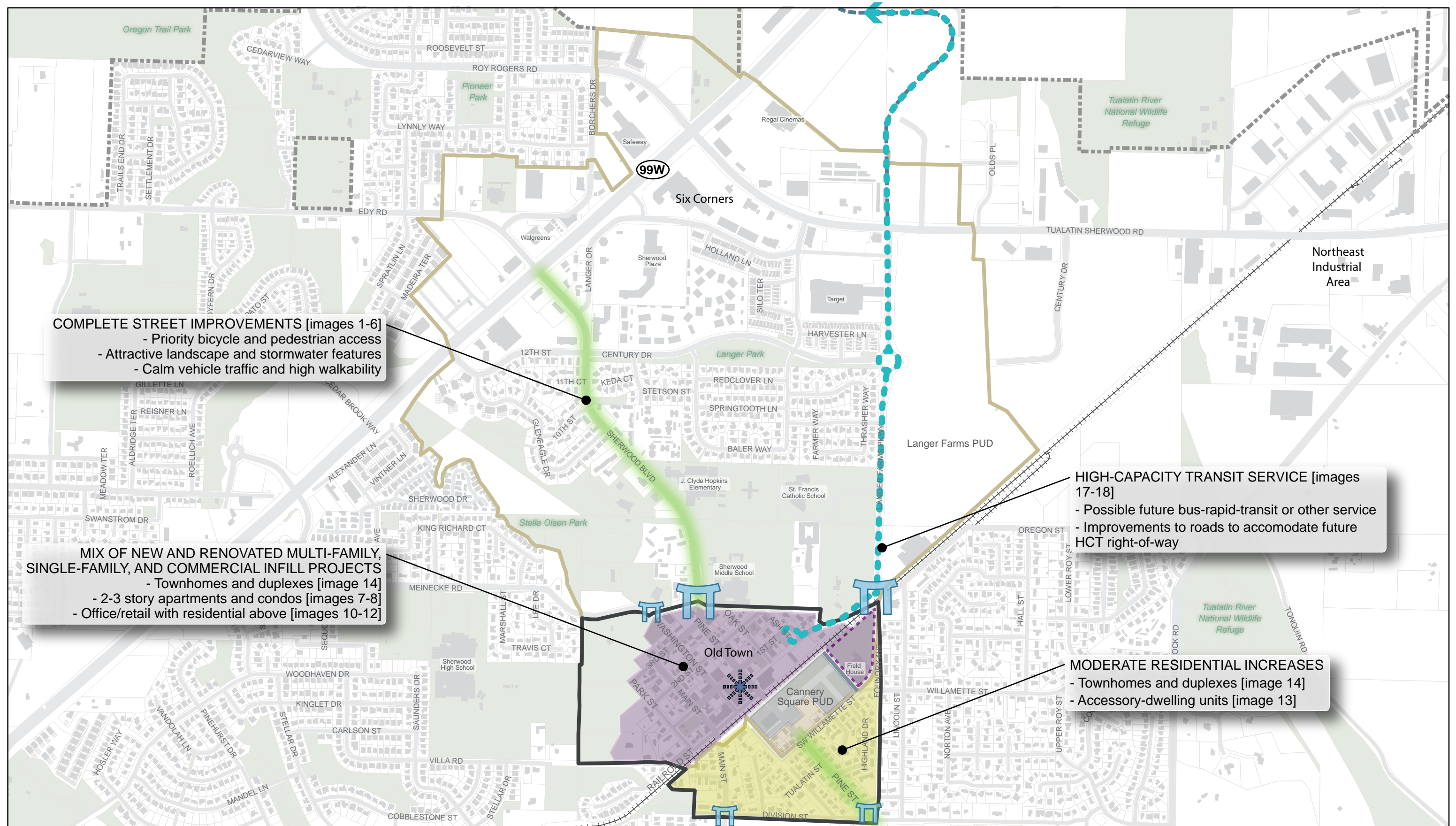
## “All Study Area” Town Center

The “All Study Area” Town Center designation encompasses both the historic Old Town area and the local and regional shopping destination around Six Corners, including land on both sides of Highway 99W. Because the Old Town area already has many of the characteristics of a Town Center, the focus of this alternative is on transforming the Six Corners area to be more pedestrian-friendly and transit-supportive, with an emphasis on making Highway 99W less of a barrier. The highway is narrowed, with the extra width reallocated to transit, bike, and pedestrian facilities and landscaping. Over time,

buildings fill in closer to the street to provide a storefront environment. Six Corners continues to attract major retailers, while Old Town provides a more local shopping experience with small shops and walkable streets.

## “Edges” Town Center

The “Edges” Town Center designation recognizes the natural and man-made features that may act as barriers – including Highway 99W to the northwest, Cedar Creek to the west, the railroad tracks to the southwest in Old Town, the industrial area to the east, and Tualatin-Sherwood Road to the north – and focuses on enhancing the area within these boundaries. Both Old Town and the commercial areas south of Highway 99W are included, as well as the intervening residential areas and school properties. Old Town sees continued growth and gradual transformations while serving as a southern anchor to the Town Center. In the Six Corners area, Langer Drive is re-envisioned with a “Main Street” feel to provide a northern anchor to the Town Center.



## Alternative 1: Old Town

**SHERWOOD TOWN CENTER**  
20 DECEMBER 2012

Data Source: City of Sherwood and Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

- Proposed Town Center
- Project Study Area
- City boundary
- Railroad

### Development Type

- Mixed Commercial / Residential (least-to-most intensity)
- Single-family Residential
- Multi-family Residential
- Specific Opportunity Site (based on Improvement/Land Ratio)

### Circulation / Activity

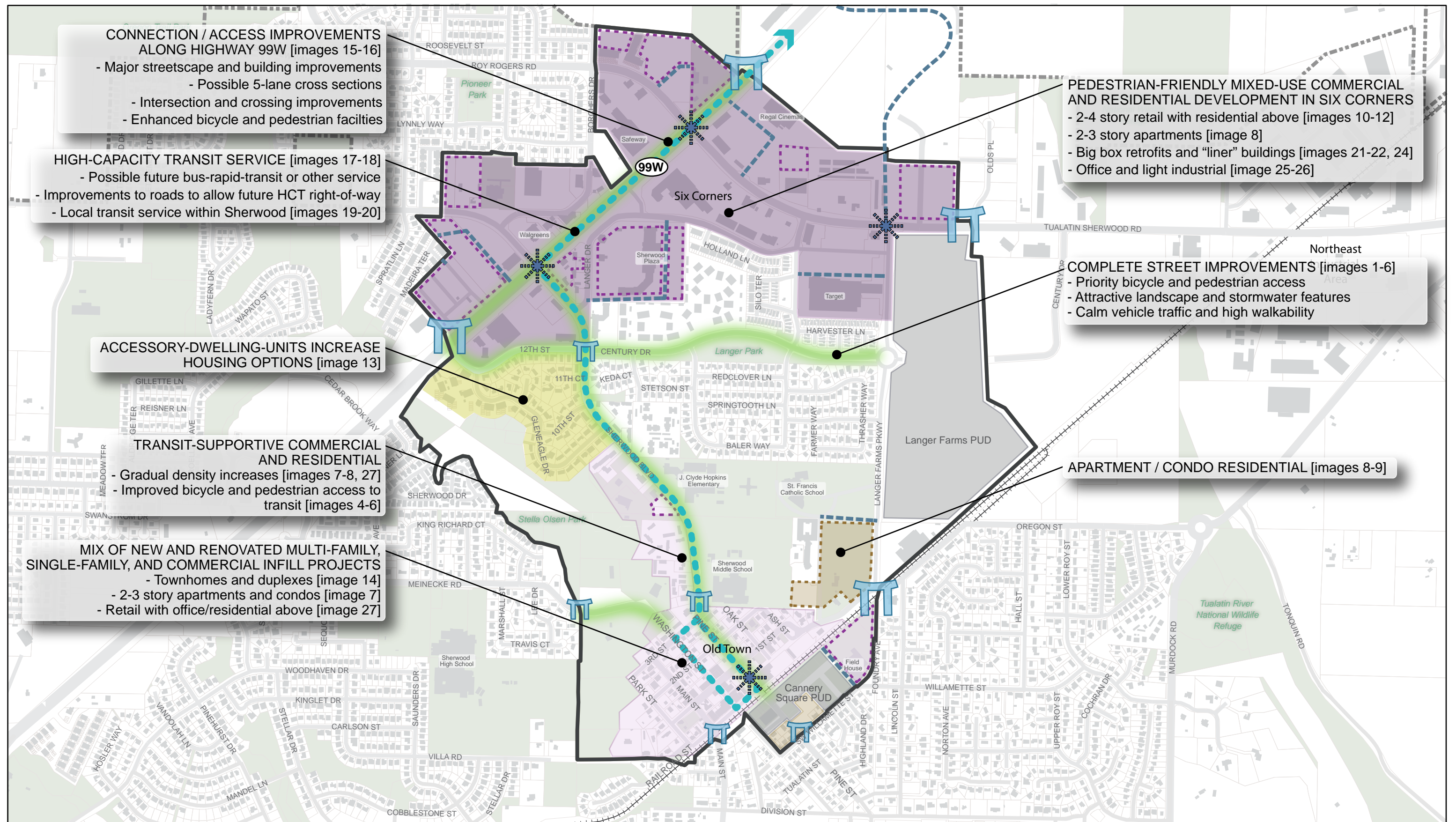
- Future Activity/Development Node
- Possible Future Transportation Access
- "Complete Street" Improvements

- Future High-Capacity Transit
- Primary Gateways
- Secondary Gateways

0 400 800  
Feet

1 inch = 800 feet  
(at 11"x 17" display or print)





## Alternative 2: All Study Area

**SHERWOOD TOWN CENTER**  
20 DECEMBER 2012

Data Source: City of Sherwood and Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

- Proposed Town Center
- Project Study Area
- City boundary
- Railroad

### Development Type

- Mixed Commercial / Residential (least-to-most intensity)
- Single-family Residential
- Multi-family Residential
- Specific Opportunity Site (based on Improvement/Land Ratio)

### Circulation / Activity

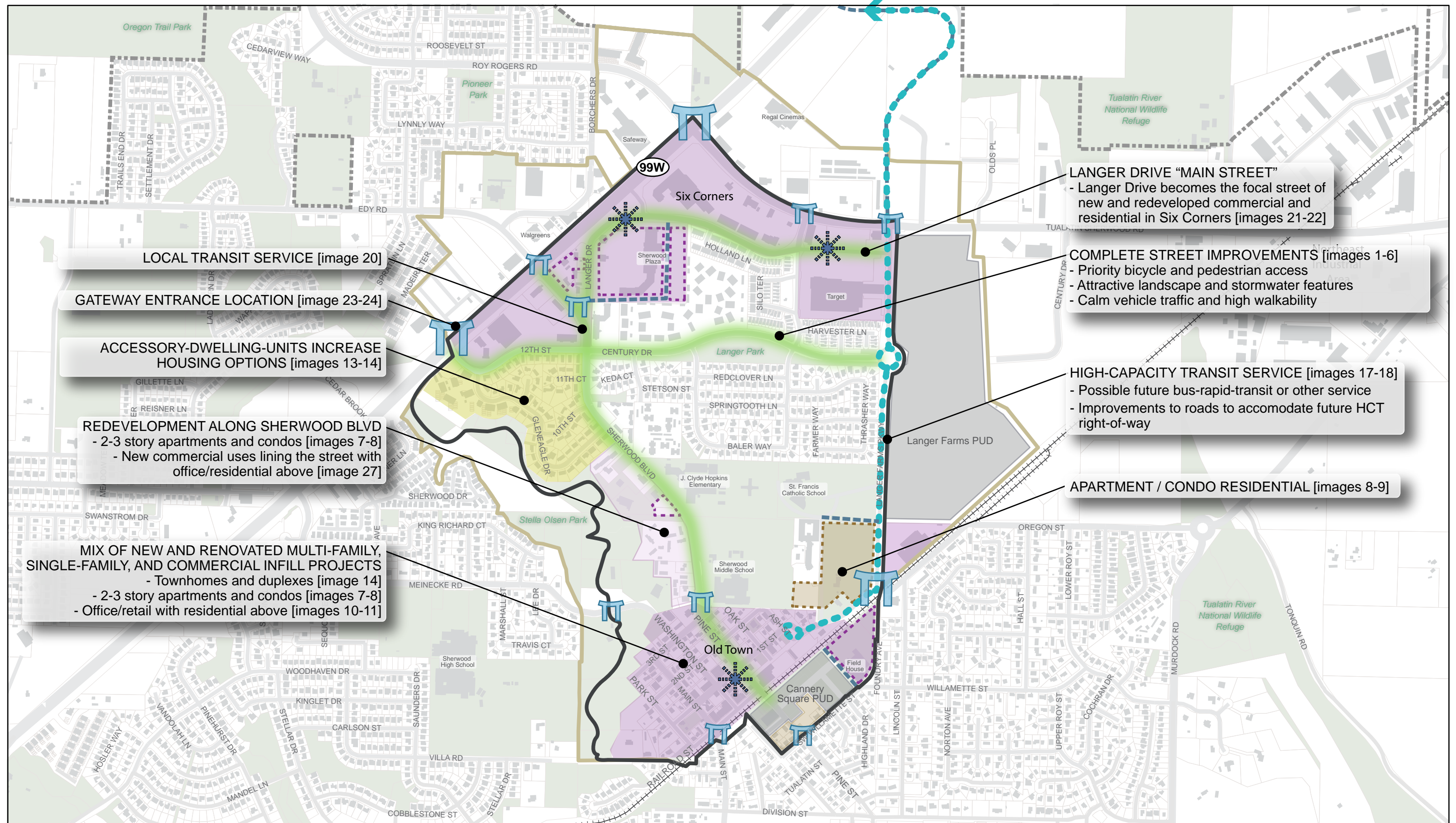
- Future Activity/Development Node
- Possible Future Transportation Access
- “Complete Street” Improvements

- Future High-Capacity Transit
- Primary Gateways
- Secondary Gateways

0 400 800  
Feet

1 inch = 800 feet  
(at 11" x 17" display or print)





## Alternative 3: Edges

**SHERWOOD TOWN CENTER**  
20 DECEMBER 2012

Data Source: City of Sherwood and  
Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

- Proposed Town Center
- Project Study Area
- City boundary
- Railroad

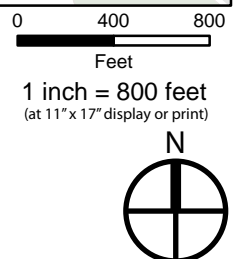
### Development Type

- Mixed Commercial / Residential (least-to-most intensity)
- Single-family Residential
- Multi-family Residential
- Specific Opportunity Site (based on Improvement/Land Ratio)

### Circulation / Activity

- Future Activity/Development Node
- Possible Future Transportation Access
- "Complete Street" Improvements

- Future High-Capacity Transit
- Primary Gateways
- Secondary Gateways



**Table 1: Town Center Alternatives Key Characteristics**

		Alternative 1	Alternative 2	Alternative 3
Element		“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
Land Use Character and Development Assumptions	Overall	<ul style="list-style-type: none"> <li>⊕ Highest level of (re)development in and around Old Town</li> <li>⊕ No change for Six Corners</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Highest level of (re)development for Six Corners area</li> <li>⊕ Least change in and around Old Town</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Some intensification of commercial and residential development in both the southern portion of Six Corners and Old Town</li> </ul>
	Intensity in Old Town	<ul style="list-style-type: none"> <li>⊕ Numerous infill projects on underused and vacant lots within Old Town, including retail, offices, multi-family condominiums and apartments, and townhomes.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Infill on vacant parcels scattered throughout Old Town allow for small-scale mixed-use development.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Infill on vacant parcels scattered throughout Old Town allow for small-scale mixed-use development, along with some slightly larger redevelopment projects.</li> </ul>
	Other Opportunity Sites	<ul style="list-style-type: none"> <li>⊕ The city-owned Public Works property (bounded by the railroad track, Foundry Avenue, and the Cannery Square PUD to the southwest) provides an opportunity for redevelopment with multi-family dwellings and a mix of office and retail.</li> </ul>		
		<ul style="list-style-type: none"> <li>⊕ The residential neighborhood south of Old Town allows for a gradual increase in density as duplexes, townhomes and accessory dwelling units (ADUs) are constructed over time.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Increased activity and development on the northwest side of Highway 99W, including new multi-family housing and new retail/commercial uses.</li> <li>⊕ The north side of Tualatin-Sherwood Road provides opportunities for new office, retail, and light industrial development.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Existing shopping centers along Langer Drive add new “liner” buildings or modify to existing buildings to re-orient or better connect pedestrian entrances to Langer Drive, helping to create a “Main Street” feel.</li> </ul>
			<ul style="list-style-type: none"> <li>⊕ A gradual increase in density in established subdivisions north of Old Town occurs as accessory dwelling units (ADUs) are constructed over time.</li> <li>⊕ Redevelopment and property upgrades along the west side of Sherwood Boulevard south of Gleneagle provide gradual increases in residential and/or commercial density and sites that better accommodate pedestrians, bicyclists and access to transit.</li> </ul>	

		Alternative 1	Alternative 2	Alternative 3
Element		“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
Transit	HCT		⊕ Vacant land northeast of Old Town provides an opportunity for additional multi-family housing adjacent to Old Town.	
		⊕ High-capacity transit (HCT) to connect Old Town with the greater Portland region could be routed down Langer Farms Parkway to quickly move people in and out of the Town Center. ⊕ An HCT station or transit center would be located within Old Town, with few or no other stops in the City of Sherwood for high capacity transit use.	⊕ High-capacity transit connections along Highway 99W and Sherwood Boulevard connect Old Town and Six Corners to the region along the Southwest Corridor. ⊕ A primary HCT station could be provided in the Six Corners area with local/feeder service to Old Town.	⊕ High-capacity transit connections could be provided along Langer Farms Parkway to connect Old Town and the Langer PUD to the region along the Southwest Corridor.
	Local	⊕ Local transit routes could include connections along Sherwood Boulevard, Langer Drive, and Langer Farms Parkway.		
Roadway Improvements		⊕ Enhanced bike/pedestrian facilities in parts of the Old Town street grid ⊕ Increased redevelopment in Old Town could help implement planned alleyway improvements	⊕ Highway 99W would be narrowed to two through-lanes (from the current four through-lanes) in each direction between approximately Tualatin-Sherwood Road and Sherwood Boulevard. This design reduces the crossing distance and improves safety for pedestrians. The modified roadway design could also provide right of way for exclusive HCT use along Highway 99W.	⊕ Enhanced streetscape along Langer Drive supports its transformation to a “Main Street” feel.
		⊕ “Complete Streets” (calm roadways safe for all users featuring stormwater and landscape features, attractive	⊕ The “complete streets” improvements on Sherwood Boulevard and Century Drive, as well as the recently improved Langer Farms Parkway, connect districts and residential neighborhoods and make walking and biking within the Town Center	

		Alternative 1	Alternative 2	Alternative 3
Element		“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
		streetscapes, and easy access for people on foot and bicycle) improvements on Sherwood Boulevard complement recent improvements on Langer Farms Parkway to provide for welcoming access to Old Town from Highway 99W.	pleasant and safe.	
Key	Gateways	<ul style="list-style-type: none"> <li>⊕ Sherwood Boulevard and Langer Farms Parkway are the primary gateways where the majority of travelers will enter into Old Town.</li> <li>⊕ Additional, secondary gateways include Meinecke Road / Washington Street, Pine Street, and Main Street.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Primary gateways along Highway 99W, Tualatin-Sherwood Road, and Oregon Street mark the transition to the Town Center area, where development and street character will differ from the surrounding area.</li> <li>⊕ Secondary gateways at the intersections of Highway 99W / Sherwood Boulevard and Tualatin-Sherwood Road / Langer Farms Parkway, as well as other entry points to Old Town, help direct all modes of travelers to Old Town.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Gateways where key roadways cross the “edges” mark the transition to the Town Center area, where development and street character will differ from the surrounding area.</li> </ul>
	Bike/Ped Connections	<ul style="list-style-type: none"> <li>⊕ Improved connections from Old Town to residential and commercial areas to the north through existing school properties.</li> <li>⊕ Connections to Old Town from the neighborhoods south of the railroad</li> </ul>	<ul style="list-style-type: none"> <li>⊕ New north/south bike and pedestrian connections in the area between Sherwood Boulevard and Langer Farms Parkway.</li> </ul>	

	Alternative 1	Alternative 2	Alternative 3
Element	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
	tracks.	⊕ Crossing improvements along Highway 99W to help reduce the “barrier” effect and better connect residential and commercial uses on both sides of the highway.	⊕ Connections to and from Cedar Creek Trail adjacent to Langer Farms Parkway, Washington Street and pedestrian access at Sherwood Boulevard.

### III. Alternatives Evaluation

#### Overview

This section provides a comparison of the three alternatives using the evaluation criteria developed for the Town Center planning process. The evaluation criteria highlight the community's desire to promote economic growth and vitality, allow for a mix of uses, and build on desirable and unique characteristics, while maintaining the safety and functionality of the transportation system that serves the area. The criteria are largely qualitative in nature, but in some cases quantitative analysis underlies the evaluation.

This section begins with a matrix that summarizes how the three alternatives compare across the seven evaluation criteria. For each criterion, a rating (3 stars being the highest rating, 1 star being the lowest) is assigned for each alternative that reflects how well it meets the criterion. A brief explanation of the rationale for assigning the rating is provided for each criterion. Following the matrix, the analysis that underlies the evaluation of the seven criteria is explained in more detail with a section for each criterion.

The ratings and evaluation provided on the following pages is intended as a starting point for discussion with the community as well as the SAC, TAC and Steering Committee. In some cases, the qualitative nature of the evaluation measures means that there will be a variety of opinions about how the alternatives stack up. Criteria 1 through 4 in particular lend themselves to a highly subjective evaluation that will benefit greatly from input from as many community members as possible. The project team has provided initial interpretations for these criteria but, as noted above, these are

intended as a starting point, not a final answer. The open house scheduled for January 17<sup>th</sup> and the advisory committee meetings that follow provide opportunities for the community and project advisors to weigh in on the evaluation of the alternatives and provide input to shape the selection and/or refinement of a preferred alternative.

Table 2: Alternatives Evaluation Summary

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
<b>1. Reflects input from the community involvement process.</b>	★★	★	★★★
	<ul style="list-style-type: none"> <li>⊕ Initial Open House revealed strong support for Old Town as the focus of a Town Center</li> <li>⊕ SAC has raised concerns about the intensity of development in Old Town envisioned with this alternative</li> <li>⊕ Stakeholders from the Old Town area felt strongly about this as the heart of the community</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Initial Open House revealed some support for including the full Six Corners area in the Town Center, but not necessarily as part of an alternative encompassing the full Study Area</li> <li>⊕ TAC and SAC raised concerns about narrowing Highway 99W as envisioned in this alternative</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Initial open house revealed support for both Old Town and Six Corners as parts of the Town Center, but not necessarily with the boundary that defines this alternative</li> <li>⊕ After preliminary review, the SAC supports this alternative as the most favorable</li> </ul>
<b>2. Builds on and promotes the unique characteristics of the study area for the community members of Sherwood.</b>	★★	★	★★
	<ul style="list-style-type: none"> <li>⊕ Focuses even more energy and development in Old Town, which could support existing and new businesses and spur growth in Old Town, but runs the risk of eroding the small-town feel and historic ambiance that make it unique</li> </ul>	<ul style="list-style-type: none"> <li>⊕ With a shift in focus to the Six Corners area, Old Town continues to develop but public investments to implement a Town Center are spread over a larger area</li> <li>⊕ More radical changes to the Six Corners area (especially changes to Highway 99W) could be a benefit in terms of improving walkability, but may alter the conditions that have made the</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Accepts many of the unique features of the study area, including major roadways and the Cedar Creek corridor as edges that provide both opportunities and constraints for a Town Center</li> <li>⊕ Envisions Old Town and the southern portion of Six Corners as anchors on opposite sides of a unified Town Center with only modest changes in either area</li> </ul>

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
		area desirable to the current businesses	⊕ Does less to try to overcome the challenges in either Old Town or Six Corners than other alternatives, but has less risk of undermining what makes them successful today
<b>3. Allows for a mix of future land uses that meets the City’s economic, housing, and other needs, informed by the existing conditions evaluation and consistent with the draft vision.</b>	★ ★	★ ★ ★	★ ★
	<ul style="list-style-type: none"> <li>⊕ Encompasses a diverse mix of civic uses, parks and gathering spaces, office uses, restaurants, coffee shops, and specialty shops within a walkable area</li> <li>⊕ The most limited in the types of businesses within the boundary that provide day-to-day services for the Sherwood community</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Includes the widest array of retail options and services within the boundary</li> <li>⊕ Not all within a single walkable area, but plan would improve pedestrian connections and walkability</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Falls in between Alternatives 1 and 2 in terms of the number of services included within the Town Center boundary and the walkability of the Town Center area</li> </ul>
<b>4. Promotes economic growth and vitality, informed by the findings of the market analyses.</b>	★ ★	★	★ ★ ★
	<ul style="list-style-type: none"> <li>⊕ Emphasis on Old Town would capitalize on the current trend towards walkable urban environments and build on recent development activity in this area</li> <li>⊕ Vacant and underutilized parcels are small, scattered, and in multiple ownership</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Changes to Highway 99W in the Six Corners area could impact existing businesses that rely on easy access from the Highway</li> <li>⊕ Improved transit service and pedestrian access could bring new customers</li> <li>⊕ Old Town would continue on</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Focuses on both of the city’s commercial/civic activity areas and the connections between the two</li> <li>⊕ Langer Drive “Main Street” concept could provide a way for existing auto-oriented commercial centers to gradually</li> </ul>

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
	<ul style="list-style-type: none"> <li>⊕ Redevelopment could mean loss of some of the buildings that give Old Town its historic feel</li> <li>⊕ Six Corners area is excluded and would continue to attract major large-format retailers without a “town center” focus on pedestrian connections and improvements</li> </ul>	<ul style="list-style-type: none"> <li>current path – small but “authentic”</li> <li>⊕ Public Investments in Six Corners could divert resources away from Old Town</li> </ul>	<ul style="list-style-type: none"> <li>re-orient towards a walkable, pedestrian-oriented street while maintaining auto access from major roadways</li> <li>⊕ Could divert some investment from Old Town, but to a lesser extent than Alternative 2</li> </ul>
	★ ★ ★	★	★ ★
5. <i>Promotes and/or is consistent with other regionally and locally adopted plans and policies.</i>	<ul style="list-style-type: none"> <li>⊕ More consistent with the target densities for a regional Town Center designation</li> <li>⊕ Most consistent with the elements of a multi-modal mixed use area (MMA)*</li> <li>⊕ Would not require modifications to the Capacity Allocation Program** (Development in the Old Town Overlay is excluded from the CAP.)</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Least consistent with the target densities for a regional Town Center designation</li> <li>⊕ Least consistent with elements of an MMA*</li> <li>⊕ Would require modifications to CAP**</li> <li>⊕ The proposed configuration of Highway 99W is not consistent with existing State highway designation and intended function</li> </ul>	<ul style="list-style-type: none"> <li>⊕ More consistent with the target densities for a regional Town Center designation</li> <li>⊕ Less consistent with elements of an MMA* than Alternative 1; more consistent than Alternative 2</li> <li>⊕ Would require modifications to CAP**</li> </ul>

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
6. <i>Creates an integrated land use and transportation system, one that is well-connected, incorporates a full range of ways to travel, and is safe, efficient and sustainable.</i>	★★	★★	★★
	<ul style="list-style-type: none"> <li>⊕ Causes the least additional traffic of the three alternatives (a 15% increase).</li> <li>⊕ Would result in future traffic growth that would be greatest along the Langer Farms Parkway, Oregon Street, and Sherwood Boulevard corridors.</li> <li>⊕ Includes the fewest new bicycle and pedestrian facilities and improvements.</li> <li>⊕ BRT route on Langer Farms Parkway with turnaround in Old Town may be easier to implement than Sherwood Boulevard route.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Adds the most additional traffic of the three alternatives (a 45 % increase).</li> <li>⊕ Reduces capacity on Highway 99W, which diverts traffic to Borchers Drive and Langer Drive.</li> <li>⊕ Would increase potential cut-through traffic on Century Drive for those traveling between Highway 99W (to the south) and Tualatin-Sherwood Road.</li> <li>⊕ Would put additional traffic on Tualatin-Sherwood Road due to traffic diverting from Highway 99W.</li> <li>⊕ Includes the most new bicycle and pedestrian facilities and improvements.</li> <li>⊕ Best supports BRT by creating an opportunity to provide dedicated BRT lanes on a portion of Highway 99W.</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Adds more traffic than Alternative 1 but less than Alternative 2 (a 30% increase).</li> <li>⊕ Would result in future traffic growth that would be greatest along the Langer Drive and Sherwood Boulevard corridors.</li> <li>⊕ Includes more new bicycle and pedestrian facilities and improvements than Alternative 1, but fewer than Alternative 2.</li> <li>⊕ BRT route on Langer Farms Parkway with turnaround in Old Town may be easier than Sherwood Boulevard route.</li> </ul>

Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
7. Includes strategies for successful, efficient, and cost-effective implementation of the plan, including coordination with planning projects and regulations.	★★★	★	★★★
	<ul style="list-style-type: none"> <li>⊕ Will likely require a parking management plan early in implementation</li> <li>⊕ Recommended changes to zoning to allow increased residential density could impact existing residents within Old Town</li> <li>⊕ Cost of associated bike and pedestrian projects is comparable to Alternative 3 and less than Alternative 2</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Would require challenging state-level plan/policy modification for the modified lane configuration on Highway 99W</li> <li>⊕ May require restricting drive-throughs, which could create non-conforming uses</li> <li>⊕ May require lowering parking requirements in Six Corners</li> <li>⊕ Rezoning Light Industrial property could create non-conforming uses</li> <li>⊕ Cost of associated bike and pedestrian projects is highest of the alternatives</li> </ul>	<ul style="list-style-type: none"> <li>⊕ May require lowering parking requirements in the part of Six Corners included in the Town Center boundary for this alternative</li> <li>⊕ Cost of associated bike and pedestrian projects is comparable to Alternative 1 and less than Alternative 2</li> <li>⊕ Recommended rezoning of St. Francis property would have little or no effect on existing church use</li> </ul>

\* For more information regarding a Multimodal Mixed-use Area designation see page 32.

\*\* For more information regarding Sherwood’s [roadway] Capacity Allocation Program see page 33.

## Community Input

### *1. Reflects input from the community involvement process.*

Members of the TAC and SAC considered the three Town Center alternatives during committee meetings held November 14, 2012. The Steering Committee members received a briefing on the project and an overview of the alternatives at their January 8th 2012 meeting. Members of the TAC and SAC provided the comments and observations summarized below after considering the attributes of the Town Center alternatives, but prior to reviewing and considering the evaluation that is presented in Section III of this Report.

In considering the Town Center alternatives, technical advisors discussed in general terms issues surrounding parking in Old Town and, specifically, recent findings from a parking analysis related to the Cannery Square Planned Unit Development. The Southwest Corridor Plan was also discussed in the context of the Town Center Plan, including the location of a future high capacity transit line, specifically the street design implications of bus rapid transit and locations for future park and rides, and the need to reevaluate local service once the recommendations of the Southwest Corridor Plan are adopted and high capacity transit is available. A recommendation was also made to incorporate stormwater management into the Town Center's "complete streets."

The TAC comments that were directly related to the evaluation of alternatives were directed at the "All Study Area" alternative. The size of the Town Center proposed under Alternative 2 was not seen as a detriment to implementation. However, there were questions

regarding the acceptability of a narrowed Highway 99W cross-section under this alternative. There is skepticism that ODOT would support reducing mobility on Highway 99W; the fact that the facility is a State-designated freight route makes the narrowing of the roadway less likely. Also related to the All Study Area alternative, ODOT has indicated that the State is not in favor of designating new Town Centers that include land uses on both sides of a highway. Concerns related to intensifying a mix of land uses on both sides of Highway 99W center around mobility and safety issues.

The SAC observations of the three Town Center alternatives included the assertion that the level of development and redevelopment assumed in Alternative 1 (Old Town) was too high for a relatively small geographic area and that this level of intensity was undesirable. While the vitality of commercial areas on Highway 99W remains important for the SAC, committee members concluded that the level of traffic and congestion that would be generated by a Town Center that included all of the Study Area (Alternative 2) was untenable. For these reasons, as well as the favorable attributes presented by an alternative that highlights the connections between commercial on Highway 99 and Old Town, the consensus among the SAC is that the Alternative 3 "Edges" is the most favorable Town Center. One modification that the SAC suggested is to include the neighborhoods to the south of Old Town, as in the Town Center designation, consistent with the southern boundary shown in Alternative 1.

The Steering Committee will take input from the TAC and SAC as well as the public input from the open house to develop a recommendation for further consideration and adoption.

## Promotes Unique Characteristics

*2. Builds on and promote the unique characteristics of the study area for the community members of Sherwood.*

The Existing Conditions Report identified the unique characteristics of the Study Area that present opportunities and constraints to the future development of a Town Center. The three alternatives address many of these opportunities and constraints in different ways. This section describes how the alternatives respond to some of the unique features explored in this planning process.

**Table 3: Treatment of Study Area Opportunities and Constraints by Town Center Alternative**

Feature	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
<b>1. Highway 99W</b>	<ul style="list-style-type: none"> <li>✦ Uses gateway features to provide a visual cue to enhance the connection to Old Town</li> </ul>	<ul style="list-style-type: none"> <li>✦ Seeks to minimize the barrier effect by reducing the cross-section and improving pedestrian crossings</li> </ul>	<ul style="list-style-type: none"> <li>✦ Accepts the highway as a barrier</li> <li>✦ Emphasizes the entry points to the Town Center from the highway</li> </ul>
<b>2. Existing strip commercial development in Six Corners</b>	<ul style="list-style-type: none"> <li>✦ Assumes commercial land near the highway will continue to develop and redevelop under existing regulations</li> </ul>	<ul style="list-style-type: none"> <li>✦ Assumes the development of “liner” buildings in large parking lots over time and improvements in on-site pedestrian circulation and bike facilities</li> <li>✦ May include restrictions related to future drive-throughs and other auto-oriented uses</li> </ul>	<ul style="list-style-type: none"> <li>✦ Seeks to re-orient highway-focused commercial south of 99W towards Langer Drive (and may restrict future drive-throughs and other auto-oriented uses in this area)</li> <li>✦ Assumes existing commercial land north and west of the Town Center will continue to develop and redevelop under existing regulations</li> </ul>

Feature	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
<b>3. Vacant opportunity sites around Six Corners</b>	<ul style="list-style-type: none"> <li>Allows development under existing regulations and market conditions</li> </ul>	<ul style="list-style-type: none"> <li>Encourages a mix of residential and retail/office uses at higher densities than currently exist in Six Corners</li> </ul>	<ul style="list-style-type: none"> <li>Encourages a mix of residential and retail/office uses at higher densities than currently exist in Six Corners for the site(s) within the Town Center boundary</li> <li>Allows development under existing regulations for sites outside the Town Center boundary</li> </ul>
<b>4. Langer Farms PUD</b>	<ul style="list-style-type: none"> <li>Not part of this Town Center Alternative</li> </ul>	<ul style="list-style-type: none"> <li>Included in Town Center boundary</li> <li>No changes to approved PUD</li> </ul>	<ul style="list-style-type: none"> <li>Forms edge of Town Center</li> <li>No changes to approved PUD</li> </ul>
<b>5. Historic character of Old Town</b>	<ul style="list-style-type: none"> <li>Key attraction for new development in Town Center</li> <li>Level of redevelopment and intensity of new development envisioned within Old Town may change the feel</li> </ul>	<ul style="list-style-type: none"> <li>With development intensity focused in the Six Corners area, Old Town remains more as it is today</li> <li>New mixed use development in Six Corners could compete with on-going infill development in Old Town</li> </ul>	<ul style="list-style-type: none"> <li>Key attraction for new development in Old Town</li> <li>More modest level of redevelopment in Old Town may mean less change to the feel</li> <li>New “Main Street” feel on Langer Drive could compete with retail in Old Town</li> </ul>
<b>6. Cedar Creek Trail</b>	<ul style="list-style-type: none"> <li>Key recreational resource and bicycle/pedestrian connection to the region when linked to Tonquin Trail</li> </ul>		
	<ul style="list-style-type: none"> <li>Focus on connection to Old Town as a bike/pedestrian gateway</li> </ul>	<ul style="list-style-type: none"> <li>Emphasis on Highway 99W undercrossing to provide an additional safe crossing of the highway</li> </ul>	<ul style="list-style-type: none"> <li>Forms edge of Town Center</li> <li>Focus on connections into Town Center from trail</li> </ul>
<b>7. Snyder Park</b>	<ul style="list-style-type: none"> <li>Connection to park emphasized along Pine Street</li> </ul>	<ul style="list-style-type: none"> <li>Not part of this Town Center alternative</li> </ul>	<ul style="list-style-type: none"> <li>Not part of this Town Center alternative</li> </ul>

Feature	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
<b>8. Vacant &amp; underutilized public land</b>	⊕ Public Works yard south of the railroad tracks is a key opportunity site to catalyze redevelopment in Old Town and increase density in the Town Center		
	⊕ Vacant site at NW corner of Sherwood Boulevard & 3 <sup>rd</sup> Street is a key gateway opportunity site	⊕ Potential for redevelopment on publicly owned land along Sherwood Boulevard near the existing Senior Center	
<b>9. Existing schools east of Sherwood Boulevard</b>	⊕ Not part of this Town Center alternative	⊕ New off-street multi-use paths proposed through public school property to improve bike/pedestrian connectivity	
<b>10. St. Francis school &amp; church</b>	⊕ Not part of this Town Center alternative	⊕ Vacant portion of church property is a key opportunity site for potential multi-family residential development to increase residential density in the Town Center	
<b>11. Existing apartments &amp; townhomes north of Century Drive</b>	⊕ Not part of this Town Center alternative	⊕ Improved bike/pedestrian connections proposed through some developments ⊕ Existing residential density helps meet targets for Town Center	
<b>12. Existing single-family neighborhoods</b>	⊕ Neighborhood south of Old Town gradually provides higher densities through modest townhome infill, accessory dwelling units, and duplex/triplex conversion	⊕ Existing single-family neighborhoods within Town Center gradually provide higher densities through ADUs and duplex/triplex conversion ⊕ Improved bike/pedestrian connections proposed through some developments	

## Mix of Future Land Uses

*3. Allows for a mix of future land uses that meets the City's economic, housing, and other needs, informed by the existing conditions evaluation and consistent with the draft vision.*

The draft vision statement for the Town Center describes a Town Center where “neighbors and visitors come together... to eat, shop, work, and play.” It describes a mix of uses that includes “housing, restaurants, shops, parks, natural areas and public gathering spaces.” The market analysis that was developed as part of this project concluded that Sherwood can expect continued growth in all of the major land use categories: Residential, Retail, Office and Industrial. Infill and redevelopment are expected to play a key part in the future growth of the city, as Sherwood and the rest of the region face economic, political, and environmental constraints to urban growth boundary expansion.<sup>7</sup>

All of the alternatives include all of the uses identified in the draft vision statement today, and allow for additional development of various types of housing and businesses in the future as well. However, there are differences among the alternatives in terms of how much of various types of uses are included today and allowed in the future and whether they are within a walkable area.

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<sup>7</sup> See Appendix C, Sherwood Town Center Plan Market Analysis, of the Existing Conditions Report, <http://www.sherwoodoregon.gov/sherwood-town-center-plan>.

## Alternative 1

Alternative 1 encompasses a diverse mix of civic uses, parks and gathering spaces, office uses, restaurants, coffee shops, and specialty shops all within a walkable area; however, it is the most limited in the types of businesses included in its boundaries that provide day-to-day services for the Sherwood community. For example, it currently lacks a grocery store, drug stores, or similar basic retail options. Given the fine-grained street grid and small existing parcels in the area, as well as the fact that Old Town does not have exposure to highway drive-by traffic, retail uses that serve the whole community with essential goods may not find suitable sites in Old Town, even with the density increases envisioned in this alternative. While density increases may help attract additional shops and services to meet the needs of existing and future residents in the Old Town area, it is unlikely that such businesses would be at a scale to serve the full community. While it is not a requirement that such community-serving basic retail and services be included in a Town Center, their absence means that Sherwood residents and workers will need to go to other areas (such as the existing Six Corners area) to meet those needs. This is important in thinking about transportation investments, because it means that the Town Center would not necessarily encompass all the major destinations in Sherwood.

Alternative 1 also includes the least housing variety of the alternatives. The Cannery Square PUD will include a significant multi-family component, which will substantially increase the supply of multi-family housing within this Town Center boundary. There is little remaining vacant land zoned specifically for multi-family residential development; however, there is potential for mixed use development that includes residential over commercial. The market analysis

conducted for this project concluded that the Old Town area is currently more likely to support mixed-use development with attached housing types built over commercial uses than other parts of the city. The compact street grid and mix of uses in Old Town is more conducive to this form.

The Town Center boundary would also encompass existing residential neighborhoods with predominately single-family homes. While single-family neighborhoods can make it difficult to achieve densities that support enhanced transit service or additional shops and restaurants, drastically increasing density in such neighborhoods can be challenging and disruptive for existing residents. A Town Center Plan that includes these neighborhoods will need to identify gradual and sensitive ways to allow for increased density beyond what is allowed today in order to allow denser neighborhoods, but in a context sensitive way.

### Alternative 2

By encompassing both Old Town and the full Six Corners area, Alternative 2 includes the widest array of existing retail options and services, including a grocery store, movie theater, and many other smaller shops, as well as the amenities in Old Town described above. Because goods and services are distributed between two separate activity centers, however, they are not all within a single walkable area. The two commercial activity areas are just over three-quarters of a mile apart – farther than many people are willing to walk. On the plus side, the modifications to Highway 99W and future improved pedestrian crossings would make the services on the north side of the highway more accessible on foot from other areas of the Town Center. The availability of large vacant parcels within the boundary

for this alternative means that there is potential to add many more shops, restaurants, and services to the area. While some of the vacant land is regulated by an approved PUD where the city cannot change the regulations, the zoning and design regulations applicable to other vacant land could be modified to encourage more walkable, higher density mixed use development, which could happen at a fairly large scale. In this way, Alternative 2 provides the greatest opportunity for transformation and shaping the future mix of uses within a Town Center.

Alternative 2 includes substantial existing multi-family housing as well as some vacant land zoned to allow multi-family housing either outright or in conjunction with commercial use. The market study found that the parts of the Six Corners area that are set back from the highway are well-suited for residential development, and that some of the large parcels near Six Corners have the potential to add further residential density to the area.

The areas to the south of the shopping center, around SW Century Drive are largely developed and are unlikely to redevelop soon; however, this alternative assumes that some accessory dwelling units will be built over time in existing single-family neighborhoods (as is currently allowed).

### Alternative 3

Alternative 3 falls in between Alternatives 1 and 2 both in terms of the number of existing services included within the Town Center boundary and the walkability of the Town Center area. The Safeway grocery store and the movie theater are outside of the Town Center boundary for this alternative, but other services on the southeast side of Highway 99W and Tualatin-Sherwood Road are included. With the

focus south of the highway, the area is somewhat more walkable than the Alternative 2 Town Center and the concept includes improving non-motorized transportation connections within the “edges” formed by existing roadways. There are opportunities for additional commercial development within this Town Center boundary, but not to the same extent as in Alternative 2.

Alternative 3 includes most of the same existing multi-family housing as Alternative 2 as well as some – but not all – of the vacant land north of Old Town that is zoned to allow future multi-family housing. As with the commercial uses, there are opportunities for moderately large-scale developments in this scenario, but there are somewhat fewer large vacant parcels than in Alternative 2.

Alternative 3 also encompasses existing single-family neighborhoods, which are unlikely to redevelop but are assumed to add accessory dwelling units, as allowed under existing zoning and as assumed in Alternative 2.

## Economic Growth and Vitality

*4. Promotes economic growth and vitality, informed by the findings of the market analyses.*

A market study conducted for this project identified the following market advantages and challenges for the Six Corners and Old Town activity centers:<sup>8</sup>

### Six Corners

#### *Advantages*

- ⊕ Strong access and high visibility
- ⊕ Much greater pass-through traffic than Old Town
- ⊕ Some large, relatively unconstrained parcels still available
- ⊕ Adjacent to some of Sherwood's higher density residential uses
- ⊕ Near rural/natural amenities outside of town

#### *Challenges*

- ⊕ Auto-oriented, shopping center character predominates
- ⊕ Retail is traditionally a low-density use

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<sup>8</sup> See Appendix C, Sherwood Town Center Plan Market Analysis, of the Existing Conditions Report, <http://www.sherwoodoregon.gov/sherwood-town-center-plan>. Other notable economic advantages in Old Town that have been identified through the planning process include the public investment in infrastructure and streetscape improvements. Challenges in Old Town include the cost to upgrade historic buildings.

- ⊕ Location on north edge of city, rather than center
- ⊕ Highway bisects the area, hindering cohesion

### Old Town

#### *Advantages*

- ⊕ Traditional Town Center
- ⊕ Historic character, walkable area
- ⊕ Heart of civic uses including new library and City Hall and parks
- ⊕ Street grid facilitates mixed uses and density
- ⊕ Remaining vacant parcels, but scattered

#### *Challenges*

- ⊕ Visibility and awareness from outside the community
- ⊕ Vacant parcels are somewhat small and scattered
- ⊕ While Old Town may add density, adjacent areas are low density
- ⊕ Fractured ownership among vacant parcels

### Alternative 1

Alternative 1 would seek to increase public and private investment in and around Old Town, increasing residential density and drawing new businesses to the area. Gateway treatments at major intersections leading to Old Town would improve visibility and awareness for Old Town. The emphasis on Old Town would capitalize on the current trend towards walkable urban environments and would build on the recent development activity in this area. Because vacant parcels are

small and scattered, achieving the level of intensity that would enhance existing vibrancy and attract new businesses to Old Town would likely require lot consolidation, a challenge due to the current situation of multiple ownership. Increased activity also would mean redevelopment of some existing properties, whose current structures and uses help to define the historic feel of Old Town. While it is possible to increase density in historic buildings through adaptive re-use (as has occurred recently in Sherwood with the establishment of Symposium Coffee, Bank of Oswego, and Escape to Yoga), it can be more expensive than new construction. Given that the market study found that achievable suburban rents could limit the development types that are possible in Old Town, it may not be realistic to assume a great deal of increased residential and employment density through adaptive re-use of existing structures.

A Town Center designation focused on Old Town assumes that the Six Corners area would continue on its current trajectory, likely continuing to attract major large-format retailers due to its high visibility from Highway 99W and Tualatin-Sherwood Road. It would continue to be auto-oriented, but an economic driver for the city. This Alternative acknowledges that Six Corners is a more suitable location for large-format retailers and other commercial uses that are reliant on high-access, high-visibility locations with large sites and that the area along the highway will largely retain this auto-oriented focus.

### Alternative 2

The Town Center embodied by Alternative 2 would focus on attracting public and private investment to the Six Corners area, where the greatest changes are envisioned. The measures included in this alternative, such as making the Six Corners area more walkable and

reducing the barrier effect of Highway 99W, could be counter to the goals of existing businesses in that area that rely on easy access from the Highway and would be impacted by changes to the design of Highway 99W and resulting congestion in the area. However, improved transit access and improved access from adjacent neighborhoods could provide new customers, a result that could counter-balance the effects of the highway modifications to some extent.

Old Town would continue more or less consistent with current trends, experiencing the type of growth and infill seen in recent years, but aided by enhancements to the connections between Old Town and Six Corners. It would continue to serve as the small historic center, providing civic uses, recreational opportunities, specialty shopping, and an “authentic” experience. The energy and investment focused on Six Corners assumed in this Alternative could distract somewhat from on-going efforts to enhance and further invigorate Old Town, and in a time of limited public resources, could mean less money available for improvements in Old Town.

### Alternative 3

Alternative 3 focuses south of the highway, where changes envisioned for Langer Drive include streetscape enhancements and building/site modifications. Changes such as pedestrian entrances facing or connected to Langer Drive and windows facing the street can create more of a “Main Street” feel. Over time, some of the existing auto-oriented commercial centers would gradually re-orient towards a walkable, pedestrian-oriented street while still maintaining auto access from the major roadways. While businesses often object to having entries from multiple sides of the building, it is possible that as

businesses grow or turn over and make modifications to their space, they could realistically incorporate an additional entryway or better connections and windows on the Langer Drive side.

With investment and energies split between commercial areas south of Highway 99W and around Langer Drive and Old Town, there is the possibility that an “Edges” Town Center could divert some investment from Old Town. However, as compared to Alternative 2, the amount of investment and change required to realize the vision for Langer Drive would be less than required to transform the full Six Corners area and Highway 99W. Old Town would continue to be a central focus of the City’s efforts, but without as much emphasis on increasing density there as envisioned in Alternative 1. The emphasis would instead be on improving pedestrian, bike, and transit access from existing residential areas to Old Town and looking for opportunities to allow for higher density within the entire Town Center area.

## Plan Consistency

*5. Promotes and/or is consistent with other regionally and locally adopted plans and policies.*

An early step in the Town Center planning process included identifying state, regional, and local regulatory and policy provisions that are relevant to planning within the Project Study Area.<sup>9</sup> Most documents that were reviewed provided guidance regarding the location or attributes of a future Sherwood Town Center. Documents such as the Cedar Creek Trail/Tonquin Trail Master Plan and the Downtown Sherwood Market Study (2008) are examples of plans that informed the development of the alternatives. Other documents reviewed are regulatory – such as the Sherwood Zoning and Community Development Code (SZCDC) – and directly govern what can be developed within the Study Area. There are no identified existing local policies that are in conflict with the implementation of a Sherwood Town Center, but there will need to be additional, or modified policy statements developed that are consistent with the Draft Vision Statement and the attributes of the Town Center selected. As discussed under the Effective Implementation evaluation criterion heading, there are also necessary modifications to the SZCDC in order to implement a Sherwood Town Center Plan, regardless of the Town Center alternative selected.

While most consistency issues related to adopted plans and policies are common to all the alternatives, there are regulatory provisions that have greater or lesser relevancy, depending on the alternative.

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<sup>9</sup> See Existing Conditions Report, Appendix A, Regulatory and Policy Framework.

Three regulatory items related to Metro’s Urban Growth Management Plan, the State’s Transportation Planning Rule, and the function of Highway 99W factored into the rating of the alternatives and are discussed below.

### Metro Urban Growth Management Functional Plan

As explored in the Policy and Regulatory Framework section of the Existing Conditions Report, this planning project has been informed by Title 6 of the Urban Growth Management Functional Plan (UGMFP). Title 6 outlines what a Town Center planning process needs to address and the elements that need to be reflected in the resulting plan. Regardless of the location of the Sherwood Town Center, the Town Center Plan will address each of the required elements.

Metro also provides guidance on the optimal density of residents and employees in centers, the recommended mix of land uses, and housing variety:

- ✦ Resident and employee density – Forty (40) persons per acre is the specified density of residents and employees recommended for Town Centers in order to make them vibrant and viable.
- ✦ Mix of land uses – The success of centers relies on providing a variety of land uses in a walkable area, and Title 6 recommends a mix including housing, institutional uses, civic and government uses, and neighborhood commercial uses like grocery stores, restaurants, bookstores, and coffee shops.
- ✦ Housing variety – Title 6 also calls for a mix of housing, which should be supported by a housing needs analysis prepared pursuant to ORS 197.296 and/or Statewide Planning Goal 10

(Housing). Title 6 recommends including accessory dwellings and “needed housing”<sup>10</sup> as defined by State Statute, which includes housing types determined to meet the housing need shown within an urban growth boundary at particular price ranges and rent levels. “Needed housing” types include attached single- and multiple-family housing, manufactured homes, and government assisted housing.

All of the Town Center Alternatives assume a variety of housing types and a mix of land uses that are consistent with Title 6. In large part this is due to the fact that none of the alternatives are exclusively commercially zoned or developed land; all of the alternatives include historically commercial and residential areas. However, each of the alternatives assumes that the type and intensity of land uses in commercial areas will change over time, guided by city policies and implementation actions in the Town Center Plan. Differences among the alternatives in terms of the mix of uses and the housing types are discussed in more detail in under “Mix of Future Land Uses”.

The following are estimated 2035 average gross densities (meaning that undevelopable land is not excluded from the density calculation) within the alternative’s proposed Town Center Boundary:

- ⊕ Alternative 1 (Old Town): 20.37persons per acre
- ⊕ Alternative 2 (All Study Area): 17.33 persons per acre

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<sup>10</sup> As defined by State Statute (ORS 197.295), which includes housing types determined to meet the housing need shown within an urban growth boundary at particular price ranges and rent levels.

- ⊕ Alternative 3 (Edges): 19.68persons per acre

The averages are based on the hypothetical future development that is envisioned with each of the alternatives (based on the land use assumptions that underlie the traffic analysis). The differences in estimated persons per acre between the alternatives are small and, given the assumptions and “high level” estimating methodology, they are largely insignificant. In addition, because the estimates are “gross” rather than “net” density, the inclusion of areas such as Stella Olsen Park, the school grounds, and undevelopable wetlands areas in Alternatives 2 and 3 affects the density calculation. While none of the alternatives approaches the target of 40 persons per acre, Alternative 1 and Alternative 3 achieves 20 persons per acre, which is the current average of all designated Town Centers in the Metro region.<sup>11</sup>

### Transportation Planning Rule Mixed-Use Multimodal Area (MMA)

A recent change to the Transportation Planning Rule (TPR) allows the designation of Multimodal Mixed-use Areas (MMAs), wherein local jurisdictions do not need to apply congestion performance standards (state or local) to proposed comprehensive plan or land use regulation amendments. Because the transportation sensitivity analysis has identified that there will be overcapacity traffic conditions regardless of the Town Center alternative selected, the City may wish to pursue an MMA designation for the Town Center, or for a portion of the Town Center, in order to clearly prioritize land use and non-motorized

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<sup>11</sup> See Table 1 – Town Center Attributes in the *Existing Conditions Report*, <http://www.sherwoodoregon.gov/sherwood-town-center-plan>

travel mode objectives over those of motor vehicle mobility within the chosen boundary.<sup>12</sup>

The TPR requires that designated MMAs include a concentration of a variety of land uses, including office, retail, restaurants, public open space, and a minimum residential density of 12 units per acre. All of the alternatives includes the prerequisite use types and only vary in the amount and location of each type. Each of the three alternatives also includes existing areas zoned High Density Residential HDR, the only land use districts where residential development is permitted outright at a density that meets the MMA requirement, as well as commercially zoned land where multi-family can be developed through a PUD processes, or secondary to the primary commercial use.

The TPR also requires that jurisdictions limit or prohibit low-intensity or land extensive uses, such as automobile sales and services and drive-through services, in designated MMAs.<sup>13</sup> Street design elements expected within an MMA include wide sidewalks, pedestrian-oriented street crossings, street trees, pedestrian-scale lighting, and on-street parking. Because Alternative 1 focuses on Old Town, where the street design and buildings already make it attractive and highly convenient

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<sup>12</sup> Alternatively, the Town Center Plan may recommend amendments to the State mobility targets for Highway 99W or modifications to local mobility standards, as applicable. Regardless of the approach for addressing future intersection mobility, the recommendations of the Town Center Plan will need to be consistent with state transportation policies.

<sup>13</sup> Also note that TPR Section -0060(8)(b)(H) includes “most industrial uses” as low-intensity or extensive uses. The Bilet Products site, which is zoned industrial, is included in the boundary of Town Center Alternative 2.

for people to walk between uses within the center, it is considered to be the most consistent with the elements of an MMA. There are no existing drive-through uses in Old Town and drive through uses are already restricted in the Old Town Overlay district, which prohibits new drive-through restaurants. This is in contrast to commercial uses on Highway 99W, where there are several drive-through uses, which would become non-conforming if included in a MMA designation that restricted such use. Town Center alternatives that include commercial areas in the vicinity of Highway 99W also do not currently meet MMA objectives regarding “attractive and highly convenient” pedestrian facilities that create connections between uses and policy and regulatory changes would be needed to encourage non-motorized modes of transportation. The benefit of an MMA designation, as previously noted, is that plan or land use regulation amendments within an MMA boundary and consistent with the definition of the MMA do not need to apply congestion performance standards (state or local).

### Highway 99W

#### *Capacity Allocation Program (CAP)*

The Capacity Allocation Program, or CAP, in Sherwood’s City Code (16.106.070) limits development intensity as a strategy to minimize new trips on Highway 99W. Specifically, the CAP allows a maximum of 43 net new trips per acre added during the PM peak hour for most types of development. Development in Old Town is exempt from the CAP requirement. The CAP requirement will be reexamined and possibly removed through TSP modifications associated with the designation of a Town Center. However, under existing transportation requirements, intensifying land uses in Old Town as

proposed in Alternative 1 would not trigger the CAP. Thus, Alternative 1 best meets this existing local requirement.

### *State and Regional Classifications*

Alternative 2 is the only alternative that modifies the width of Highway 99W, between Tualatin-Sherwood Road and Sherwood Boulevard, reducing the highway to two through lanes in each direction in order to better facilitate pedestrian crossings and provide the opportunity for a dedicated High Capacity Transit lane on this portion of the highway. Currently, Highway 99W is classified as a Statewide Highway, Freight Route, and Truck Route and is part of the National Highway System. As such, pursuant to the Oregon Highway Plan, it is intended to provide mobility, safe and efficient, high-speed, continuous-flow operation, and connections between and within cities and regions in the state, including connections to larger urban areas and areas that are not directly served by Interstate Highways. The proposed configuration of Highway 99W in Alternative 2 is not consistent with the existing State designation and associated priorities. In addition, the narrower highway configuration may not fit Metro's Regional Design Classification of "throughway," and the function of a principal arterial pursuant to the Regional Transportation Plan. Because this regional classification is typically realized through a 6-lane configuration, the Metro designation of Highway 99W through Sherwood may also need to be modified.

## Integrated Land use and Transportation System

*6. Creates an integrated land use and transportation system, one that is well-connected, incorporates a full range of ways to travel, and is safe, efficient and sustainable.*

### Traffic Sensitivity Analysis

To better understand the traffic implications of assuming more intense land uses in specific locations, a traffic sensitivity analysis was performed. The sensitivity analysis provides a preliminary comparison of the alternatives and identifies potential traffic impacts. The following sections summarize the impacts of each alternative. The sensitivity analysis (included in Appendix A) includes additional information about analysis methodology and other details.

The baseline traffic analysis for the existing conditions report summarized the 2035 p.m. peak hour traffic conditions for the study area<sup>14</sup>. The primary findings included:

- Planned transportation improvements in the study area will increase capacity (Tualatin-Sherwood Road widening, Langer Farms Parkway extension to Highway 99W, intersection control improvements along Sherwood Boulevard, etc.).

- Due to the planned transportation improvements, some intersections will be less congested in 20 years than present conditions, though many will have longer average delay.
- Most intersections will continue to meet operational standards in 20 years, but three intersections on Highway 99W (Tualatin-Sherwood Road, Sherwood Boulevard, and Meinecke Road) will not meet standards and could restrict growth.
- Sherwood currently limits new development intensity based on the amount of new peak hour traffic that is projected to generate (development in Old Town is exempt) based on the CAP ordinance.

### *General Alternative Impacts (All Alternatives)*

Each of the three alternatives analyzed would share some common impacts:

- Key Highway 99W signalized intersections (Tualatin-Sherwood Road, Sherwood Boulevard, and Meinecke Road) would be near/over capacity, with some increase in congestion due to the land use alternatives.
- The intersection of Langer Farms Parkway/Oregon Street would be near/over capacity.

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<sup>14</sup> See Memorandum: Sherwood Town Center Plan – Future Baseline Traffic Analysis (DRAFT), prepared by DKS Associates, August 24, 2012, Appendix B of the Existing Conditions Report.

- Additional traffic in Old Town and the tight grid spacing may cause additional congestion and require reconfiguration of traffic flow<sup>15</sup> to alleviate traffic queuing issues.

### ***Alternative 1 (Old Town)***

The Old Town alternative primarily assumes higher intensity of uses in the historic downtown and includes residential land south of Old Town. It generates the least additional traffic of the three alternatives. This alternative would have the following impacts:

- Intersection capacity issues as noted for all alternatives.
- Traffic growth would be greatest along the Langer Drive and Sherwood Boulevard corridors.

### ***Alternative 2 (All Study Area)***

The “All Study Area” alternative includes the greatest increase in traffic volumes of the three alternatives. This alternative would have the following impacts:

- Intersection capacity issues as noted for all alternatives.
- Due to reduced capacity on Highway 99W, traffic would divert to secondary routes and local roads such as Borchers Drive and Langer Drive.
- There may be potential cut-through on Century Drive for traffic traveling between Highway 99W (to south) and Tualatin-Sherwood Road.

- Additional traffic on Tualatin-Sherwood Road due to traffic diverting from Highway 99W (narrowed cross section between Tualatin-Sherwood Road and Edy Road).

### ***Alternative 3 (Edges)***

The “Edges” alternative falls between the other two in terms of trip generation. This alternative would have the following impacts:

- Intersection capacity issues as noted for all alternatives.
- Traffic growth would be greatest along the Langer Drive and Sherwood Boulevard corridors.

### **Transportation Performance Measures**

In addition to the comparison in traffic volumes between the alternatives provided by this analysis, other transportation-specific performance measures have also been identified and used to compare the alternatives under the Transportation Performance heading. These were suggested early in the planning process as a way to assess how well the alternatives create an “integrated land use and transportation system.” The following sections summarize the criteria that were considered for the alternatives analysis. Many of these measures were estimated using the travel demand models that were developed for each alternative. Due to the nature of the broad assumptions and high-level relative analysis performed for the alternatives, some criteria are not appropriate to measure at this time. Additional criteria that were identified in the Project Goals, Objectives, and Evaluation Criteria may be reserved for the analysis of the preferred alternative.

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<sup>15</sup> This may entail designating one-way streets and physical improvements to redirect traffic along existing streets.

### *Livability*

Average daily traffic (ADT) on local streets was used to measure the local impact to the livability in the community. The travel demand model was used to estimate the total traffic volume that would be present on streets not classified as arterials or collectors in the City's functional class plan. The remaining "local" streets are generally those that provide access to neighborhoods and are not intended for high traffic flow. Low values of ADT on local streets would indicate less impact to the livability.

### *Access*

The ability to provide adequate circulation and access to areas within each alternative was measured based on average trip length in the study area. This measure, vehicle-miles travelled (VMT)/trip, was measured by averaging the distance travelled by local trips within the study area. This measure did not consider the distance travelled by trips that would be "through" traffic – trips that would pass through the study area without stopping. A lower VMT/trip would indicate that better (direct) access is provided and trips would not require as much diversion. This measure would typically be most effective for comparing differences when major circulation changes (such as conversion to/from one-way streets) occurred among the alternatives.<sup>16</sup>

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<sup>16</sup> Note that the more intensive the use and the higher the growth within the Old Town portion of the designated Town Center, the more likely that there will need to be a reconfiguration of traffic flow to alleviate traffic queuing issues in that area. Because a different circulation pattern was not evaluated for the "access" performance measure, each of the three Town Center

Proposed new bicycle and pedestrian paths and other connections that would improve non-motorized access within the study area are also considered as part of this performance measure (see Appendix D).

### *Safety*

Volume increase for the Safety Performance Index System (SPIS) location (Hwy 99W adjacent to Tualatin-Sherwood Road) was considered to determine the impact to documented safety locations. A volume decrease would denote an improvement, while larger increases would denote potential negative impacts.

Proposed intersection improvements to enhance pedestrian safety are also considered as part of this performance measure.

### *Mobility*

The overall mobility, or ease of travel without accumulated delay, in the study area was measured by estimating total vehicle-hours of delay (VHD). Lower levels of VHD would indicate less travel friction, and the ability for traffic to move more freely through the study area, while higher levels of VHD would indicate an increase of congestion.

While an analysis of the impacts of congestion on transit performance was beyond the scope of this project, where specific roadway improvements to accommodate transit or BRT are proposed as part of the alternatives, this is also considered as part of this performance measure.

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Alternatives were assumed to result in a negligible change in vehicle-miles traveled.

### *Growth*

The growth potential for each alternative was measured by considering the trips (specifically trip-ends) that would be added within the study area. Generally, these trip ends would increase as total land use intensity increases. For this measure, the increases in trips are considered a positive indicator of future economic potential in the Town Center.

General planning-level cost opinions are provided for the base network improvements included with each alternative (such as pedestrian/bicycle enhancements) in the following “Effective Implementation” section.

*Table 4: Transportation Performance Evaluation Summary*

Transportation Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
Livability	★ ★ ★	★	★ ★ ★
	⊕ Local street ADT 15% increase from future baseline conditions	⊕ Local street ADT 48% increase from future baseline conditions ⊕ Additional traffic would cut through the study area to avoid Hwy 99W and Tualatin-Sherwood Road corridor congestion.	⊕ Local street ADT 18% increase from future baseline conditions
Access	★ ★	★ ★ ★	★ ★
	⊕ VMT/trip in study area change negligible ⊕ Fewest new bike/pedestrian connections proposed	⊕ VMT/trip in study area change negligible ⊕ Most new bike/pedestrian connections proposed	⊕ VMT/trip in study area change negligible ⊕ Middle range of number of new bike/pedestrian connections proposed
Safety	★ ★	★ ★ ★	★
	⊕ 1% traffic growth on Hwy 99W at SPIS site (Tualatin-Sherwood Road)	⊕ -1% traffic growth on Hwy 99W at SPIS site (Tualatin-Sherwood Road) ⊕ Reduced cross section and	⊕ 3% traffic growth on Hwy 99W at SPIS site (TS Road)

Transportation Evaluation Criteria	Alternative 1	Alternative 2	Alternative 3
	“Old Town” Town Center	“All Study Area” Town Center	“Edges” Town Center
		the addition of a median refuge would improve crossings Hwy 99W at Tualatin-Sherwood Road	
	★ ★	★	★ ★
<b>Mobility</b>	<ul style="list-style-type: none"> <li>⊕ VHD in study area 11% increase from future plan</li> <li>⊕ Routing BRT down Langer Farms Parkway could provide a quicker way in and out of Old Town from Highway 99W</li> </ul>	<ul style="list-style-type: none"> <li>⊕ VHD in study area 58% increase from future plan</li> <li>⊕ Potential to provide a dedicated BRT lane on a portion of 99W could enhance BRT mobility and reliability</li> </ul>	<ul style="list-style-type: none"> <li>⊕ VHD in study area 18% increase from future plan</li> <li>⊕ Routing BRT down Langer Farms Parkway could provide a quicker way in and out of Old Town from Highway 99W</li> </ul>
	★	★ ★ ★	★ ★
<b>Growth</b>	<ul style="list-style-type: none"> <li>⊕ Trip-end growth in study area 14% increase from future plan</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Trip-end growth in study area 37% increase from future plan</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Trip-end growth in study area 26% increase from future plan</li> </ul>

## Effective Implementation

*7. Includes strategies for successful, efficient, and cost-effective implementation of the plan, including coordination with planning projects and regulations.*

Regardless of the Town Center alternative selected, the Town Center Plan will include strategies for successful, efficient, and cost-effective implementation. In keeping with the unique vision for the Sherwood Town Center, new City policies and new or modified requirements pertaining to future development in the Town Center will need to be adopted. As an evaluation criteria, an implementation-related measure explores the differences in the alternatives related to the extent existing policies, plans, and regulations may need to be modified, or the difficulty of making those modifications, to ensure that the desired Town Center can, over time, come to fruition.

The extent to which the alternatives currently conform to adopted policies and requirements is captured in the *Consistency with Adopted Plans and Policies* measure. Plan Implementation focuses on the magnitude of the change and the challenges of implementing new policies and requirements. Note that the following includes examples of implementation actions that might be needed to realize a Sherwood Town Center designation but that these actions will need to be reexamined and explored in greater detail once an alternative is selected.

### Transportation Plan Modifications

The most challenging state-level modification pertains to the modified lane configuration on Highway 99W that is part of Alternative 2. Because of the state function of this facility to move regional vehicular

traffic and, in particular, its designation as a freight route, implementing a Town Center plan that reduces through-traffic mobility will likely face resistance from ODOT. The number of issues related to highway mobility and the necessary coordination with ODOT and other stakeholders, including private property owners along Highway 99W and the freight community, makes Alternative 2 the most difficult of the Town Center alternatives to implement.

As explored under *Plan Consistency*, a possible outcome of the Town Center planning process is pursuing a MMA designation, thereby alleviating the need to apply transportation congestion performance standards when adopting the Comprehensive Plan and land use regulations necessary to implement the Town Center Plan. The requirements of MMA designation are largely met by all three Town Center Alternatives. However, restrictions on auto-oriented uses, such as automobile services and drive-through uses, will have much more of an impact on future development and commercial uses along Highway 99W. The MMA designation would logically be more difficult to implement in an Alternative 2 Town Center, due to the inclusion of land north of Highway 99W and the concerns ODOT has expressed in establishing new mixed-use Town Center areas that extend across highways.

### Parking

Also related to implementation, parking standards will need to be reevaluated for, and possibly modified in, the Town Center. For example, redevelopment of commercial areas along Highway 99W, something anticipated in Alternatives 2 and 3, may require that parking standards be lowered or modified to accommodate more land being developed with buildings. Parking has been an ongoing topic of

concern in the Old Town area and all of the Town Center alternatives include Old Town. Parking availability in this area has recently been examined through the Cannery Square development in response to concerns about the location and amount of parking available.<sup>17</sup> Public input during this planning process has also indicated that there is a concern about parking needs associated with additional development in Old Town. There is no parking required in the Smockville portion of Old Town and only 65% of normally required off-street parking is required in the Old Cannery Area of Old Town. While not a clear indicator of which alternative is more or less challenging to implement, a future parking study and, possibly, an associated parking management strategy or plan will likely be a factor in the successful implementation of a Sherwood Town Center Plan.<sup>18</sup>

### Potential Zoning and Development Code Modifications

Changes to zoning are not necessary in order for the land uses assumed with any of the alternatives to occur; however, the following adjustments may be necessary in order to make the desired land use pattern more likely.

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<sup>17</sup> A limited parking study of the Old Town area indicted a 37% peak hour utilization rate for combined on-street and off-street for existing parking. No future parking analysis was performed as part of this limited study, which is available for use in this Town Center study.

<sup>18</sup> The City of Sherwood will need to adopt parking policies, management plans, and regulations for the Sherwood Town Center in order to be compliant with Title 4 of the Regional Transportation Functional Plan. The Parking Plan will need to include an inventory of parking supply and usage and an evaluation of bicycle parking needs.

### *Alternative 1*

- ✦ In Old Town, rezone MDRL to MDRH in order to allow multi-family housing. In addition, in the Old Town Overlay, reduce minimum base lot size for multi-family to allow higher density for smaller infill projects.
- ✦ Alternatively, rezone the Old Town Overlay to allow both residential and commercial uses anywhere in the district (design and height restrictions would still apply).

### *Alternative 2*

- ✦ Consider whether restrictions on multi-family uses in commercial zones are too restrictive, particularly for areas north of Highway 99W and set back from the highway.
- ✦ Consider rezoning Billet property from LI to GC in order to expand the opportunity for commercial uses close to Old Town.

### *Alternative 3*

- ✦ Rezone the St. Francis church property from MDRH to HDR to allow an opportunity for higher density residential development adjacent to Old Town (this would not affect the existing church use).
- ✦ Keep existing zoning in Old Town overlay, but modify the overlay zone to allow townhomes outright rather than as conditional uses in order to reduce barriers to moderate-scaled density increases.

### Cost estimates

Planning-level cost estimates were developed for the recommended bicycle and pedestrian improvements associated with each of the alternatives.<sup>19</sup>

- ⊕ Alternative 1: \$4 Million
- ⊕ Alternative 2: \$15 Million
- ⊕ Alternative 3: \$4 Million

Note that there would be additional costs associated with each of the alternatives to fund transportation mitigation projects to accommodate the intensified land uses. These costs are not included in the estimates above since the level of detail required to produce a useful estimate is not available at this stage of the project. Once a preferred alternative has been selected and refined, cost estimates for the required mitigation projects will be developed.

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<sup>19</sup> The costs include the projects from the Bicycle and Pedestrian Improvements map included in Appendix D that are not planned (those marked \*).

## IV. Summary and Next Steps

### Evaluation Summary

The Study Area identified at the beginning of the Town Center Plan planning project includes a variety of features that characterize a “town center.” Not surprisingly, all of the three Town Center alternatives explored in this report include features that logically could lead to successful implementation of a Sherwood Town Center. However, based on the evaluation criteria described in this report, there are a few factors that can be considered impactful on the viability of one alternative over another. These include the amount of traffic expected to be generated, the cost of transportation improvements, the types of potential regulatory changes locally, and challenges related to ensuring that the city’s planning efforts are consistent with state and regional policies and regulations. Based on the project team’s initial evaluation, the following summarizes the evaluation of each alternative:

- ⊕ Alternative 1 builds upon the existing community focus towards investment in Old Town. The level of intensity in Old Town envisioned in this alternative could result in changes that are incongruent with the historic character of Old Town. The relatively small geographic area may not provide adequate opportunities for redevelopment or the variety of uses desired in the Town Center.
- ⊕ Alternative 2 requires major and difficult changes to state transportation policy and could affect traffic in the area in ways that are unacceptable to the community. However, it provides for

the greatest growth potential both in residential density and employment/commercial uses.

- ⊕ Alternative 3 provides a balance of targeted changes in both Old Town and Six Corners, while respecting the inherent character and limitations of the area; it also best reflects community input to date.

The comparison between three distinct Town Center Alternatives - the ratings and evaluation embodied in this report - is intended to inform a community discussion regarding the appropriate location and character of the Sherwood Town Center. Many of the criteria are highly subjective in nature and are expected to stimulate debate. The ultimate boundary and plan for the Sherwood Town Center continues to be the subject of upcoming community meetings.

### Next Steps

The open house scheduled for January 17, 2013 and the TAC and SAC advisory committee meetings on January 31<sup>st</sup> provide opportunities for the community and project advisors to weigh in on the evaluation of the alternatives and provide input to shape the selection or refinement of a preferred alternative. The Alternative Evaluation Report will be a reference document for these discussions. The next step will be to develop an implementation strategy consistent with the desired location and characteristics of the Sherwood Town Center, including associated infrastructure improvements and necessary regulatory amendments. Ultimately, a draft Sherwood Town Center Plan will be developed that includes a vision statement, a recommended boundary, and specific goals, policies and implementation actions. It is anticipated that in the Spring of 2013

the Steering Committee (Planning Commission) will make a recommendation to the City Council regarding the adoption of the Sherwood Town Center Plan.

## **Appendix A: Traffic Sensitivity Analysis Report**

# MEMORANDUM (DRAFT)

**DATE:** November 6, 2012

**TO:** Sherwood Town Center PMT

**FROM:** Chris Maciejewski, PE, PTOE, DKS Associates  
Garth Appanaitis, DKS Associates  
Sai Sirandas, DKS Associates

**SUBJECT:** **Sherwood Town Center Plan**  
Traffic Sensitivity Analysis Report

P# 12088-000

This memorandum summarizes the traffic sensitivity analysis of three alternatives for the Sherwood Town Center Plan. The analysis provides a preliminary comparison of the alternatives and identifies potential impacts. Ultimately, a refined impact analysis may be needed to address Transportation Planning Rule (TPR) or other requirements related to implementation of a recommended Town Center Plan.

## METHODOLOGY OVERVIEW

The analysis included the following general steps to conduct sketch-level alternatives analysis and compare potential transportation impacts among the three alternatives:

1. Alternatives and Land Use - Develop alternatives and land use metrics
2. Trip Generation - Convert land use metrics into trip generation estimates
3. Alternative Model Development - Create alternative network and adjust trips in travel demand model
4. Model Assessment - Run Subarea model to identify potential transportation impacts

The methodology related to each of these steps is summarized in the following sections.

### Alternatives and Land Use

Three general alternatives were developed by the project management team (PMT) based on input from advisory committees, stakeholders, and the public:

- Alternative 1 (Old Town) – Focuses increased development in the southern “Old Town” portion of the study area. This alternative would be consistent with Sherwood’s existing Capacity Allocation Program (CAP) Ordinance since land use in Old Town is not subject to CAP density limitations.
- Alternative 2 (All Study Area) – Includes increased development throughout the study area, including north of Highway 99W. This Alternative also assumes that 99W would have a reduced width (two through lanes in each direction) in order to better facilitate pedestrian crossings and provide the opportunity for a High Capacity Transit alignment.

- Alternative 3 (Edges) – Includes increased development within the boundary constraints or “edges” created by Highway 99W, Tualatin-Sherwood Road, Langer Farms Parkway, the Cedar Creek corridor, and generally the railroad to the south (and Willamette Street to south of Old Town).

Land use metrics were developed for each alternative (attached), based on the projected growth over current conditions. The land use was allocated to individual transportation analysis zones (TAZ) for compatibility with transportation forecasts. For areas (entire TAZ or sections of TAZ) that the alternative did not modify land use, the future land use growth consistent with Metro’s Regional Transportation Plan (RTP) was assumed.

## Trip Generation

The increase in weekday p.m. peak hour vehicle trips for each alternative was estimated by comparing the change in land use to the base RTP model and then applying average trip generation rates to the change in land use. Trip generation rates were based on data published by Institute of Transportation Engineers (ITE)<sup>1</sup> and included a combined rate for each individual land use type to represent an average mix of potential land uses. Table 1 summarizes the increase in trip generation by alternative (detailed calculations are included as attachments).

**Table 1: Trip Generation Increase\* by Alternative – 2035 PM Peak Hour**

Alternative	Trips In	Trips Out	Total Trips
Alternative 1 (Old Town)	398	367	765
Alternative 2 (All Study Area)	1,009	883	1,892
Alternative 3 (Edges)	614	722	1,336

**Note:**

\*Trip generation is based on increase of land use above the Metro RTP land use and.

Trip generation is intended to provide a sketch level comparison of the alternatives. Trip generation is based on combined ITE rates. Reductions for passby/diverted-link trips, multimodal use, and/or other factors related to mixed multiuse areas or Town Centers were not applied.

## Alternative Model Development

The year 2035 Sherwood Town Center subarea travel demand model<sup>2</sup> was used to provide a sketch-level comparison of the three alternatives. Models for each alternative were developed by scaling the vehicle trips in the base 2035 travel demand model to account for the additional traffic growth listed in Table 1. Each zone in the model was scaled in a two-step process, applying a scaling factor to all trips leaving the zone and then scaling by all trips entering the zone.<sup>3</sup>

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<sup>1</sup> ITE rates were used to be consistent with potential TPR analysis based on direction from ODOT - Email from Seth Brumley, ODOT, October 26, 2012.

<sup>2</sup> The subarea model was developed from Washington County’s refined Metro “Beta” model. In general, the model assumed projects consistent with Metro’s RTP and Sherwood TSP.

<sup>3</sup> In some cases, trips between zones (individual origin-destination pairs) would be scaled twice with this methodology and would increase the trips beyond the levels reported in Table 1. Therefore, this sketch-level methodology is a conservative approach to evaluating potential impacts.

The transportation network for each alternative was generally consistent with the base 2035 RTP modeling, with the following exception:

- Alternative 2 (All Study Area) reduces the cross-section of Highway 99W to two through lanes in each direction.

## **Model Assessment**

The travel demand model was applied to provide a preliminary assessment of each alternative. Model plots (attached) were created for each alternative that provided the following:

- Volume Difference Plot – The traffic volume change on streets during the p.m. peak hour with the additional trips added for each alternative (red links indicate an increase in traffic, green links indicate a decrease in traffic).
- Operational Summary - The approximated Highway Capacity Manual (HCM) level of service (LOS) for intersections and volume to capacity (V/C) ratios for each street in the subarea.

These plots represent a preliminary (“sketch-level”) analysis of the alternatives for comparative purposes using raw model traffic volumes (not typically used for formal traffic analysis purposes). The recommended alternative will be analyzed in greater detail later in the planning process, which may include some/all of the following components: refined trip generation estimates, Metro model runs, post-processed traffic volumes, and/or refined HCM intersection analysis.

Specific multi-modal impacts of alternatives are not reflected in the travel demand model sensitivity evaluation. In general, alternatives that provide a combination of land uses in close proximity (either vertical or horizontal mixed use or adjacent uses) would facilitate shorter trips that would be accessible via walking or biking and would rely less on motor vehicles.

## **SUMMARY OF ALTERNATIVE IMPACTS**

The following section reviews the projected 2035 traffic conditions for the baseline condition and summarizes the primary impacts of each alternative. Additional smaller-scale impacts may occur as well that are not noted.

### **Future Year 2035 Baseline Conditions (Review)**

Prior analysis summarized the 2035 p.m. peak hour traffic conditions for the study area<sup>4</sup>. The primary findings included:

- Planned transportation improvements in the study area will increase capacity (Tualatin-Sherwood Road widening, Langer Farms Parkway extension to Highway 99W, intersection control improvements along Sherwood Boulevard, etc.)

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<sup>4</sup> Memorandum: Sherwood Town Center Plan – Future Baseline Traffic Analysis (DRAFT), prepared by DKS Associates, August 24, 2012.

- Due to the planned transportation improvements, some intersections will be less congested in 20 years than present conditions, though many will have longer average delay.
- Most intersections will continue to meet operational standards in 20 years, but three intersections on Highway 99W will not meet standards and could restrict growth
- Sherwood currently limits new development intensity based on the amount of new peak hour traffic that is projected to generate (development in Old Town is exempt) based on the CAP ordinance.

## **General Alternative Impacts (All Alternatives)**

Each of the three alternatives analyzed would share some common impacts:

- Key Highway 99W signalized intersections (Tualatin-Sherwood Road, Sherwood Boulevard, and Meinecke Road) would be near/over capacity, with some increase in congestion due to the land use alternatives.
- The intersection of Langer Farms Parkway/Oregon Street would be near/over capacity.
- Additional traffic in Old Town and the tight grid spacing may cause additional congestion and require reconfiguration of traffic flow to alleviate traffic queuing issues.

## **Alternative 1 (Old Town)**

The Old Town alternative primarily adds additional land use to the southern portion of the study area and includes the least additional traffic of the three alternatives. This alternative would have the following impacts:

- Intersection capacity issues as noted for all alternatives.
- Traffic growth would be greatest along the Langer Drive and Sherwood Boulevard corridors.

## **Alternative 2 (All Study Area)**

The “All Study Area” alternative includes the greatest increase in traffic volumes of the three alternatives. This alternative would have the following impacts:

- Intersection capacity issues as noted for all alternatives.
- Due to reduced capacity on Highway 99W, traffic would divert to Borchers Drive and Langer Drive.
- There may be potential cut-through on Century Drive for traffic traveling between Highway 99W (to south) and Tualatin-Sherwood Road.
- Additional traffic on Tualatin-Sherwood Road due to traffic diverting from Highway 99W (narrowed cross section between Tualatin-Sherwood Road and Edy Road).

## **Alternative 3 (Edges)**

The “Edges” alternative falls between the other two in terms of trip generation. This alternative would have the following impacts:

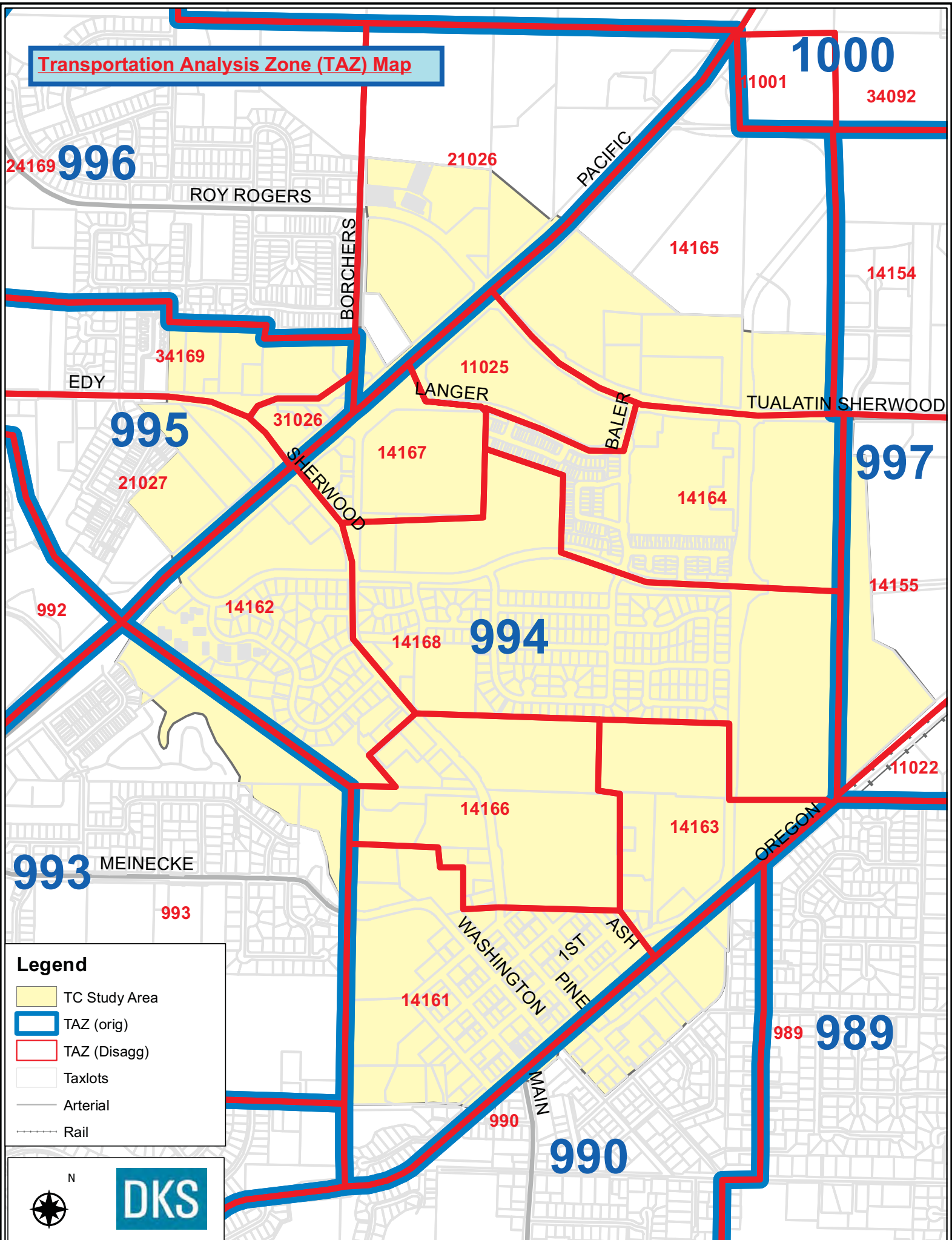
- Intersection capacity issues as noted for all alternatives.
- Traffic growth would be greatest along the Langer Drive and Sherwood Boulevard corridors.

## **Attachments**

The following attachments were used during the technical analysis to develop the material summarized in this memorandum.

- Transportation Analysis Zone (TAZ) Map
- Alternative Land Use Assumptions Summary
- Alternative Trip Generation Summary
- Alternative Model Plots – Traffic Growth
- Alternative Model Plots – Operations (LOS + V/C)

# Transportation Analysis Zone (TAZ) Map



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DKS

Alternative Land Use Assumptions Summary - Alternative 1

SCENARIO 1: OLD TOWN											
TAZ	LAND USE TYPE(S)	SQUARE FOOTAGE	GROSS GAIN	NET GAIN	EST. FAR	PROPOSED LAND	EST. EXISTING UNITS	EXISTING SF	EXISTING LAND	NOTES	LU DETAILS (NOT NEEDED FOR DKS's TRANS. ANALYSIS)
14161	Single Family Residential						12	21671	95832		Of I/L 0-0.5
14161	Single Family Residential						36	63260	299257		Of I/L 0.5-1
14161	Retail/Commercial							6826	88862		Of I/L 0-0.5
14161	Retail/Commercial							18886	62726		Of I/L 0.5-1
14161	Multifamily		120 DU	120 DU		87120					- Townhomes 4 acres (64 DU)
14161	Retail/Commercial (could be office use)		156000 SF	130000 SF							- MFR over Retail 6 acres @ RES 20DU/AC, COMM FAR 0.5 (120 DU TOTAL) (130K COMM)
14161	Office			26000 SF							- Office over Retail 2 acres @ FAR 0.6: 26K SF to each
14161	Single Family Residential - Townhomes		64 DU	16 DU							
990	Single Family Residential			15 DU			103 DU	176627		Existing SF is sum of building footprints; does not account for estimated building story height	+15% housing infill
990	High Density Residential			112 DU					3.74 acres	@ 30DU/AC	
990	Commercial		20000 SF	20000 SF					3.74 acres	"Public works" site	Publicly owned parcel converted to Commercial
	TOTAL: DU			263 DU							
	TOTAL: COMMERCIAL			150000 SF							
	TOTAL: OFFICE			26000 SF							

Alternative Land Use Assumptions Summary - Alternative 2

SCENARIO 2: ALL STUDY AREA											
TAZ	LAND USE TYPE(S)	SQUARE FOOTAGE	GROSS GAIN	NET GAIN	EST. FAR	PROPOSED LAND	EST. EXISTING UNITS	EXISTING SF	EXISTING LAND	NOTES	LU DETAILS (NOT NEEDED FOR DKS's TRANS. ANALYSIS)
14161	Single Family Residential						12	21671	95832		Of I/L 0-0.5
14161	Retail/Commercial							6826	88862		Of I/L 0-0.5
14161	Multifamily		60 DU	60 DU		87120					- 4.24 acres available land of Residential and Commercial at 0.5 I/L
14161	Retail/Commercial (could be office use)		80000 SF	73000 SF							- 3 acres MFR over commercial @ RES 20DU/AC, COMM FAR 0.5 (60 DU) (65K SF COMM)
14161	Office			16000 SF							- 1.24 acres office over retail @ FAR 0.6; 16K SF each
14161	Single Family Residential ( possibly as townhomes Townhomes)			(12 DU) loss							
990	High Density Residential			112 DU					3.74 acres	@ 30DU/AC	
990	Commercial		20000 SF	20000 SF					3.74 acres	"Public works" site	Publicly owned parcel converted to Commercial
14163	Medium Density Residential			144 DU					9 acres	40 DU/acre; build on 40% of site	observe wetlands
14166	Commercial			52000 SF	0.4				3 acres	Multistory MU with 2/3 share HDR	
14166	High Density Residential			120 DU						40 DU/AC	
14167	Commercial			136000 SF						Add. Liner buildings	- Half of one floor of BLDG 1: retail; other half: Office; 2 stories HDR - Bldg 2: 3 stories Office
14167	High Density Residential			70 DU						Bldg site 1 (east of Sherwood Plaza)	
14167	Office			71000 SF							
14165	Commercial			53000 SF						- Bldg 27: half office, half retail (9000/9000 SF)	
14165	Industrial			53000 SF						- - Bldg 29: half/half comm/ind (44K/44K)	
14165	Office			9000 SF							
21026	Retail			40000 SF							
21026	High Density Residential			225 DU							
34169	High Density Residential			100 DU						25 DU/AC	
21027	Retail			110000 SF						- @ .25 FAR for Retail	
21027	Multi-Family Residential			160 DU						@ 16 DU/AC	
	TOTAL: DU			979 DU							
	TOTAL: COMMERCIAL			484000 SF							
	TOTAL: OFFICE			96000 SF							
	TOTAL: INDUSTRIAL			53000 SF							

### Alternative Land Use Assumptions Summary - Alternative 3

SCENARIO 3: EDGES											
TAZ	LAND USE TYPE(S)	SQUARE FOOTAGE	GROSS GAIN	NET GAIN	EST. FAR	PROPOSED LAND	EST. EXISTING UNITS	EXISTING SF	EXISTING LAND	NOTES	LU DETAILS (NOT NEEDED FOR DKS's TRANS. ANALYSIS)
14161	Single Family Residential						12	21671	95832		Of I/L 0-0.5
14161	Single Family Residential						36	63260	299257	Utilized at 50% rate	Of I/I 0.5-1
14161	Retail/Commercial							6826	88862		Of I/L 0-0.5
14161	Retail/Commercial							18886	62726	Utilized at 50% rate	Of I/I 0.5-1
14161	Multifamily		80 DU	80 DU		87120					- Townhomes 2 acres (32 DU)
14161	Retail/Commercial (could be office use)		113000	72500 SF							- MFR over Retail 4 acres @ RES 20DU/AC, COMM FAR 0.5 (80 DU TOTAL) (87K COMM)
14161	Office			26000 SF							- Office over Retail 2 acres @ FAR 0.6: 26K SF to each
14161	Single Family Residential - Townhomes		32 DU	(16 DU)							
14166	Commercial			33800 SF	0.4				1.94 AC	Multistory MU with 2/3 share HDR	
14166	High Density Residential			77 DU						40 DU/AC	
14163	Medium Density Residential			144 DU					9 acres	40 DU/acre; build on 40% of site	observe wetlands
14163	Industrial			55000 SF					4.16 AC		
14163	Office			55000 SF					4.16 AC		
14167	Commercial			121400 SF						Add. Liner buildings	- BLDG 1-2: 40DU/AC; parking behind - Bldg 3-7: 0.5 FAR Retail below 0.4 FAR office
14167	Office			72840 SF						@ 60% of Retail SF	
14167	High Density Residential			46 DU						Bldg site 1 (east of Sherwood Plaza)	
	TOTAL: DU			331 DU							
	TOTAL: COMMERCIAL			227700 SF							
	TOTAL: OFFICE			153840 SF							*Somewhat exceeds Johnson Reid estimates for Office demand in Study Area
	TOTAL: INDUSTRIAL			55000 SF							

## Alternative Trip Generation Summary

### Scenario: RTP Model Land Use

Trip Rat	0.57	4.1	1.25
IN	0.38	1.93	0.5
OUT	0.19	2.17	0.75

			Portion in Study Area			TOTAL LU (Base 2010)			TOTAL LU (Future 2035)			GROWTH (Study Area)			NEW TRIPS		
TAZ	TAZ	Location	HH	RET	OTH	HH	RET	OTH	HH	RET	OTH	Gr HH	Gr Ret	Gr Oth	IN	OUT	TOTAL
RTP	DKS																
994	11025	Albertsons/Shopping	1.0	1.0	1.0	0	225	100	0	250	130	0	25	30	63	77	140
994	14161	Old Town	1.0	1.0	1.0	100	26	300	100	26	400	0	0	100	50	75	125
994	14162	Hwy South	1.0	1.0	1.0	160	120	20	200	120	30	40	0	10	20	15	35
994	14163	NE Oldtown	1.0	1.0	1.0	15	0	120	15	0	150	0	0	30	15	23	38
994	14164	Target/Langer North	1.0	1.0	1.0	210	175	25	210	200	300	0	25	275	186	261	446
994	14165	TS North (Cinema)	0.5	0.5	0.5	0	125	61	0	155	361	0	15	150	104	145	249
994	14166	Schools	1.0	1.0	1.0	110	0	340	110	0	400	0	0	60	30	45	75
994	14167	Sherwood Plaza (shopping)	1.0	1.0	1.0	0	175	25	0	225	62	0	50	37	115	136	251
994	14168	Residential/Langer South	1.0	1.0	1.0	515	0	50	655	0	300	140	0	250	178	215	392
995	21027	South Edy (Providence)	0.0	0.7	0.7	96	0	20	146	60	124	0	42	73	117	146	263
995	34169	North Edy/Borchers	0.0	0.5	0.5	200	9	21	253	30	120	0	11	50	45	60	105
996	21026	Inner Roy Rogers	0.5	0.8	0.2	26	141	220	26	266	537	0	94	63	212	251	464
995	31026	99W Comm N	1.0	1.0	1.0	0	40	0	0	68	35	0	28	35	71	87	159
	990		0.0	0.3	0.3	1033	0	182	1180	67	569	0	20	116	97	131	227
												180	309	1163	1206	1535	2742

#### Notes:

HH = Households (Dwelling Units) - Assumed Mix Townhouse/Condo/Apartment for ITE Rate

RET = Retail Employees. Mix of retail types used for combined ITE Rate.

OTH = Other Employees. Assumed mix of Specialty Retail and Office Park for ITE Rate.

Shopping/Service infill  
Employment Infill  
Housing infill and some employment  
Employment of Undeveloped area  
Retail/Employment of Undeveloped area  
Employment of Undeveloped area and Retail infill  
School and employment infill  
Completion of empty retail/employment  
Housing density and employment of undeveloped land  
only 4 acres assumed, 1/2 of vacant emp areas

## Alternative Trip Generation Summary

### Scenario: 1 Old Town

Trip Rate	0.57	4.10	0.46	0.42
IN	0.38	1.93	0.08	0.09
OUT	0.19	2.17	0.38	0.33

			Portion in Study Area			TOTAL LU (Base 2010)			TOTAL LU (Future 2035)			GROWTH (Study Area)				NEW TRIPS			CHANGE		
TAZ	TAZ	Location	HH	RET	OTH	HH	RET	OTH	HH	RET	OTH	DU	COM	OFF	IND	IN	OUT	TOTAL	IN	OUT	TOTAL
RTP	DKS																				
994	11025	Albertsons/Shopping	1.0	1.0	1.0	0	225	100	0	250	130					0	0	0	0	0	0
994	14161	Old Town	1.0	1.0	1.0	100	26	300	100	26	400	136	195	78		433	480	913	383	405	788
994	14162	Hwy South	1.0	1.0	1.0	160	120	20	200	120	30					0	0	0	0	0	0
994	14163	NE Oldtown	1.0	1.0	1.0	15	0	120	15	0	150					0	0	0	0	0	0
994	14164	Target/Langer North	1.0	1.0	1.0	210	175	25	210	200	300					0	0	0	0	0	0
994	14165	TS North (Cinema)	0.5	0.5	0.5	0	125	61	0	155	361					0	0	0	0	0	0
994	14166	Schools	1.0	1.0	1.0	110	0	340	110	0	400					0	0	0	0	0	0
994	14167	Sherwood Plaza (shopping)	1.0	1.0	1.0	0	175	25	0	225	62					0	0	0	0	0	0
994	14168	Residential/Langer South	1.0	1.0	1.0	515	0	50	655	0	300					0	0	0	0	0	0
995	21027	South Edy (Providence)	0.0	0.7	0.7	96	0	20	146	60	124					0	0	0	0	0	0
995	34169	North Edy/Borchers	0.0	0.5	0.5	200	9	21	253	30	120					0	0	0	0	0	0
996	21026	Inner Roy Rogers	0.5	0.8	0.2	26	141	220	26	266	537					0	0	0	0	0	0
995	31026	99W Comm N	1.0	1.0	1.0	0	40	0	0	68	35					0	0	0	0	0	0
	990		0.0	0.3	0.3	1033	0	182	1180	67	569	142	30			111	93	204	15	-38	-23
												278	225	78	0				398	367	765

#### Notes:

HH = Households (Dwelling Units) - Assumed Mix Townhouse/Condo/Apartment for ITE Rate

COM = Retail Employees (assumed 1.5 EMP/KSF). Mix of retail types used for combined ITE Rate.

OFF = Office Employees (assumed 3 EMP/KSF). Assumed ITE 710 (General Office) for ITE Rate.

IND = Industrial Employees (assumed 1 EMP/KSF). Assumed ITE 110 (General Light Industrial) for ITE Rate.

## Alternative Trip Generation Summary

### Scenario: 2 All Study Area

Trip Rate	0.57	4.1	0.46	0.42
IN	0.38	1.93	0.08	0.09
OUT	0.19	2.17	0.38	0.33

TAZ	TAZ	Location	Portion in Study Area			TOTAL LU (Base 2010)			TOTAL LU (Future 2035)			GROWTH (Study Area)				NEW TRIPS			CHANGE		
			HH	RET	OTH	HH	RET	OTH	HH	RET	OTH	DU	COM	OFF	IND	IN	OUT	TOTAL	IN	OUT	TOTAL
RTP	DKS																				
994	11025	Albertsons/Shopping	1.0	1.0	1.0	0	225	100	0	250	130					0	0	0	0	0	0
994	14161	Old Town	1.0	1.0	1.0	100	26	300	100	26	400	48	110	48		233	266	498	183	191	373
994	14162	Hwy South	1.0	1.0	1.0	160	120	20	200	120	30					0	0	0	0	0	0
994	14163	NE Oldtown	1.0	1.0	1.0	15	0	120	15	0	150	144				54	28	82	39	5	45
994	14164	Target/Langer North	1.0	1.0	1.0	210	175	25	210	200	300					0	0	0	0	0	0
994	14165	TS North (Cinema)	0.5	0.5	0.5	0	125	61	0	155	361		80	27	53	160	201	361	56	56	112
994	14166	Schools	1.0	1.0	1.0	110	0	340	110	0	400	120	78			195	193	388	165	148	313
994	14167	Sherwood Plaza (shopping)	1.0	1.0	1.0	0	175	25	0	225	62	70	204	213		436	538	974	321	402	723
994	14168	Residential/Langer South	1.0	1.0	1.0	515	0	50	655	0	300					0	0	0	0	0	0
995	21027	South Edy (Providence)	0.0	0.7	0.7	96	0	20	146	60	124	160	165			378	390	768	261	244	505
995	34169	North Edy/Borchers	0.0	0.5	0.5	200	9	21	253	30	120	100				38	19	57	-7	-41	-48
996	21026	Inner Roy Rogers	0.5	0.8	0.2	26	141	220	26	266	537	225	60			200	174	374	-12	-77	-89
995	31026	99W Comm N	1.0	1.0	1.0	0	40	0	0	68	35					0	0	0	0	0	0
	990					1033	0	182	1180	67	569	112	30			100	87	187	3	-44	-40
												979	726	288	53				1009	883	1893

#### Notes:

HH = Households (Dwelling Units) - Assumed Mix Townhouse/Condo/Apartment for ITE Rate

COM = Retail Employees (assumed 1.5 EMP/KSF). Mix of retail types used for combined ITE Rate.

OFF = Office Employees (assumed 3 EMP/KSF). Assumed ITE 710 (General Office) for ITE Rate.

IND = Industrial Employees (assumed 1 EMP/KSF). Assumed ITE 110 (General Light Industrial) for ITE Rate.

## Alternative Trip Generation Summary

### Scenario: 3 Edges

Trip Rate	0.57	4.10	0.46	0.42
IN	0.38	1.93	0.08	0.09
OUT	0.19	2.17	0.38	0.33

TAZ	TAZ	Location	Portion in Study Area			TOTAL LU (Base 2010)			TOTAL LU (Future 2035)			GROWTH (Study Area)				NEW TRIPS			CHANGE		
			HH	RET	OTH	HH	RET	OTH	HH	RET	OTH	DU	COM	OFF	IND	IN	OUT	TOTAL	IN	OUT	TOTAL
RTP	DKS																				
994	11025	Albertsons/Shopping	1.0	1.0	1.0	0	225	100	0	250	130					0	0	0	0	0	0
994	14161	Old Town	1.0	1.0	1.0	100	26	300	100	26	400	64	109	78		240	278	518	190	203	393
994	14162	Hwy South	1.0	1.0	1.0	160	120	20	200	120	30					0	0	0	0	0	0
994	14163	NE Oldtown	1.0	1.0	1.0	15	0	120	15	0	150	144		165	55	72	109	181	57	87	144
994	14164	Target/Langer North	1.0	1.0	1.0	210	175	25	210	200	300					0	0	0	0	0	0
994	14165	TS North (Cinema)	0.5	0.5	0.5	0	125	61	0	155	361					0	0	0	0	0	0
994	14166	Schools	1.0	1.0	1.0	110	0	340	110	0	400	77	51			127	125	252	97	80	177
994	14167	Sherwood Plaza (shopping)	1.0	1.0	1.0	0	175	25	0	225	62	46	182	219		385	488	873	270	352	622
994	14168	Residential/Langer South	1.0	1.0	1.0	515	0	50	655	0	300					0	0	0	0	0	0
995	21027	South Edy (Providence)	0.0	0.7	0.7	96	0	20	146	60	124					0	0	0	0	0	0
995	34169	North Edy/Borchers	0.0	0.5	0.5	200	9	21	253	30	120					0	0	0	0	0	0
996	21026	Inner Roy Rogers	0.5	0.8	0.2	26	141	220	26	266	537					0	0	0	0	0	0
995	31026	99W Comm N	1.0	1.0	1.0	0	40	0	0	68	35					0	0	0	0	0	0
	990					1033	0	182	1180	67	569					0	0	0	0	0	0
												331	342	462	55				614	722	1336

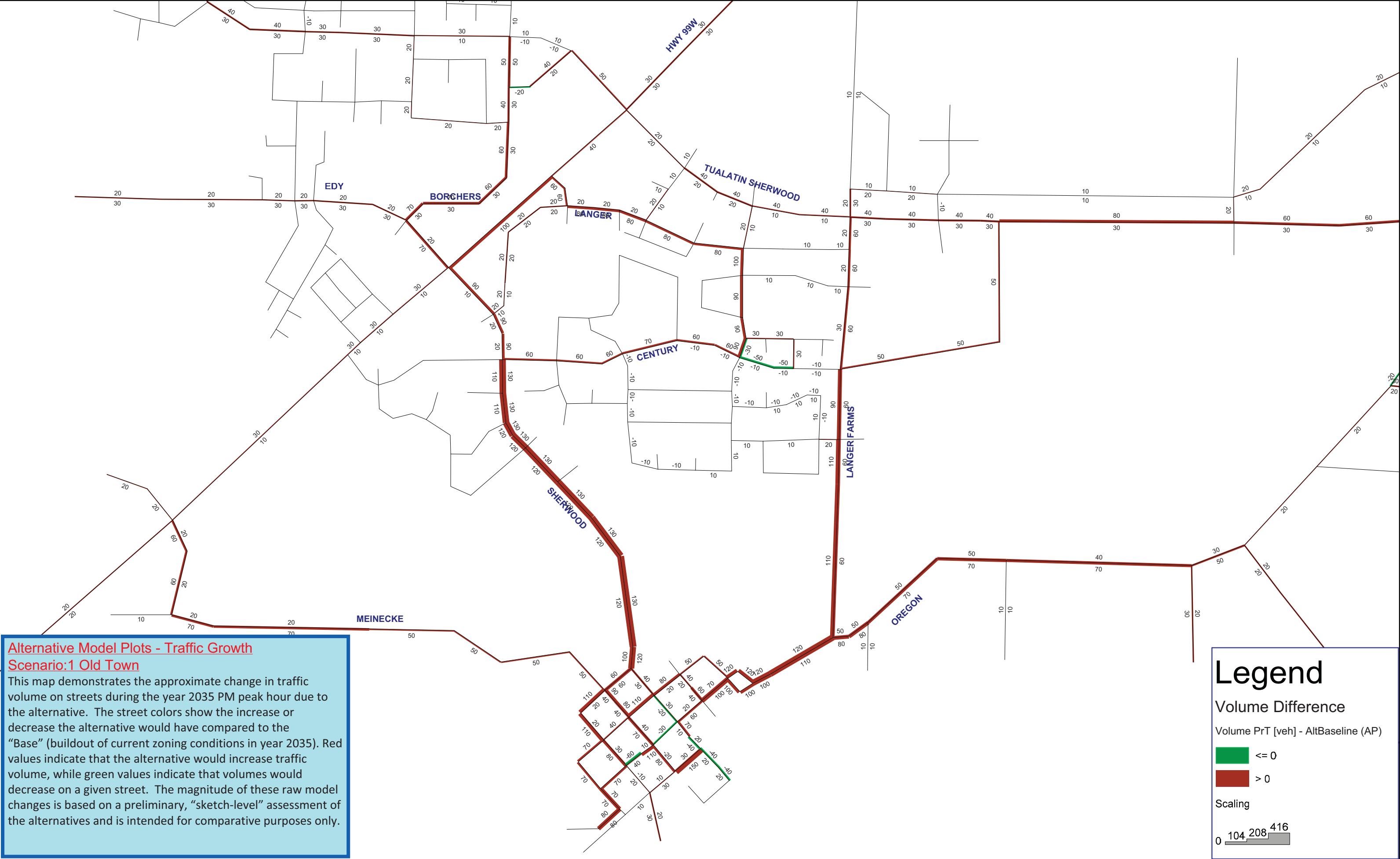
#### Notes:

HH = Households (Dwelling Units) - Assumed Mix Townhouse/Condo/Apartment for ITE Rate

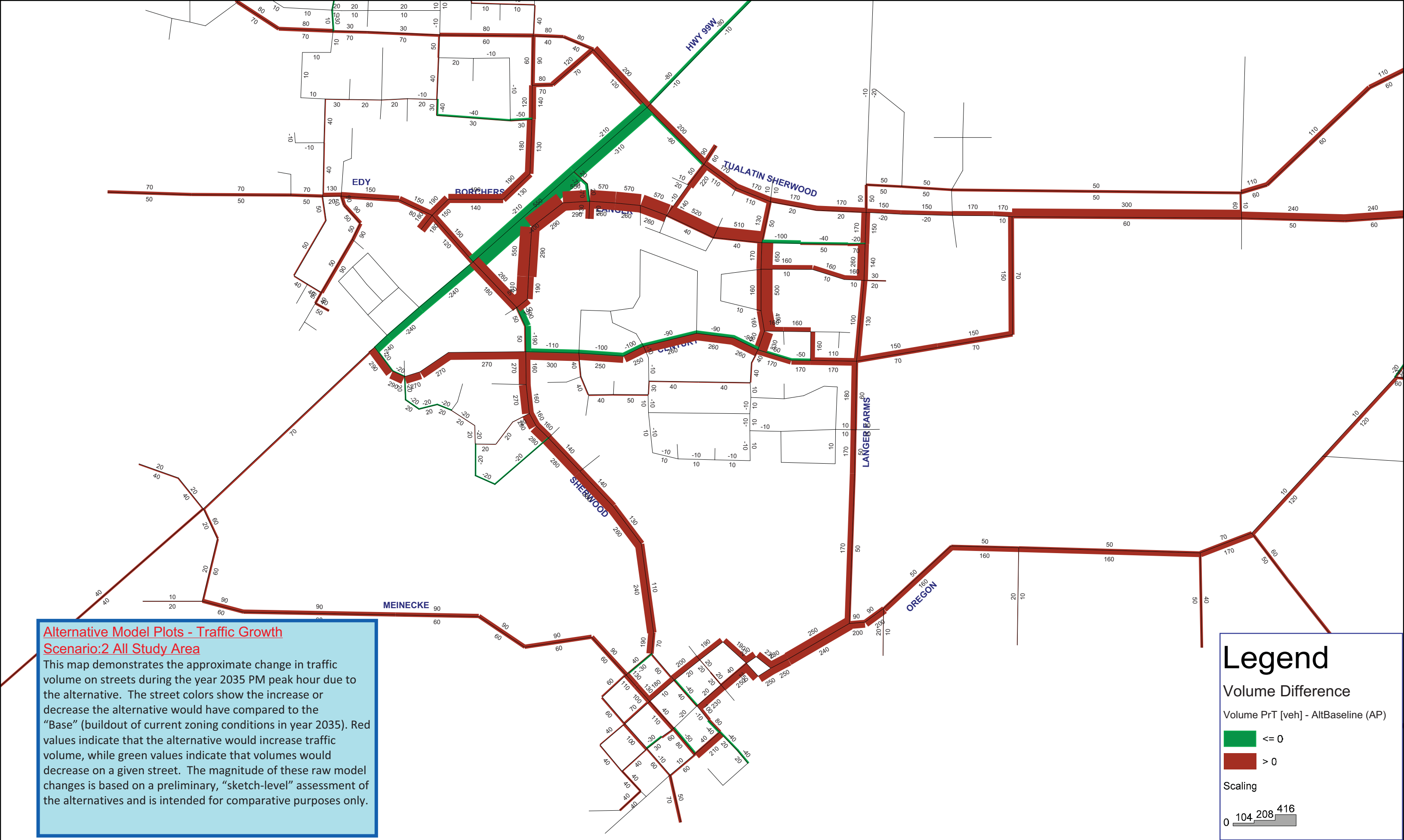
COM = Retail Employees (assumed 1.5 EMP/KSF). Mix of retail types used for combined ITE Rate.

OFF = Office Employees (assumed 3 EMP/KSF). Assumed ITE 710 (General Office) for ITE Rate.

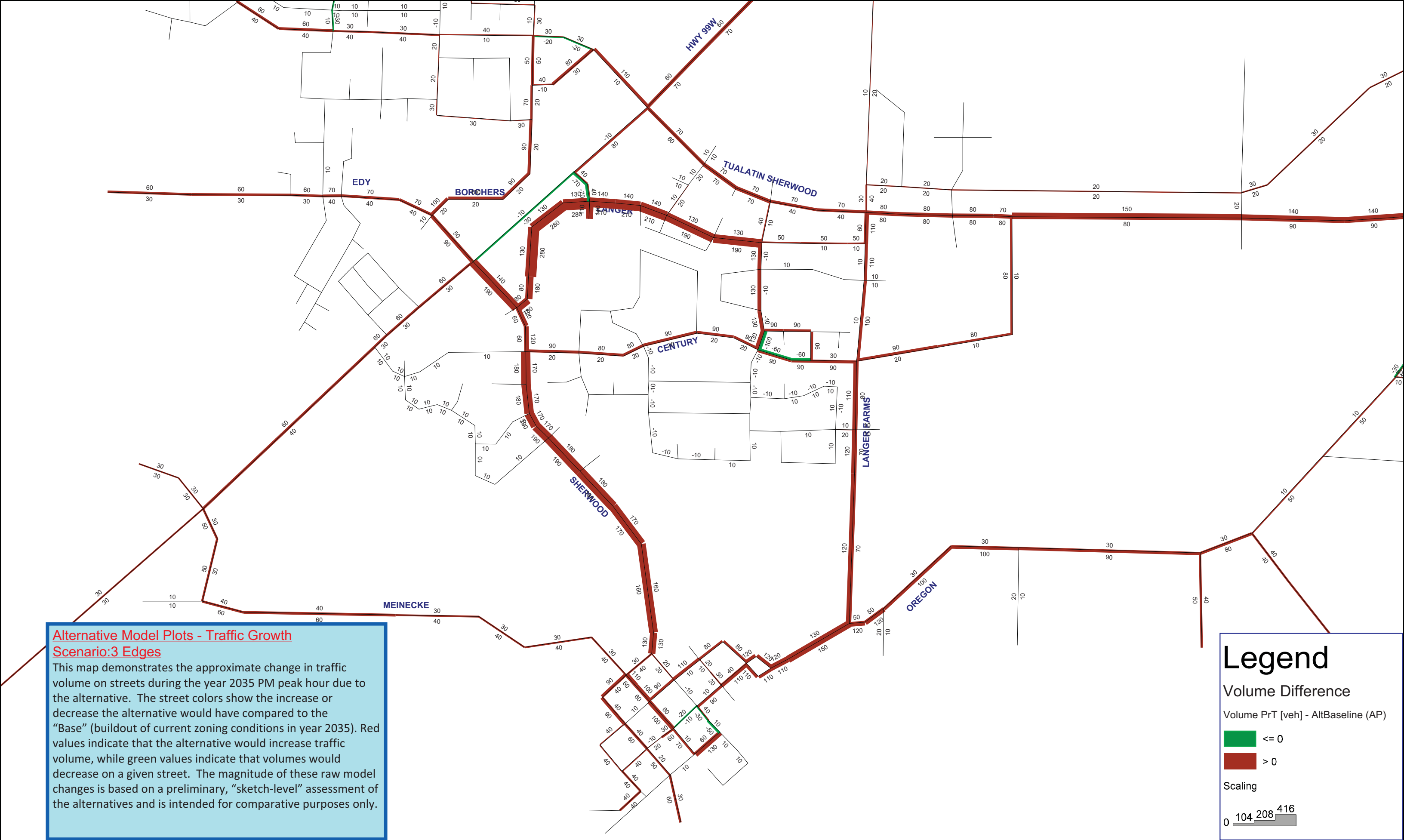
IND = Industrial Employees (assumed 1 EMP/KSF). Assumed ITE 110 (General Light Industrial) for ITE Rate.



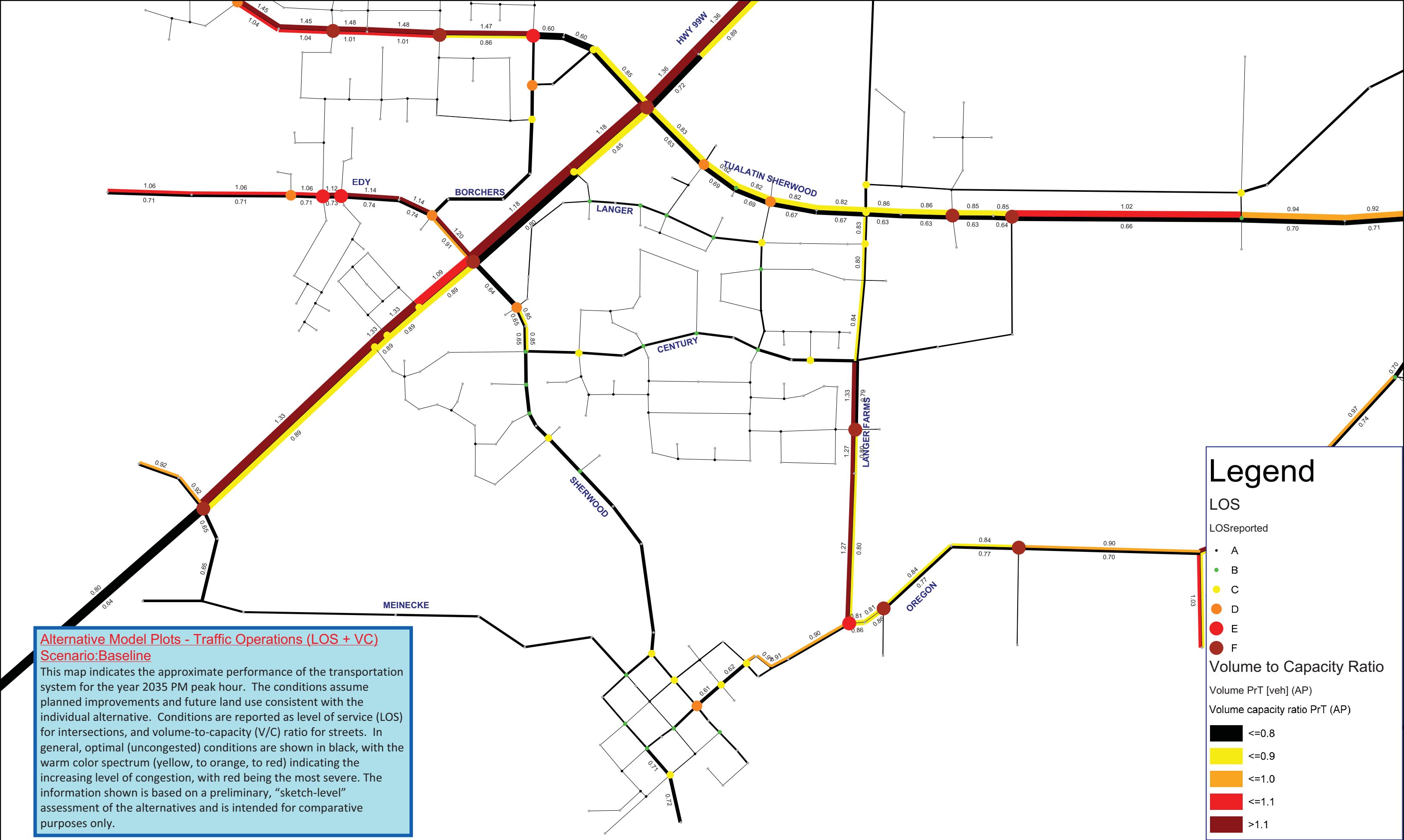
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DKS Associates	Volume Change from Base Alternative	GAA



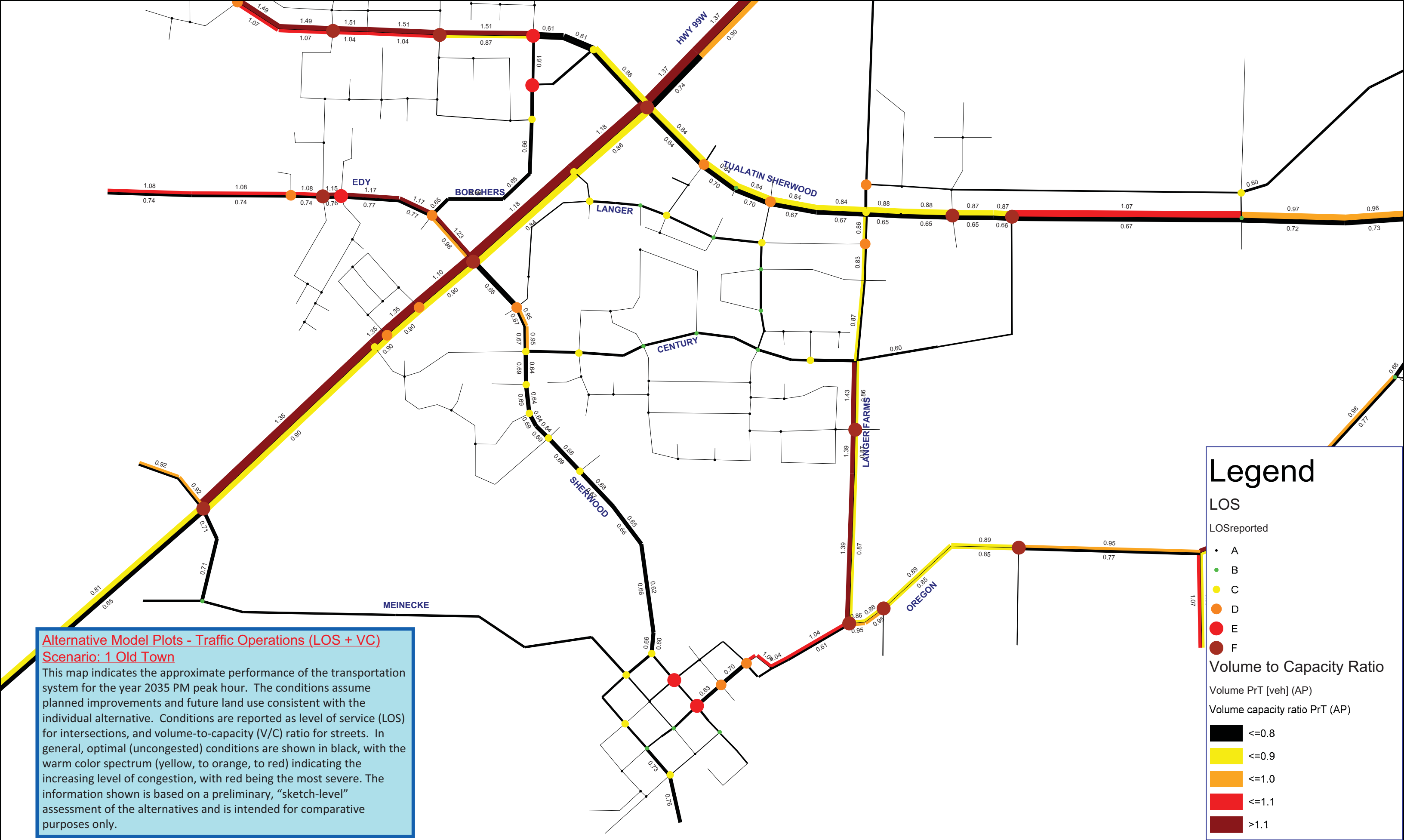
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DKS Associates	Volume Change from Base Alternative	GAA

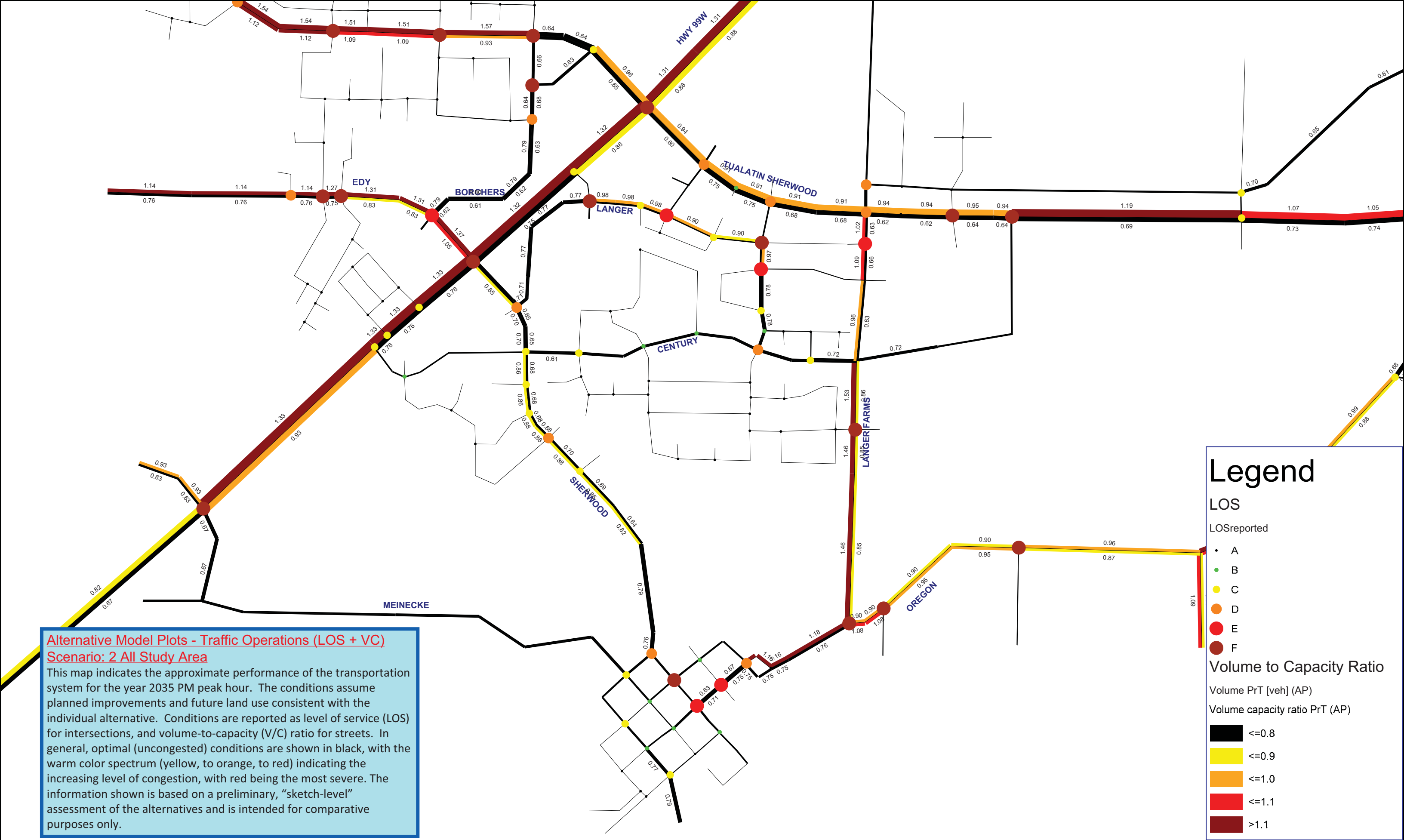


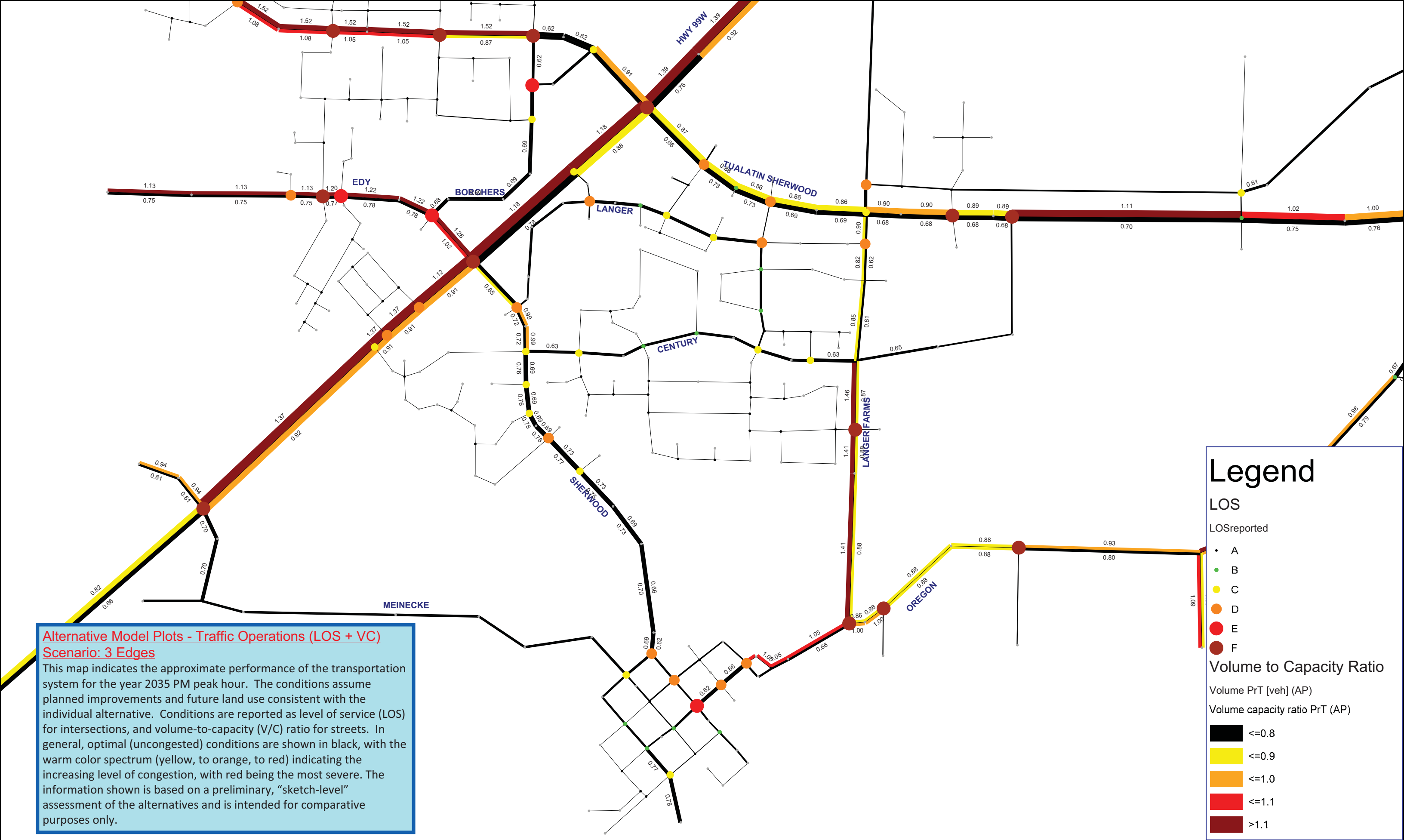
Created on: 06.11.2012	2035SherwoodTCSubnet_Alt3_edges.ver	1:7875
DKS Associates	Volume Change from Base Alternative	GAA



Created on: 06.11.2012	2035SherwoodTCSubnet_AltBaseline.ver	1:7875
DKS Associates	LOS & V/C	GAA







## **Appendix B: Draft Sherwood Town Center Vision Statement**

## Sherwood Town Center Draft Vision Statement:

*Sherwood Town Center is a lively, safe, and beautiful place that embodies the best of Sherwood, a family friendly community with historic roots that enthusiastically plans for a bright future. The Town Center is the focal point of community life and commerce: neighbors and visitors come together here to eat, shop, work, and play. The mix of housing, restaurants, shops, parks, natural areas and public gathering spaces that front vibrant, tree-lined streets supports existing businesses and attracts new businesses and visitors. Getting to and getting around the Town Center is easy, whether you are traveling on foot, by bike, by skateboard, on a bus, or in a car.*

## **Appendix C: Land Use and Transportation Alternatives: Illustrative Photos**



Images 1-6: "Complete Streets" feature calm roadways safe for all users, stormwater and landscape features, attractive streetscapes, and easy access for people on foot and bicycle.

7



Image 7: Medium-scale multi-family residential can coexist next to single-family detached homes in well-connected neighborhoods.

8



Image 8: Three-story apartments can increase residential density.

9



Image 9: High-density residential apartments or condominiums provide housing options near existing and new commercial uses and transit service.

10



Images 10-12: Ground floor retail and offices with multi-family residential above will enliven the area with more employees, business patrons, and residents.

11



12



13



Image 13: Accessory-dwelling units are a practical, attractive way of slowly adding housing density in residential neighborhoods and providing a broader mix of housing options of various prices and sizes.

14



Image 14: Townhomes and duplexes can fit suitably into single-family detached home neighborhoods, providing a wider range of housing options for families, professionals, retirees, and others.

15



Image 15: High-visibility crosswalks, bicycle lanes, and a road diet to five lanes could make Highway 99W safer and more pedestrian friendly.

16



Image 16: A multi-way boulevard calms traffic, provides access for through and local traffic, accommodates bus-rapid transit, and is easier to cross and travel along on bicycle and foot.

17



18



Images 17-18: Bus-rapid-transit provides quick connections between urban centers without the cost or infrastructure of rail transit. The guideways and stations can be tastefully integrated into Sherwood.

19



Image 19: Local-circulator transit can provide connections between Old Town, Six Corners, and other areas of Sherwood.

20



Image 20: Improved streetscapes and pedestrian zones make it easier to access transit services.

21



Images 21-22: “Liner” buildings along larger big-box properties create more retail opportunities and make a more attractive environment to walk along.

22



23



Image 23: Lighting attracts visitors and directs them throughout the area.

24



Image 24: Color and texture create a space. A gateway can feature transportation and street improvements and notable mixed-use development to enliven the area.

25



Image 25: Medium-scale light industrial and office uses bolster the employment base in Sherwood.

Image 26: Office over retail increases employment densities and provides amenities to workers.



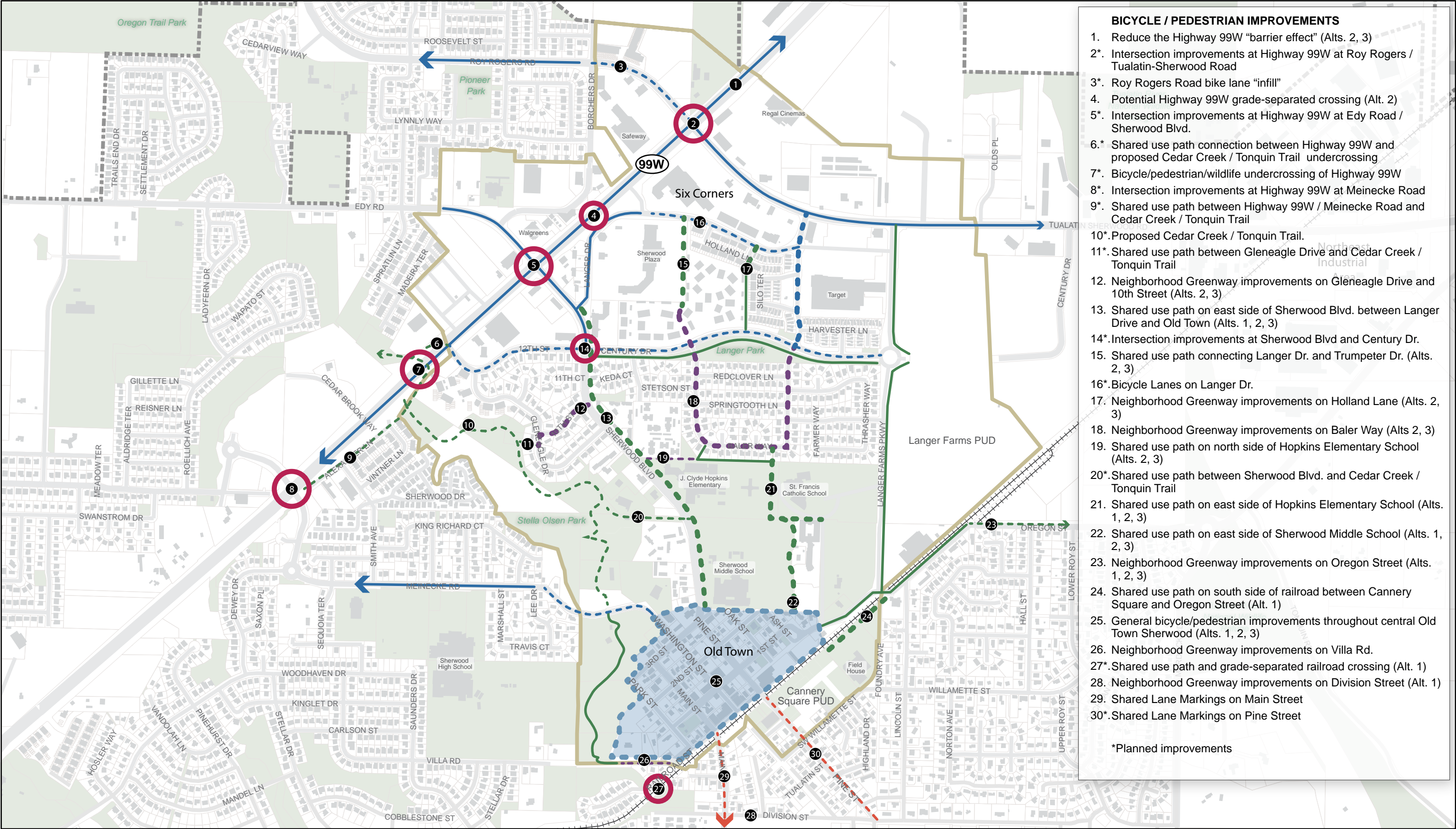
26

27



Image 27: Ground floor retail with residential or office above creates an active streetscape.

## **Appendix D: Bicycle and Pedestrian Improvements and Illustrative Photos**



## Bicycle / Pedestrian Improvements



SHERWOOD TOWN CENTER  
20 DECEMBER 2012

- Project Study Area
- City boundary
- Railroad

### Bicycle / Pedestrian Improvements

- EXISTING CURRENTLY PLANNED PROPOSED
- Trail / Multi-use Path Connection
- Bicycle Lane
- Neighborhood Greenway Bicycle Route
- Shared Lane Roadway

- Old Town Bike/Ped Improvements Area
- Intersection Improvements

Data Source: City of Sherwood and  
Regional Land Information System, May 2012. [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis)

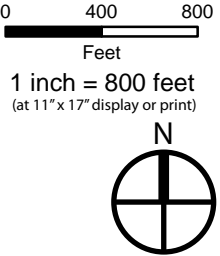




Image 1: Shared lane markings can heighten the visibility of people on bicycles in areas where cyclists and motorists must share the roadway.



Image 2: Serving walkers, joggers, in-line skaters, bicyclists and other non-motorized users, shared use paths are physically separated from the roadway and often provide links not otherwise offered by the street system.



Image 3: Walking and bicycling enhancements (e.g., crossing improvements) can create a safer, more comfortable and inviting atmosphere for Old Town residents and visitors alike.



Image 4: Through a variety of treatments, neighborhood greenways (also known as “bicycle boulevards” and “family-friendly bikeways”) can become attractive bicycling routes for people of all ages and abilities.



Image 5: Grade-separated bicycle/pedestrian crossings represent one option for reducing the Highway 99W barrier effect.



Image 6: A grade-separated bicycle/pedestrian crossing of the railroad can help overcome limited connectivity between Old Town Sherwood and neighborhoods to the south.

**Appendix F:**  
Traffic Analysis

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# MEMORANDUM

**DATE:** May 13, 2013

**TO:** Sherwood Town Center PMT

**FROM:** Chris Maciejewski, PE, PTOE, DKS Associates  
Garth Appanaitis, DKS Associates  
Jennifer Bachman, DKS Associates

**SUBJECT:** **Sherwood Town Center Plan**

Town Center Recommended Alternative Traffic Analysis

P# 12088-000

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This memorandum presents the traffic analysis conducted to illustrate the potential impacts and improvements needed to implement the Sherwood Town Center Plan. The analysis considers a “reasonable worst case” set of assumptions for potential growth that could occur for the “Recommended Alternative”. The following sections summarize the assumptions and methodology used to forecast year 2035 PM peak hour traffic volumes, capacity analysis of the study intersections, and identified transportation improvements to mitigate the impacts of implementing the recommended Sherwood Town Center to address the Transportation Planning Rule (TPR) (OAR 660-012-060).

## BACKGROUND

Metro’s 2040 Growth Concepts designate areas that provide a plan for growth throughout the region. Within this regional concept, Sherwood has one of the 30 designated “town centers”.<sup>1</sup> The Sherwood Town Center Plan designates and lays out a plan for a “Town Center” that both meets regional planning objectives and guides future growth and development in a way that is unique to Sherwood. The Town Center designation is intended to recognize and enhance principal centers of urban life within the region while acknowledging that these centers of activity are diverse and embody a strong sense of community identity. The Town Center Plan establishes the boundaries of the Sherwood Town Center, describes the vision for the area, and identifies a framework and strategies for realizing that vision. This traffic analysis is one component of the Town Center Plan.

The City previously designated the commercial area on Highway 99W as Sherwood’s Town Center; however, a plan was never developed for the original Town Center designation. As part of the process of developing a Town Center Plan, the boundary was re-evaluated and significantly revised.

## EXECUTIVE SUMMARY

The implementation of the Town Center Recommended Alternative would increase land use intensity (approximately 125 more dwelling units and approximately 400 more employees) and motor vehicle trip

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<sup>1</sup> Community Investment strategy (State of the Centers – Investing in our Communities), Metro, May 2011.

generation potential within the Town Center. Approximately 1,150 additional vehicle trips would be generated during the PM peak hour based on average ITE trip generation rates. Metro allows for reducing estimated trip generation calculations by 30% for town centers that meet several criteria<sup>2</sup> to improve alternatives to motor vehicle travel. While this reduction was not assumed in the analysis, a sensitivity test was performed to estimate how the findings would change. In addition, a sensitivity test was performed with an alternate Tualatin-Sherwood Road configuration that indicated that the improvement options currently being considered for Tualatin-Sherwood Road would not likely significantly change the findings of this analysis.

With the adoption of the Sherwood Town Center Plan, traffic mobility targets would increase (be less restrictive) for intersections within the Town Center boundary to allow for the increased congestion that comes with increased density of housing and jobs. This less restrictive mobility target allows the transportation network to be designed with fewer widening and capacity improvements being necessary to implement the vision of the Town Center plan with more emphasis on urban design, walking, and biking. Accounting for the increased mobility targets, three study intersections located along OR 99W would not meet mobility targets and would degrade to conditions below those projected for anticipated growth consistent with the currently adopted Comprehensive Plan (referred to as the Existing Plan). The additional traffic generated by the Town Center Recommended Alternative would require the following improvements to mitigate impacts to the Existing Plan condition and meet TPR requirements:

- OR 99W/ Home Depot – Add a separate westbound left turn lane while maintaining the existing green time on OR 99W for the northbound and southbound through movements.
- OR 99W/ Edy Road/ Sherwood Boulevard – Add dual eastbound and westbound left turn lanes on Edy Road and Sherwood Boulevard, 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.
- OR 99W/ Meinecke Road – 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.

If motor vehicle trip generation for the Town Center Recommended Plan was reduced by 30% (as allowed by Metro for Town Centers that meet certain criteria<sup>3</sup>), the mitigation to meet TPR would be reduced to:

- OR 99W/ Home Depot – Add a separate westbound left turn lane while maintaining the existing green time on OR 99W for the northbound and southbound through movements. (*same as full condition*)
- OR 99W/ Edy Road/ Sherwood Boulevard – 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. (*reduced impact from full condition*)

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<sup>2</sup> Urban Growth Management Functional Plan, Metro, Effective January 18, 2012, Title 6: Centers, Corridors, Station Communities and Main Streets, 3.07.630 B – Eligibility Actions for Lower Mobility Standards and Trip Generation Rates.

<sup>3</sup> *ibid*

- OR 99W/ Meinecke Road – 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. (*same as full condition*)

## EXISTING PLAN TRAFFIC FORECASTING

This section summarizes the assumptions and methodology that were used to develop future year 2035 PM peak hour Existing Plan traffic volumes at the study intersections. The Existing Plan scenario was used as a baseline scenario to measure impacts of the recommended alternative.

### Travel Demand Model

The year 2035 traffic volumes were projected using a refined travel demand model based on the West Side Metro travel demand model developed by Washington County<sup>4</sup>. The model is generally based on Metro's 2035 Regional Transportation Plan (RTP)<sup>5</sup> financially constrained transportation system street network and Metro's "Beta" land use<sup>6</sup> and contains additional refinements and calibration. The "Beta" land use is a regional-scale growth projection divided into transportation analysis zones (TAZ) and is generally consistent with underlying zoning and growth potential. A review of the land use in the model indicated that future land use growth in the TAZ that covers the majority of the study area (TAZ 994) was lower than allowed in current zoning and the Comprehensive Plan<sup>7</sup>. While the land use is generally consistent with the underlying zoning in the area, the land use totals do not seem to account for the development scale and type allowed in the Langer PUD. Therefore, the land use and resulting trips in the model for TAZ 994 were adjusted to retain consistency with the comprehensive plan through coordination with Washington County.<sup>8</sup> This adjustment was performed as a background calibration to all scenarios and alternatives that were modeled, including the previous 2035 Existing Plan baseline scenario and the set of Town Center alternatives.

To further refine the forecasts, a sub-area model was developed for the study area that includes all public streets and utilizes Highway Capacity Manual (HCM) node delays for trip assignment in order to evaluate changes in circulation and traffic control. The boundaries for the sub-area model include 124<sup>th</sup> Avenue at Highway 99W to the northeast, Roy Rogers Road at the UGB to the northwest, Highway 99W at Meinecke Parkway to the southwest, the rail south of Old Town, and 124<sup>th</sup> Avenue to the east.

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<sup>4</sup> Phone conversation with Steve L. Kelley, Washington County, March 5, 2012.

<sup>5</sup> 2035 Regional Transportation Plan. Metro. June 2010.

<sup>6</sup> Administrative Interpretation of 2035 Regional Transportation Plan, No 2012-2, Letter from John Williams, Metro, May 2, 2012.

<sup>7</sup> Transportation Analysis Zone (TAZ) 994 is generally bounded by Hwy 99W and Cedar Creek to the west, Home Depot to the north, Olds Place to the east, and Railroad Street to the south. The zone includes Sherwood Plaza, Old Town, and other residential/schools.

<sup>8</sup> Phone conversation with Steve L. Kelley, Washington County, June 4, 2012.

## Roadway Network Assumptions

As noted, the West Side Metro travel demand model street network is generally consistent with the financially-constrained project list in Metro's RTP. One modification in the Washington County model from the 2035 RTP system is the removal of the proposed Tualatin River crossing that would connect Lower Boones Ferry Road to Tualatin Road<sup>9</sup>. The major transportation projects located near the study area that are assumed to be in place for the 2035 Existing Plan (baseline) scenario are listed in Table 1.

**Table 1: Reasonably Likely Transportation Projects in the Study Area**

RTP #	Facility	Extents	Project Description
10708	Roy Rogers Road	Borchers Drive to Hwy 99W	Widen to 5 lanes (see additional project description and implications following the table)
10568	Tualatin-Sherwood Road	Hwy 99W to Teton Road	Widen to 5 lanes (see additional project description and implications following the table)
10677	Adams Avenue (North)	Tualatin-Sherwood Rd to Hwy 99W	Extend Adams Avenue as 3-lane facility to Hwy 99W and signalize the intersection at Tualatin-Sherwood Road/Adams Avenue (Langer Farms Parkway)
10736	124 <sup>th</sup> Avenue	Tualatin-Sherwood Road to Tonquin Road	Extend 124 <sup>th</sup> Avenue from Tualatin-Sherwood Road to Tonquin Road (5 lanes)
10590	Tonquin Road	Oregon Street to Grahams Ferry Road	Improve to three lanes for enhanced safety and capacity
10674	Oregon Street / Tonquin Road	Intersection	Improvements to provide congestion relief and address safety issues (roundabout or traffic signal)
11179	99W Connector Study Recommendations	Various	Most improvements consistent with the recommendation of the I-5 to 99W Connector Study (RTP# 11179). These projects generally include connectivity improvements to facilities north of Tualatin-Sherwood Road, such as extending Herman Road between the future Adams Avenue extension north of Tualatin-Sherwood Road and Gerda Lane. The construction of the "I-5/99W Southern Arterial" is not assumed for this project because it is not included in the financially constrained RTP project list.
N/A	SW Tualatin Concept Area	Various	Improvements consistent with the SW Tualatin Concept area – Extend a collector north-south between Tualatin-Sherwood Road and Tonquin Road (possibly 115 <sup>th</sup> Avenue). Improve east-west connectivity to the area between the new north-south collector and 124 <sup>th</sup> Avenue.
N/A	Tonquin	Various	Improvements consistent with the Tonquin Employment Area Plan – extend an east-west collector roadway

<sup>9</sup> This project is not included in the Washington County model to be consistent with local planning actions of the City of Tualatin to remove the project from urban renewal district funding.

RTP #	Facility	Extents	Project Description
	Employment Area		between Oregon Street and 124 <sup>th</sup> Avenue.
10702	Town Center Signal and Intersection Improvements	Various	Improve 3-leg intersection at Edy/Borchers, remove traffic signal at Baler/Tualatin-Sherwood Road, remove traffic signal at Langer Drive/Sherwood Boulevard, add traffic signal at Century Drive/Sherwood Boulevard.
10699	Oregon Street	Murdock Road to rail crossing	Construct road to 3-lane collector standards
10700	Arrow Street (Herman Road)	Adams Avenue to Gerda Lane	Construct road to collector standards.
N/A	Century Road	Langer Farm Parkway to Tualatin-Sherwood Road	Extend roadway with site development of the Langer properties, as noted in development agreement.

**Note:**

N/A – Project is not identified as “financially constrained” in the RTP project list, but the project is assumed to occur in conjunction with future development based on local planning efforts (master plans, concept plans, etc).

***Tualatin-Sherwood Road & Roy Rogers Widening Projects***

Two projects listed in Table 1 include widening along the Tualatin-Sherwood Road/Roy Rogers Road corridor (RTP 10708 and 10568). A portion of the corridor widening project was recently included on Washington County’s Major Streets Transportation Improvement Program (MSTIP) 3d list. The county is currently analyzing alternatives for corridor design between Borchers Drive and Langer Farms Parkway.

Four alternatives are currently being considered (there is not a preferred alternative at this time). The four concepts generally widen the corridor between Borchers Drive and Langer Farms Parkway, with the same design elements at the Hwy 99W/Tualatin-Sherwood Road intersection westward along Roy Rogers Road. The variations in design among the alternatives primarily deal with access and control treatment between Highway 99W and Langer Farms Parkway, including minor variations in travel lanes and turn pockets. A summary of the alternative variations follows:

- Option 1 (Remove the Theater/Shopping Center Signal) – The existing shopping center access would be limited to right-in-right-out movements from the side street with stop sign control.
- Option 2 (Maintain all Signals) – All existing access and control would be maintained along the corridor.
- Option 3 (Remove the Baler Way Signal) – The existing Baler Way intersection would be limited to right-in-right-out movements from the side street with stop sign control.
- Option 4 (Remove Two Signal and Install a New Signal) – Both the shopping center access and Baler Way signals would be removed and limited to right-in-right-out access from the stop-controlled side streets. A new traffic signal would be added in the general vicinity of the existing eastbound right-in shopping access.

The Sherwood Town Center project has considered the ongoing analysis and recommendations of the County’s widening project. For the purposes of the current Town Center analysis (2035 Existing Plan Baseline Traffic Analysis and Town Center Recommended Alternative), Option 3 is assumed since it is most consistent with

existing plans (Sherwood TSP projects and RTP Project number 10702). However, the Town Center Plan will not preclude the selection of an ultimate design for the corridor.

### **Tualatin-Sherwood Road Configuration (Sensitivity Test)**

A sensitivity test was performed to determine the magnitude of impact if the configuration assumed for Tualatin-Sherwood Road were to change. The Town Center Recommended Alternative was modeled with Option 1 (Removal of Theater/Shopping Center Signal) and was compared to the Recommended Town Center Alternative presented later in this memorandum. The volume difference between the two scenarios is presented as an attachment (model plot). The sensitivity test indicated that traffic volumes would not significantly increase in most of the study area (traffic volumes were shown to increase on Tualatin-Sherwood Road immediately east of OR 99W and at Baler Road), and that the findings of this memorandum would not likely significantly change.

### **Traffic Forecasting Methodology**

Calibration was performed on the 2010 base year model using the existing 30<sup>th</sup> highest hourly volumes (30<sup>th</sup> HV) at the study intersections. A future year 2035 sub-area model was then developed by coding the planned improvements into the model network and re-assigning the 2035 Metro model trip tables. The 2035 future year volumes were then estimated by a post-processing methodology that includes adding the growth increment between the 2010 base year and 2035 future year models to base year counts. This approach is consistent with methodologies outlined in the National Cooperative Highway Research Program (NCHRP) Report 255, Highway Traffic Data for Urbanized Area Project Planning and Design.

### **Year 2035 Existing Plan (Baseline) Traffic Volumes**

A number of transportation improvements and street extensions (listed in Table 1) have the potential to influence future traffic circulation in the study area. Improvements that influence traffic volumes in the north-south direction include 124<sup>th</sup> Avenue extension and Adams Avenue extension. Improvements that have the potential to influence traffic circulation in the east-west direction include widening Tualatin-Sherwood Road, improvements north of Tualatin-Sherwood Road consistent with the 99W Connector recommendations (including Arrow Street), the collector extension through the Tonquin Employment Area, the extension of Century Road, and improvements to Oregon Street. In addition, intersection improvements in the Town Center area identified in Table 1 have the potential to influence future traffic circulation.

Traffic volumes throughout the study area would generally increase from existing volumes. PM peak hour traffic volumes would increase on Tualatin-Sherwood Road approximately 200 to 300 vehicles in the eastbound direction and 400 to 600 vehicles in the westbound direction. PM peak hour traffic volumes would generally increase along OR 99W by approximately 200 to 500 vehicles in each direction at intersections through the study area. However, traffic volumes would have minor decreases (less than 50 vehicles during the PM peak hour) at a few intersections due to the control changes or additional capacity on parallel routes.

In addition to growth during the peak hour, future traffic demand is likely to spread to adjacent time periods and create a longer “peak” demand. A peak hour factor (PHF) is used to measure the relative traffic demand rate over the peak hour compared to the traffic demand rate over the peak 15 minutes as an indication of the magnitude of

“peaking” traffic demand during the highest hour<sup>10</sup>. For instance, locations near a school or major employer may have a very pronounced peak when traffic is released (which would result in a low PHF since the peak 15 minute flow rate is much higher than the flow rate over the peak hour). Existing PHF (in the study area) are generally 0.92 or greater and are assumed to slightly increase as the peak demand spreads in the future.<sup>11</sup>

## TOWN CENTER RECOMMENDED ALTERNATIVE

Prior analysis during the development of the Town Center Plan considered three different alternatives. The Town Center Recommended Alternative is most similar to Alternative 3 (Edges) that was previously considered. This alternative would include increased development within the boundary constraints or “edges” created by Highway 99W, Tualatin-Sherwood Road, Langer Farms Parkway, the Cedar Creek corridor, and generally the railroad to the south (and Willamette Street south of Old Town). Each of the three alternatives studied previously and the Town Center Recommended Alternative assume that the City's Capacity Allocation Program (CAP) ordinance, which restricts growth based on trip generation potential, would no longer be in effect in the Town Center with implementation of the Town Center Plan.

### Land Use

Land use metrics were developed for the Town Center Recommended Alternative, based on the projected growth over current plan conditions. The land use was allocated to individual TAZ for compatibility with transportation forecasts. For areas (entire TAZ or sections of TAZ) that the alternative did not modify the land use density anticipated, the future land use growth consistent with Metro's “Beta” land use forecast was assumed. The aggregate land use growth increment for the Town Center *in addition to growth assumed in the regional plan by Metro* that is consistent with the Town Center Recommended Alternative includes:

- 124 Additional dwelling units
- 292 Additional retail employees
- 297 Additional office employees
- -197 Additional other employees (reduction from existing plan)

The Town Center Recommended Alternative includes additional housing and total employment beyond the growth levels assumed in Metro's “Beta” forecast (used for the Existing Plan baseline). The increase for the Town Center Recommended Alternative includes 124 additional dwelling units and 392<sup>12</sup> additional employees as a result of more encouragement and removal of barriers for infill, new development and re-development. The change in employment would account for an increase in both retail and office employment, and a reduction in “other” (non-retail) employment that was included in Metro's Beta land use forecasts for the Existing Plan. The

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<sup>10</sup> PHF = vehicles during peak hour / [(vehicles during peak 15 minutes) \* 4]

<sup>11</sup> Existing PHF less than 0.92 would increase to 0.92, existing 0.92-0.94 would increase to 0.95, existing 0.95-0.96 would increase to 0.97.

<sup>12</sup> 292 + 297 – 197 = 392 additional employees

“other” employment accounts for a broad range of non-retail employment types and may include office uses. However, the growth portion for this employment group is indicated as a reduction for purposes of comparing changes in trip generation and traffic impacts with the Town Center Recommended Alternative.

## Trip Generation

The increase in weekday p.m. peak hour vehicle trips for the recommended alternative was estimated by comparing the change in land use to the base RTP model and then applying average trip generation rates to the change in land use. Trip generation rates were based on data published by Institute of Transportation Engineers (ITE)<sup>13</sup> and included a combined rate for each individual land use type to represent an average mix of potential land uses. Metro allows a 30% motor vehicle trip reduction for land use within Town Centers when specific criteria are met to support multimodal use<sup>14</sup>. This reduction was not applied for the purposes of the TPR impact analysis (trip generation and traffic operations). However, a sensitivity test was performed to determine how impacts would change with the assumed reduction of additional trips. Table 2 summarizes the increase in trip generation for the Town Center Recommended Alternative.

**Table 2: Trip Generation Increase\* for Town Center Recommended Alternative – 2035 PM Peak Hour**

Land Use	Quantity (Change from RTP)	Trip Rate (Trips/Unit)	Trips In	Trips Out	Total Trips
Households (Townhome/Condo/Apt)	124 Dwelling Units	0.57	47	24	71
Retail Employment	292 Employees	4.10	563	635	1,198
Office Employment	297 Employees	0.46	23	113	136
Other (RTP) Employment	-197 Employees	1.25	-99	-148	-247
<b>Total</b>			<b>534</b>	<b>624</b>	<b>1,158</b>

**Note:**

\*Trip generation is based on increase of land use above the Metro RTP land use.

Trip generation is based on combined ITE rates. Reductions for passby/diverted-link trips, multimodal use, and/or other factors related to mixed multiuse areas or Town Centers were not applied.

Households (Dwelling Units) - Assumed Mix Townhouse/Condo/Apartment for ITE Rate

Retail Employees (assumed 1.5 EMP/KSF). Mix of retail types used for combined ITE Rate.

Office Employees (assumed 3 EMP/KSF). Assumed ITE 710 (General Office) for ITE Rate.

Other Employees assumed mix of Specialty Retail and Office Park for ITE Rate.

## TRAFFIC OPERATIONS ANALYSIS

The study intersections were evaluated for future year 2035 Existing Plan (baseline) traffic operations (assuming the projects listed in Table 1) as well as for future year 2035 Town Center Recommended Alternative during the

<sup>13</sup> ITE rates were used to be consistent with potential TPR analysis based on direction from ODOT - Email from Seth Brumley, ODOT, October 26, 2012.

<sup>14</sup> Urban Growth Management Functional Plan, Metro, Effective January 18, 2012, Title 6: Centers, Corridors, Station Communities and Main Streets, 3.07.630 B – Eligibility Actions for Lower Mobility Standards and Trip Generation Rates.

p.m. peak hour. Level of service (LOS) and volume to capacity (v/c) ratios as defined in the *2000 Highway Capacity Manual*<sup>15</sup> (HCM) are two measures of effectiveness (MOEs) that are used as the basis for intersection operations and mobility standards. Explanations of each are given below.

## Level of Service

While analysis of traffic flows is useful in attempting to reach an understanding of the general nature of traffic in an area, traffic volume alone indicates neither the ability of the street network to carry additional traffic nor the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Intersections are the controlling bottlenecks of traffic flow, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

An intersection's level of service (LOS) is similar to a "report card" rating, based on average vehicle delay. Level of Service A, B and C indicates conditions where vehicles can move freely. Level of service D and E are progressively worse. For signalized intersections, level of service F represents conditions where the average delay for all vehicles through the intersection exceeds 80 seconds per vehicle, generally indicated by long queues and delays. Under this operating condition, delay is highly variable, and it is difficult to estimate average delay accurately because congestion often extends into and is affected by adjacent intersections.

## Volume to Capacity Ratios

Volume to capacity (v/c) ratio is the peak hour traffic volume at an intersection divided by the maximum volume that intersection can handle. For example, when a v/c is 0.80, peak hour traffic is using 80 percent of the intersection capacity. If traffic volumes exceed capacity, excessive queues will form and will lengthen until demand subsides below the available capacity (e.g. vehicles waiting to travel through a signalized intersection may have to wait for multiple signal cycles). When the v/c approaches 1.0, intersection operation becomes unstable and small disruptions can cause traffic flow to break down.

## Jurisdictional Standards

With the adoption of the Sherwood Town Center Plan, mobility performance standards allow for a v/c ratio of 1.10 or less for intersections within the Town Center boundary. Performance standards for intersections outside the Town Center boundary would remain unchanged.

The five Highway 99W intersections are under ODOT jurisdiction and are subject to intersection volume-to-capacity ratio (v/c) standards as defined in the Oregon Highway Plan (OHP) for the Portland Metropolitan Region<sup>16</sup>. The intersections of Highway 99/Tualatin-Sherwood Rd - Roy Rogers Road, Highway 99/Langer Drive, and Highway 99W/Edy Road - Sherwood Boulevard are located within both the previously identified and the proposed Sherwood Town Center boundary<sup>17</sup>, so the maximum v/c ratio for those intersections is 1.1. For

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<sup>15</sup> *Highway Capacity Manual*, Transportation Research Board, 2000.

<sup>16</sup> 1999 Oregon Highway Plan, Table 7, December 13, 2000. Amended December 2-11.

<sup>17</sup> These intersections are located within the previously identified Town Center boundary according to Metro's State of the Centers Report, page 92. May 2011

Highway 99W/ Home Depot and Highway 99W/Meinecke, which are outside the Town Center boundaries, the maximum v/c ratio is 0.99.

The four non-highway study intersections along Roy Rogers Road and Tualatin-Sherwood Road all fall under County standards. The three intersections on Tualatin-Sherwood Road (east of OR 99W) are within the Town Center. The maximum v/c ratio is 1.10 for signalized intersections, and the minimum operational standard for unsignalized intersections is LOS E for County intersections located within Town Centers.<sup>18</sup> The Roy Rogers Road/Borchers Drive intersection is outside the Town Center boundary, so the maximum v/c ratio is 0.99.

The remaining intersections are under the City of Sherwood jurisdiction and also within the Town Center boundaries, so the maximum v/c ratio at these intersections is 1.10. The jurisdictional standard of the City of Sherwood is level of service (LOS) D or better.<sup>19</sup>

Metro's Regional Transportation Functional Plan (RTFP) provides interim mobility standards for transportation facilities during the peak hours<sup>20</sup> based on the 2040 design type for each location. Table 2 summarizes the 2040 design type and mobility standard for each study area intersection. The majority of the intersections are located along corridor designations or within employment or neighborhood areas and have a standard of 0.99. The intersection of Sherwood Boulevard/3<sup>rd</sup> Street has a standard of 1.1 by virtue of the Main Street designation. In addition, study intersections within an adopted Town Center boundary would have a v/c standard of 1.1 or better during the peak hour.

**Table 3: Study Intersection Design Type and RTFP Mobility Standard**

Location	2040 Design Type <sup>21</sup>	Peak Hour	2 <sup>nd</sup> Hour
OR 99W / Home Depot	Corridor	0.99	0.99
OR 99W / Roy Rogers Rd -Tualatin-Sherwood Rd*	Corridor	1.10	1.10
OR 99W / Langer Dr*	Corridor	1.10	1.10
Edy Rd / Borchers Dr	Neighborhood	0.99	0.99
OR 99W / Edy Rd - Sherwood Blvd*	Corridor	1.10	1.10
OR 99W / Meinecke Rd	Employment Area	0.99	0.99
Roy Rogers Rd / Borchers Dr	Neighborhood/Employment Area	0.99	0.99
Tualatin-Sherwood Rd / Shopping Center Signal*	Neighborhood/Employment	1.10	1.10
Tualatin-Sherwood Rd / Baler Way*	Neighborhood/Employment	1.10	1.10
Tualatin-Sherwood Rd / Langer Farms Pkwy*	Neighborhood/Employment	1.10	1.10
Sherwood Blvd / Langer Dr*	Corridor	1.10	1.10

Accessed July 2012: [http://library.oregonmetro.gov/files/11-01-11\\_soc\\_final\\_-\\_web.pdf](http://library.oregonmetro.gov/files/11-01-11_soc_final_-_web.pdf)

<sup>18</sup> Washington County 2020 Transportation Plan, Adopted October 29, 2002, Table 5.

<sup>19</sup> Page 8-25, City of Sherwood Transportation System Plan, March 15, 2005.

<sup>20</sup> Regional Transportation Functional Plan, Table 3.08-2, Metro, September 8, 2010.

<sup>21</sup> The Town Center designation and associated mobility target is dependent on adoption of a Town Center Plan, per Section 3.07 of the Metro Code (Urban Growth Management Functional Plan). Adoption of the Town Center Plan would allow areas within the designated Town Center boundary to operate at a V/C ratio of 1.1 during the Peak Hour.

Location	2040 Design Type <sup>21</sup>	Peak Hour	2 <sup>nd</sup> Hour
Sherwood Blvd / Century Dr-12 <sup>th</sup> St*	Corridor	1.10	1.10
Sherwood Blvd-Pine St / 3rd St*	Main Street	1.10	1.10
Century Dr / Langer Farms Pkwy*	Neighborhood/ Employment Area	1.10	1.10
Langer Farms Pkwy / Oregon St*	Corridor	1.10	1.10

\*Note that the intersection is within the proposed Town Center boundaries. Intersections within the boundary would have a v/c ratio of 1.1 during the peak hour. The proposed Town Center boundary would include Highway 99W right-of-way between Edy Road - Sherwood Boulevard and Tualatin-Sherwood Rd - Roy Rogers Road; therefore, these intersections would be included within the Town Center and be subject to the Town Center v/c ratio standard.

## Intersection Operations

The future year 2035 Town Center Recommended Alternative traffic operations were analyzed and compared to the future year 2035 Existing Plan traffic operations for the p.m. peak hour using HCM methodology<sup>22</sup>. Traffic operations at most intersections would degrade slightly. Traffic operations at three intersections (all along OR 99W) would degrade and fall below jurisdictional standards (two of which also fell below operational standards under the year 2035 Existing Plan). The three ODOT intersections that do not meet jurisdictional standards in the future year 2035 Town Center Recommended Alternative are:

- OR 99W/Home Depot with a v/c ratio of 1.02. The jurisdictional standard at this intersection is a v/c ratio of 0.99 or less. The Existing Plan year 2035 scenario was also above the jurisdictional standard with a v/c ratio of 1.00.
- OR 99W/Edy Road/Sherwood Boulevard with a v/c ratio of 1.34. The jurisdictional standard at this intersection is a v/c ratio of 1.10 (since it is within the town center boundary). The Existing Plan year 2035 scenario was also above the jurisdictional standard with a v/c ratio of 1.22.
- OR 99W/Meinecke Road with a v/c ratio of 1.07. The jurisdictional standard at this intersection is a v/c ratio of 0.99 or less. The baseline year 2035 scenario meet the jurisdictional standard with a v/c ratio of 0.99.

The traffic operation results are listed in Table 4, with operations that do not meet jurisdictional standards shown in bold text.

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<sup>22</sup> HCM 2000 methodology was used for stop-controlled and signalized intersections. HCM 2010 methodology (consistent with research conducted through NCHRP 572) was used to analyze the roundabout at Century Drive/Langer Farms Parkway.

**Table 4: Year 2035 PM Peak Hour Intersection Operations**

Intersection	Control (year 2035)	Mobility Standard		Existing Plan (Baseline)			TC Recommended Alt			Mitigation Triggered for TPR?
		Agency	RTFP (v/c) <sup>23</sup>	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	
<b>ODOT</b>										
OR 99W / Home Depot	Signal	v/c ≤ 0.99	≤0.99	36.8	D	<b>1.00</b>	41.2	D	<b>1.02</b>	<b>Yes</b>
OR 99W / Roy Rogers Rd - Tualatin-Sherwood Rd	Signal	v/c ≤ 1.10	≤1.10	56.0	E	1.04	61.6	E	1.06	No
OR 99W / Langer Dr	TWSC	v/c ≤ 0.99	≤1.10	-	A/B	0.17	-	A/B	0.17	No
Edy Road / Borchers Dr	Signal <sup>A</sup>	v/c ≤ 0.99	≤0.99	31.5	C	0.72	33.9	C	0.80	No
OR 99W / Edy Road - Sherwood Blvd	Signal	v/c ≤ 1.10	≤1.10	100.8	F	<b>1.22</b>	129.2	F	<b>1.34</b>	<b>Yes</b>
OR 99W / Meinecke Rd	Signal	v/c ≤ 0.99	≤0.99	40.1	D	0.99	49.2	D	<b>1.07</b>	<b>Yes</b>
<b>Washington County</b>										
Roy Rogers Road / Borchers Dr	Signal	v/c ≤ 0.99	≤0.99	23.6	C	0.79	24.7	C	0.82	No
Tualatin-Sherwood Rd / Shopping Center Signal	Signal	v/c ≤ 0.99	≤1.10	27.8	C	0.57	29.5	C	0.60	No
Tualatin-Sherwood Rd / Baler Way	TWSC <sup>B</sup>	v/c ≤ 0.99	≤1.10	-	A/B	0.15	-	A/B	0.16	No
Tualatin-Sherwood Rd / Langer Farms Pkwy	Signal <sup>C</sup>	LOS E	≤1.10	36.4	D	0.88	38.8	D	0.89	No
<b>City of Sherwood</b>										
Sherwood Blvd /Langer Dr	TWSC <sup>D</sup>	LOS D	≤1.10	-	B/C	0.52	-	B/D	0.73	No
Sherwood Blvd / Century Drive-12 <sup>th</sup> Street	Signal <sup>E</sup>	LOS D	≤1.10	14.2	B	0.75	31.9	C	1.02	No
Sherwood Blvd-Pine St / 3rd St	AWSC	LOS D	≤1.10	16.0	C	0.66	20.2	C	0.76	No
Century Dr / Langer Farms Pkwy	RAB <sup>F</sup>	LOS D	≤1.10	23.6	C	0.82	32.5	<b>D</b>	0.89	No
Langer Farms Pkwy/ Oregon St	Signal	LOS D	≤1.10	28.9	C	0.88	43.6	D	0.97	No

**Notes:**

Control: AWSC = All-Way Stop Control, RAB = Roundabout TWSC = Two-Way Stop Control, **BOLD** values do not meet standards (either agency, RTPF, or both).

<sup>A</sup> TWSC under existing conditions; <sup>B</sup> Signal under existing conditions; <sup>C</sup> TWSC under existing conditions;

<sup>D</sup> Signal under existing conditions; <sup>E</sup> TWSC under existing conditions; <sup>F</sup> TWSC under existing conditions

Signalized intersection: LOS = Level of Service, V/C = Volume-to-Capacity Ratio; Unsignalized intersection: LOS = Major Street LOS/Minor Street LOS

<sup>23</sup> The adoption of a Town Center plan would allow intersections within the boundary to have a mobility target of v/c ≤1.1

## Transportation Mitigation

In order to address TPR (OAR 660-012-060) requirements by not significantly impacting the transportation system, mitigation was identified to improve study intersection operations back to the level of the Existing Plan (within a v/c ratio of 0.03)<sup>24</sup>. Mitigation for each intersection is described in the following section.

### ***RTFP Strategies***

The RTFP provides guidance on selecting types of transportation improvements that benefit the transportation system as alternatives to widening entire roadway corridors. The first tier of improvements to consider is transportation system management and operations (TSMO) projects, which include intersection-level projects such as adding additional turn lane channelization. For this reason, intersection improvements were considered before potential corridor widening, even though all impacted intersections are located along the same corridor (OR 99W).

### ***Mitigation Needs***

Various improvements were assessed for the intersections that did not meet jurisdictional standards in the year 2035 Town Center Recommended Alternative and degraded beyond the Existing Plan conditions.

#### **OR 99W/Home Depot**

**Mitigation:** Adding a separate westbound left turn lane while maintaining the existing green time on OR 99W for the northbound and southbound through movements.

**Result:** v/c ratio of 1.00 (improves to condition of 1.00 of Existing Plan)

**Summary:** At OR 99W/Home Depot mitigation needed to restore traffic operations to a v/c of 1.00 (Existing Plan conditions). Compared to the Existing Plan, the Town Center Recommended Alternative increases the northbound and southbound through movements by about 50 vehicles each. Mitigation options to the northbound and southbound movements are limited due to two through lanes in each direction on OR 99W (about 300 feet south of the intersection OR 99W widens to three lanes in each direction).

The mitigation at this intersection improves capacity on the side street, while maintaining the existing green time for the northbound and southbound movements on OR 99W. The westbound approach is currently a shared through/left turn lane and a channelized right turn lane, with eastbound and westbound left turn phasing as permitted (not protected). By adding a separate left turn lane and maintaining the permitted left turn phasing, traffic operations at this intersection improve to a v/c ratio of 1.00. Adding a left turn lane requires roadway widening, however, the widening may be feasible since the area around the intersection is not yet developed.

#### **OR 99W/Edy Road/Sherwood Boulevard**

**Mitigation:** Adding dual eastbound and westbound left turn lanes on Edy Road and Sherwood Boulevard, eliminating the split phase timing for the side streets, and maintaining the existing green time on OR 99W for the northbound and southbound through movements.

**Result:** v/c ratio of 1.12 (improves below 1.22 of Existing Plan)

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<sup>24</sup> Oregon Highway Plan – Policy Intent Statements, Matthew L Garrett (Director) ODOT, May 25, 2011. Policy Intent Statement 2: “allows flexibility within 0.03 in terms of v/c ratios when considering reasonable levels of mitigation”.

**Summary:** At OR 99W/Edy Road/Sherwood Boulevard mitigation needed to restore traffic operations to a v/c of 1.22 (Existing Plan conditions). Compared to the Existing Plan, the Town Center Recommended Alternative would add traffic to most approaches, but most significantly the eastbound and westbound approaches on Edy Road and Sherwood Boulevard. The combined westbound approach increased by 125 vehicles, and the eastbound approach would increase by 80 vehicles. Due to these volume increases the v/c ratios for the eastbound and westbound movements were much greater than any of the other movements. Mitigation options at this intersection are limited due to a single receiving lane on Edy Road and Sherwood Boulevard.

The intersection currently uses split phase timing for the eastbound and westbound movements due to the lane configuration of the westbound approach: a left turn pocket, a shared through/left turn lane and a right turn pocket. By eliminating the split phase timing, and adding protected phasing for the left turns on Edy Road and Sherwood Boulevard (which requires a lane use change on Sherwood Boulevard to a left turn pocket, a through lane, and a right turn pocket) traffic operations improved to a v/c ratio of 1.26.

Further mitigations were considered to achieve a v/c ratio of 1.22 or less. By adding dual westbound left turn lanes on Sherwood Boulevard, traffic operations improved to a v/c ratio of 1.16, which is better than the Existing Plan condition. Adding dual westbound lefts on Sherwood Boulevard would require roadway widening on Edy Road as well so that the turn lanes and through lanes from each approach line up correctly. Since Edy Road would need to be widened with the addition of dual westbound left turn lanes, dual eastbound left turn lanes on Edy Road should be considered. Adding dual eastbound left turn lanes further improves traffic operations to a v/c ratio of 1.12.

### **OR 99W/Meinecke Road**

**Mitigation:** Changing 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.

**Result:** v/c ratio of 0.98 (improves below mobility target of 0.99)

**Summary:** At OR 99W/Meinecke Road mitigation needed to restore traffic operations to a v/c of 0.99 (jurisdictional standards and baseline conditions). Compared to the Existing Plan (baseline), the Town Center Recommended Alternative added about 25 to 50 vehicles to each approach. Similar to Edy Road and Sherwood Boulevard, Meinecke Road has a single receiving lane in both the eastbound and westbound direction, which limits mitigation options. The main issue at this intersection is a high v/c ratio for the eastbound left movement from Meinecke Road to northbound on OR 99W. By changing the eastbound and westbound left to permitted/protected (with a lagging protected left turn phase) and maintaining the green band on OR 99W for northbound and southbound through vehicles, traffic operations would improve to a v/c ratio of 0.98.

Table 5 lists the 2035 PM peak hour intersection operations for the three locations that would trigger mitigation for TPR purposes.

**Table 5: Year 2035 PM Peak Hour Baseline Intersection Operations**

Intersection	Mobility Standard		Existing Plan (Baseline)			TC Recommended Alt			TC + Mitigation		
	Agency	RTPP (v/c) <sup>25</sup>	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c
<b>ODOT</b>											
OR 99W / Home Depot	v/c ≤ 0.99	≤0.99	36.8	D	1.00	41.2	D	1.02	45.3	D	1.00
OR 99W / Edy Road - Sherwood Blvd	v/c ≤ 1.10	≤1.10	100.8	F	1.22	129.2	F	1.34	85.1	F	1.12
OR 99W / Meinecke Rd	v/c ≤ 0.99	≤0.99	40.1	D	0.99	49.2	D	1.07	46.8	D	0.98

**Notes:**

Signalized intersection: LOS = Level of Service, V/C = Volume-to-Capacity Ratio; Unsignalized intersection: LOS = Major Street LOS/Minor Street LOS

**Planning Cost Estimates**

Planning-level cost estimates were developed for the three intersection mitigations. Table 6 summarizes the approximate cost estimate for each project. Worksheets with additional details about project assumptions are included as attachments.

**Table 6: Planning Level Cost Estimates for TPR Mitigation**

Location	Project Description	Cost Estimate
OR 99W / Home Depot	Add a separate westbound left turn lane	\$275,000
OR 99W / Edy Road - Sherwood Blvd	Add dual eastbound and westbound left turn lanes on Edy Road and Sherwood Boulevard	\$1,070,000
OR 99W / Meinecke Rd	Change the eastbound and westbound left turn phasing on Meinecke Road from permitted to permitted/protected	\$5,000

**Sensitivity Analysis (30% Trip Reduction)**

Metro's RTPP allows a 30% trip reduction for Town Centers when certain criteria are met to enhance multimodal trip-making.<sup>26</sup> Criteria required for assuming the 30% trip generation reduction would include the following items (which may or may not ultimately be pursued through the Town Center Plan):

- Establish a boundary
- Comprehensive plan amendments that allow specific mixes of uses and prohibit new auto-dependent uses
- Adopt a plan to achieve non-SOV mode share targets (transportation system design plan, transportation demand management plan, and a parking management program).

<sup>25</sup> The adoption of a Town Center plan would allow intersections within the boundary to have a mobility target of v/c ≤ 1.1

<sup>26</sup> Urban Growth Management Functional Plan, Metro, Effective January 18, 2012, Title 6: Centers, Corridors, Station Communities and Main Streets, 3.07.630 B – Eligibility Actions for Lower Mobility Standards and Trip Generation Rates.

While the 30% reduction was not assumed for the traffic operations and mitigation analysis, a sensitivity analysis was performed to determine how impacts would change if less motor vehicle trips were generated in the Town Center. Table 7 summarizes the traffic operations (Existing Plan and Town Center Recommended Alternative) and PM peak hour vehicles added (full Town Center alternative and Town Center with 30% reduction) for each intersection.

With an overall 30% traffic growth reduction, all study intersections would still add between 40% to 100% of the traffic that would be added with the full Town Center Recommended Alternative. Additionally, all three intersections that would trigger mitigation for TPR would have 50 or more vehicles added during the PM peak hour. The same improvements identified for the full Town Center Alternative traffic would still be triggered for the OR 99W/Home Depot and OR 99W/ Meinecke Road intersections. However, the OR 99W/Edy Road-Sherwood Boulevard intersection could have reduced mitigation if a 30% reduction in traffic growth was assumed. The intersection would only require a restriping of the westbound approach on Sherwood Boulevard to include a single left turn lane, rather than dual left turn lanes as triggered if the full traffic growth was assumed.

**Table 7: Summary of Sensitivity Analysis with 30% Motor Vehicle Trip Reduction**

Intersection	v/c Ratio (Year 2035)		PM Trips Added (Total Entering Vehicles)		Percent of trips added to each intersection with an overall 30% reduction
	Existing Plan (Baseline)	Town Center	Town Center	With 30% reduction in added trips to overall system	
<b>ODOT</b>					
OR 99W / Home Depot	<b>1.00</b>	<b>1.02</b>	132	80	60%
OR 99W / Roy Rogers Rd - Tualatin-Sherwood Rd	1.04	1.06	224	107	48%
OR 99W / Langer Dr	0.17	0.17	58	56	97%
Edy Road / Borchers Dr	0.72	0.80	166	153	92%
OR 99W / Edy Road - Sherwood Blvd	<b>1.22</b>	<b>1.34</b>	264	153	58%
OR 99W / Meinecke Rd	0.99	<b>1.07</b>	129	73	57%
<b>Washington County</b>					
Roy Rogers Road / Borchers Dr	0.79	0.82	81	55	68%
Tualatin-Sherwood Rd / Shopping Center Signal	0.57	0.60	136	76	56%
Tualatin-Sherwood Rd / Baler Way	0.15	0.16	132	103	78%
Tualatin-Sherwood Rd / Langer Farms Pkwy	0.88	0.89	210	115	55%
<b>City of Sherwood</b>					
Sherwood Blvd / Langer Dr	0.52	0.73	291	167	57%
Sherwood Blvd / Century Drive-12 <sup>th</sup> Street	0.75	1.02	288	147	51%
Sherwood Blvd-Pine St / 3rd St	0.66	0.76	170	115	68%
Century Dr / Langer Farms Pkwy	0.89	0.99	229	95	42%
Langer Farms Pkwy/ Oregon St	0.88	0.97	262	168	64%

## FINDINGS

The implementation of the Town Center Recommended Alternative would increase land use intensity and motor vehicle trip generation potential. The additional traffic would require the following improvements to mitigate impacts to the Existing Plan condition:

- OR 99W/ Home Depot – Add a separate westbound left turn lane while maintaining the existing green time on OR 99W for the northbound and southbound through movements.
- OR 99W/ Edy Road/ Sherwood Boulevard – Add dual eastbound and westbound left turn lanes on Edy Road and Sherwood Boulevard, 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.
- OR 99W/ Meinecke Road – 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.

If motor vehicle trip generation for the Town Center Recommended Plan was reduced by 30% (as allowed by Metro for Town Centers that meet certain criteria<sup>27</sup>), the impacts would be reduced to:

- OR 99W/ Home Depot – Add a separate westbound left turn lane while maintaining the existing green time on OR 99W for the northbound and southbound through movements. (*same as full condition*)
- OR 99W/ Edy Road/ Sherwood Boulevard – 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. (*reduced impact from full condition*)
- OR 99W/ Meinecke Road – 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. (*same as full condition*)

### Attachments:

- Tualatin-Sherwood Road Sensitivity Analysis (Model Plot)
- HCM Intersection Operations
  - 2035 PM Existing Plan (Baseline)
  - 2035 PM Recommended Alternative

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<sup>27</sup> Urban Growth Management Functional Plan, Metro, Effective January 18, 2012, Title 6: Centers, Corridors, Station Communities and Main Streets, 3.07.630 B – Eligibility Actions for Lower Mobility Standards and Trip Generation Rates. Additional details included in Sensitivity Analysis section.