SUBAREA PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT

SOUTH LEWIS COUNTY
CAPTURE THE SPIRIT

August, 2010

South Lewis County Subarea Plan Steering Committee

Lewis County Community Development Department

BHC CONSULTANTS

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1 Introduction and Summary

The South Lewis County Subarea is located in the southwest portion of Lewis County. The Subarea is located along the I-5 corridor south of the major population center of the County (the cities of Centralia, Chehalis, and Napavine). The Subarea is approximately 106 square miles, or 67,000 acres, in size (see Figure 1.1). The Subarea includes the cities of Toledo, Vader, and Winlock and their associated Urban Growth Areas (UGAs). Outside of the three cities, the subarea is mostly rural with a mix of agriculture, rural residential, forest, and open space (see Figure 1.2). With an estimated 10,200 residents as of 2008, South Lewis County is poised for major economic and community change in the years ahead. As the last portion of the Interstate 5 freeway corridor with five largely undeveloped interchange areas, South County is strategically positioned for growth between the Seattle-Tacoma and Portland-Vancouver metro areas.

Purpose of the Plan

The purpose of the South Lewis County Subarea Plan is to guide future decision making for land use, capital facilities investment, and economic development in an environmentally sustainable way through 2030. A considerable body of technical analysis has contributed to the preparation of this plan. Economic, land use, transportation, and environmental profiles of the subarea describe current conditions, forecast potential, and set the foundation for proposed goals, policies, and strategies that are intended to deliver the community's vision of the future.

This plan will be adopted into the Lewis County Comprehensive Plan where it will be consistent with – and supplementary to – the adopted goals and policies of the Comprehensive Plan and the Countywide Planning Policies. The Subarea plan provides a greater level of detail and a more specific framework for local and regional decision-making about infrastructure and public service improvements.

Vision

A vision statement is a description of how the community will look and function in the future. This vision statement, formulated by the South Lewis County Subarea Steering Committee through extensive public meetings and discussions, is used to guide the goals and policies of the Subarea Plan:

- In 2030, South Lewis County exhibits a diverse rural character featuring a variety of farming, forestry, and low-density residential uses and small urban town centers.
- Protected natural features include streams, wildlife habitats, and flood plains.
- Winlock, Toledo, and Vader provide services to local residents and offer a broad range of recreational opportunities and attractions to visitors.
- The southern gateways to Lewis County are concentrated at the I-5 interchanges where regional hospitality and entertainment centers serving travelers provide important employment and tax revenue benefits to the local economy.
- Major industrial businesses are operating at key locations, providing family-wage jobs and secondary economic benefits.
- The growth in population and increased quality of life has enabled successful growth in services and retail businesses to serve the local community.
- The community – a partnership of Lewis County, local elected officials and leaders:

- Supports new development that is compatible with, and preserves the natural and historical environment, including water resources.
- Manages growth to reinforce the agrarian rural/small town character of the area that includes agriculture, open space, and trails as important elements maintaining South County's economic, cultural, and social structure.
- Supports the provision of adequate public services to new development without compromising existing levels of service or burdening existing residents with the costs of growth.
- Monitors the cumulative effects of growth and development on the desired quality of life.

In addition to establishing a vision for the future of South County, the Steering Committee developed a set of "Guiding Principles" to follow during the preparation of the plan. These include:

- Protect the right to farm.
- Encourage a variety of urban and rural business uses.
- Support the provision of parks, recreation areas, and open space.
- Coordinate the provision of urban-serving wastewater, stormwater, and water systems.
- Encourage the provision of economical and efficient public services including public safety, education, and emergency services.
- Support a comprehensive transportation system.
- Maintain attractive and amenable pedestrian and bicycle ways.
- Manage growth with sustainability and emphasize urban mixed-use developments through the use of master planning and development agreements.

Geography of South Lewis County

The geography of the South Lewis County Subarea ranges from river valleys to rolling hills. The major geographic feature in the Subarea is the Cowlitz River, which flows southwest through the City of Toledo and across the southern portion of the Subarea. The main tributaries of the Cowlitz River in the Subarea include Lacamas, Olequa, and Salmon Creeks. The primary landform in the Subarea is a series of flat terraces leading away from the Cowlitz River.

There are many topographic features in the Subarea including Wilkes Hills and Finn Hill. There are a number of grasslands in the Subarea including the Lacamas, Grand, Jackson, and Napavine Prairies. Most of these prairies have been converted to agricultural use, although some native vegetation remains. In the Subarea, there is a mix of land uses: rural forest, grasslands, farmlands, residential, commercial, and industrial. The elevation above sea level in the Subarea ranges from less than 60 feet at the Cowlitz River to over 700 feet in the hills in the northwest.

Planning Process

The Subarea Plan was prepared through a partnership between Lewis County and the Cities of Toledo, Vader, and Winlock. Additional assistance was provided by the Washington State Departments of Ecology and Fish and Wildlife. Phase One, completed in 2009, was partially funded by a grant administered by the Washington State Department of Community, Trade, and Economic Development. Throughout the process, Lewis County provided project management services and facilitated the process. The South Lewis County Subarea Steering Committee was appointed by the Board of County Commissioners to guide the Subarea process.

The stakeholders established a schedule of regular meetings starting in 2008. The meeting agendas included presentations of technical studies by the consultant team, discussions of goals and visions, and updates on local programs and plans.

In May 2009, a public open house was held to display all of the materials generated during Phase One, and the Phase One draft plan was published in June, 2009. The Steering Committee was reconvened in February 2010 to refine the draft plan and prepare recommendations for action by the Board of County Commissioners. Another public open house was hosted by the Steering Committee on July 14, 2010.

GMA Framework

In 1990, the Washington State Legislature, intending to encourage economic prosperity and balanced economic growth throughout the state, found that while the Puget Sound region was experiencing economic prosperity and the challenges associated with rapid growth, much of the rest of the state was not experiencing economic prosperity and faced challenges associated with slow economic growth.

The Washington State Growth Management Act (GMA) states that to accomplish economic growth throughout the whole state: “Growth must be managed more effectively in the Puget Sound region and rural areas must build local capacity to accommodate additional economic activity in their communities. Where possible, economies and low income areas should be linked with prosperous urban economies to share economic growth for the benefit of all areas of the state.”

The act further states, ”to accomplish this goal, it is the intent of this legislature to insure equitable opportunities to secure prosperity for distressed areas, rural communities, and disadvantaged populations by promoting urban/rural economic links and by promoting value-added product development, business networks, and increased exports from rural areas."

RCW 36.70A.115 further states: “Counties and cities that are required or choose to plan under RCW 36.70A.040 [GMA] shall ensure that, taken collectively, adoption of and amendments to their comprehensive plans and/or development regulations provide sufficient capacity of land suitable for development within their jurisdictions to accommodate their allocated housing and employment growth, including the accommodation of, as appropriate, the medical, governmental, educational, institutional, commercial, and industrial facilities related to such growth, as adopted in the applicable countywide planning policies and consistent with the twenty-year population forecast from the office of financial management.”

In 2010 the State legislature amended the Growth Management Act to authorize cities and counties to prepare and adopt, at any time, “an initial subarea plan for economic development located outside the one hundred year floodplain in a county that has completed a state-funded pilot project that is based on watershed characterization and local habitat assessment.” The South County Subarea Plan satisfies these criteria.

The GMA allows subarea plans to be used to design communities at a higher level of specificity than is possible for entire counties or individual cities. Subarea plans therefore may provide for detailed implementation of zoning, infrastructure designs, capital financing, public-private development strategies, and other decision strategies.

The South Lewis County Subarea Plan has been drafted within the existing framework of the County and cities' Comprehensive Plans and the Countywide Planning Policies. Consequently, those adopted policies are not repeated here.

Key Factors from the Planning Process

The following summarizes the key components that resulted from the Subarea planning process.

- The cities must continue to be the "home towns" for the region because they act as focal points for community identity. They should be able to sustain the local quality of life with shopping, services, recreation, a mix of urban housing choices, and places for education and interaction.
- The cities need support from the County, the private sector, and the state and federal governments to finance the extraordinary costs of maintaining high quality infrastructure that will sustain urban growth and economic development.
- Local comprehensive plans should be updated and coordinated to strengthen regional partnership for marketing, finance, revenue sharing, and capital investment.
- Local development regulations and permitting procedures should be streamlined.
- Large-scale projects, such as industrial parks and freeway mixed-use centers, will require substantial public-private cooperation to create appropriate development standards, develop urban-scale infrastructure, and ensure that environmental impacts are mitigated.
- Portions of the Subarea have been identified as prime habitats and important hydrological resources that should be protected.
- Interstate 5 and county arterials will need major improvements to support increased traffic demands resulting from growth in the Subarea.
- Economic development forecasts indicate that by 2030, South County could see between 5,000 and 6,000 new jobs in a variety of businesses using about 2,000 acres of land in the cities and UGAs. About 25,000 people will call South County home.

Policies

The following policies were developed to guide the preparation of the South County Subarea Plan. These policies are based on the vision, guiding principles and major findings of the Steering Committee.

Land Use

SCS-LU 1 Economic Development Urban Growth Areas should be designated in the South Lewis County Subarea for the development of light industry, tourist related services and regional retail and services. Economic Development UGAs are those Urban Growth Areas that are not adjacent to a municipality and within which development proposals are processed in accordance with Lewis County regulations.

SCS-LU 2 The criteria for designation of Economic Development UGAs should be parcel size, access to transportation, access to urban services and minimal environmental constraints.

SCS-LU 3 Lands with appropriate parcel size, access to transportation and a low level of environmental constraints, but for which urban services (sewer and water) are not practical, should be designated as Urban Reserve Areas for potential future designation as Urban Growth Area. Subdivision of land in Urban

Reserve areas should be restricted to maintain the potential of commercial and industrial development.

SCS-LU 4 Commercial uses or services that would replace community oriented uses currently or potentially located in the town centers of Toledo, Vader or Winlock should not be allowed in the Economic Development UGAs.

Environment

SCS-E 1 The areas identified in the by the Department of Ecology in "Watershed Characterization and Analysis of South Lewis County, and by the Washington Department of Fish and Wildlife in "South Lewis County Habitat Report" as being priority areas for protection, restoration and enhancement of wildlife habitat and connectivity should be the focus of off-site mitigation for development within both the Economic Development UGAs and the municipal UGAs.

SCS-E 2 Incentive mechanisms should be included in the development standards for the Economic Development UGAs by which the footprint of development could be increased if offset by protection, restoration or enhancement of wildlife habitat and/or connectivity in the identified priority conservation areas.

SCS-E 3 The application of incentive mechanisms within the Economic Development UGAs should not preclude nor override the application of the regulations and standards of the Lewis County Critical Areas Ordinance.

Capital Facilities

SCS-CF 1 Each individual development within the Economic Development UGAs should be required to analyze the development's relative impact on adjacent and surrounding infrastructure including roads, water, sewer and stormwater.

SCS-CF 2 Each individual development within the Economic Development UGAs shall mitigate the relative infrastructure impacts of the development by means of construction, monetary contribution, no-protest agreements, or other mechanisms available to Lewis County.

SCS-CF 3 Lewis County should evaluate if County participation in the financing of infrastructure improvements within the Economic Development UGAs is appropriate as a means of supporting economic development.

SCS-CF 4 The Regional Water and Sewer Utility to be created by Lewis County, the South County Cities and the Cowlitz Tribe should provide services that are economical, efficient and reliable for all users.

Transportation

SCS-T 1 Lewis County should evaluate if the imposition of Traffic Impact Fees on new development would be effective and appropriate in the Economic Development UGAs.

SCS-T 2 Future transportation planning and infrastructure improvements should include facilities for non-motorized modes of transportation such as bike lanes and trails.

Economic Development

SCS-ED 1 Lewis County should develop an aggressive development posture for the South County Subarea so that South County will become a competitive player for I-5 corridor industrial, tourism and retail/service related development in western Washington.

SCS-ED 2 An on-going leadership organization should be created that represents subarea cities, Lewis County, the Lewis County Economic Development Council, residents, businesses, property owners and other interested South County organizations whose role will be to guide the implementation of the economic development strategy.

SCS-ED 3 The economic development strategy should include a series of "action steps". For each action step, the leadership organization should identify the lead and supporting participants, the resources needed, and the relative priority of the action.

Recreation

SCS-R 1 Lewis County should coordinate with Washington State Parks to promote Lewis & Clark State Park as a regional recreational destination.

SCS-R 2 Lewis County should foster the private development of regional recreational facilities such as water parks, equestrian facilities etc. in the South County Subarea.

Housing

SCS-H 1 In accordance with the Growth Management Act, housing to support commercial and industrial development in the Economic Development UGAs will be developed in the UGAs of the South County cities in accordance with their respective Comprehensive Plans.

Figure 1.1: South County Subarea Base Map

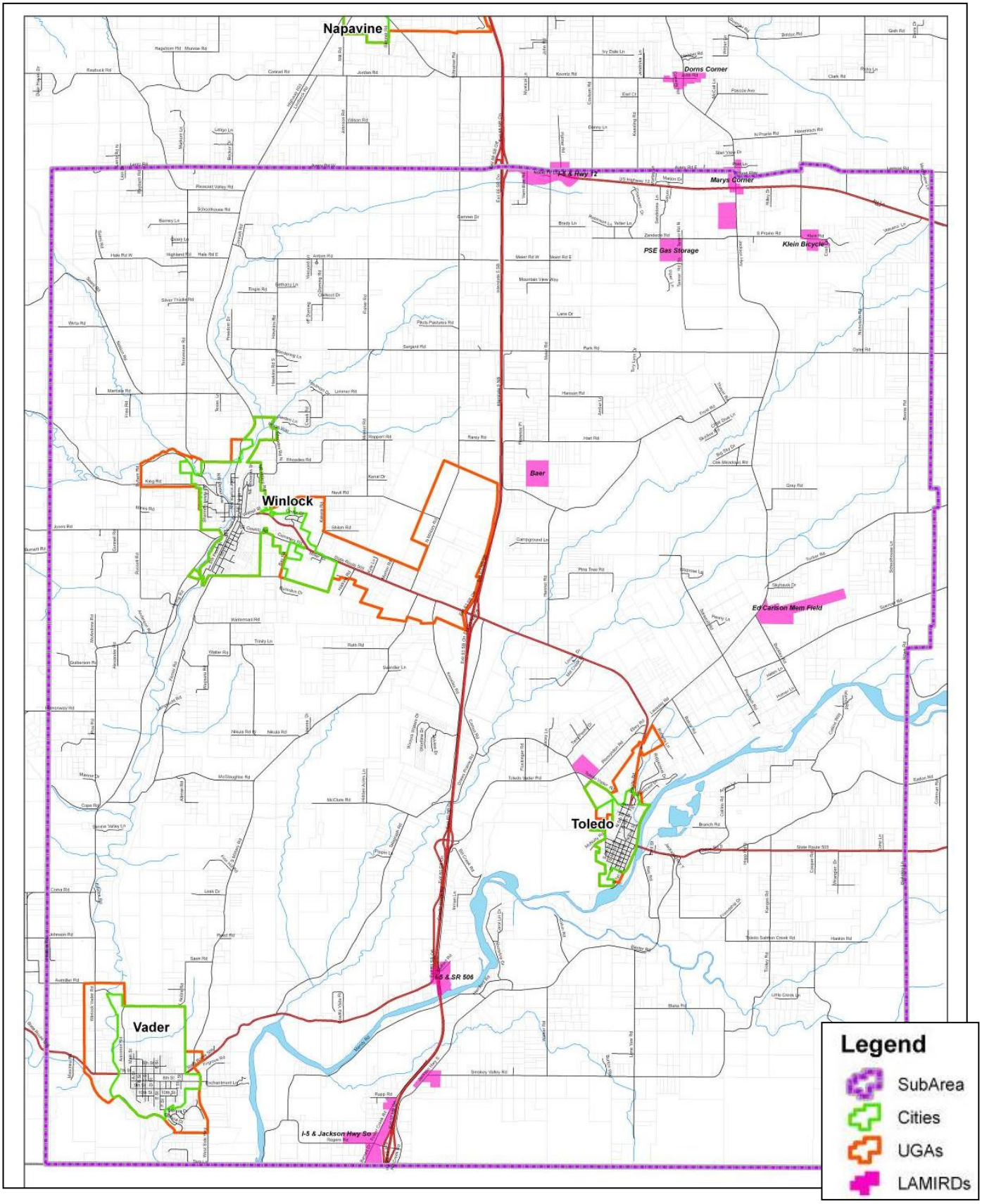
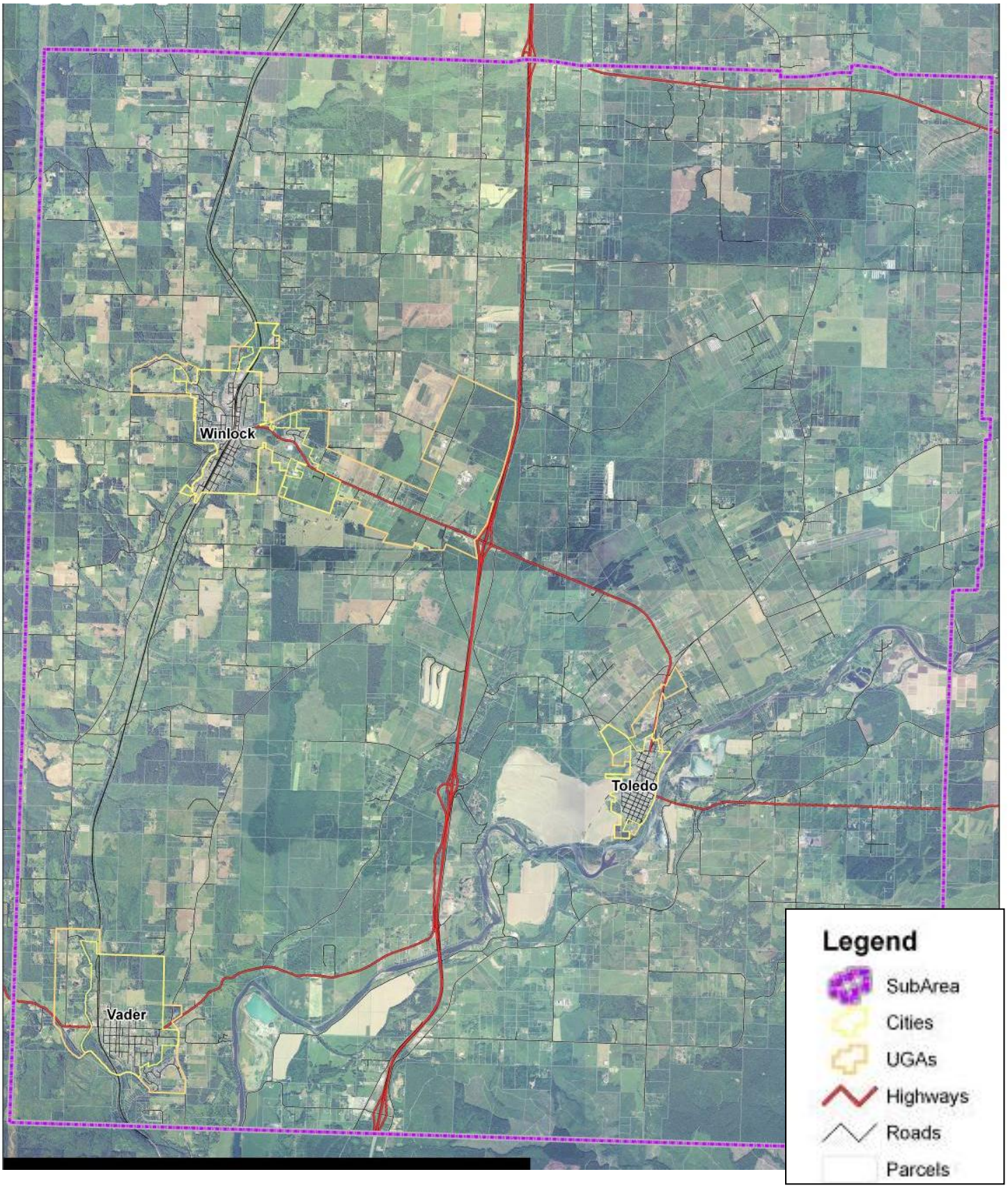


Figure 1.2: South County Subarea Aerial Photograph



2 Housing and Demographics Element

This element addresses current conditions and future affects related to the Land Use and Economic Development Element's findings and recommendations. While the Subarea Plan is focused primarily on non-residential growth – that is, new business and industry – there will also be residential and population growth as new housing is built. This growth will occur with or without the economic development impetus. And, it will occur in both urban and rural areas. The pace of residential and population growth will be affected as new jobs are created and employees are attracted to South Lewis County to live as well as work. The 2010 federal census will reveal current information about local demographics including population, income, housing, and commuting. When this information becomes available in 2011, it will inform and refine the following analysis. For the time being, much of this analysis relies upon population estimates, both for current and forecasted populations.

The Cities

Lewis County has adopted population allocations for cities, unincorporated urban areas, and the rural area. These allocations are based on a state-wide analysis which forecasts a 20-year countywide population baseline (99,746 in 2030 for Lewis County). The forecasted countywide population baseline is then distributed among jurisdictions for use in ensuring that their comprehensive plans show how land use and infrastructure will accommodate the growth. The 2030 population allocations for the South County Cities are:

- Toledo 1,131
- Vader 885
- Winlock 4,550

The 2030 countywide rural population allocation (42,776) is not distributed to localized areas.

In 2008, the City of Toledo calculated its development capacity to determine if there was enough land available to meet the 20-year population allocation. In order to house a population of 1,131 by 2030, Toledo will need 190 new housing units, but the Toledo UGA has capacity for only 70 more units.

The City of Vader analyzed its residential land capacity in the 2005 Comprehensive Plan update and found that there is enough land to support the existing population (785 people) and an additional 981 people for a total urban capacity of 1,766. The Vader Comprehensive Plan assumes 2.5% annual growth for a 2025 population forecast of 1,406. For either this forecasted population, or for the allocated population (885 in 2030), there is more than enough residential land in the Vader UGA.

The Winlock 2005 Comprehensive Plan update forecasted that an estimated 616 housing units in 2004would increase to 1,775 units in 2025; that the population will grow from 1,448 people in 2005 to 4,561 people in 2025; and that jobs will increase from 700 in 2005 to 3,034 in 2025. However, the Comprehensive Plan does not calculate the existing development capacity within the Winlock UGA or the amount of additional capacity that will be required to meet the 2025 population and employment projections.

Rural Area Housing and Population

Current population estimates for rural South County are based on available data for the number of homes, or dwelling units. According to the Lewis County GIS Division, there are about 3,100 dwelling units in rural South Lewis County and 85-90 percent of them are occupied. In Lewis County overall, the average household size is 2.60 people per household; this results in a current South County rural population of about 7,000 people.

There is the potential for further rural residential growth through the subdivision of land based of the existing parcel configuration and zoning. Overall, South County has about 4,800 parcels in rural zones (RDD-5, RDD-10, RDD-20), excluding UGA and resource lands. Many of these parcels are larger than the minimum lot size in the existing zone and can potentially be subdivided. Theoretically, if all of these large parcels were subdivided to the maximum density allowed, there could be an additional 8,000 lots, bringing the total potential residential capacity of South County to nearly 10,000 houses. While this level of rural development is very unlikely, some rural residential growth will occur as existing vacant parcels are developed and new parcels are created and developed. Overall, in the urban and rural areas of South County, there will be sufficient capacity for new housing to meet the demand that could result from the creation of approximately 5,800 new jobs by 2030 as described in the Land Use and Economic Development Element.

Demographic Trends

The total urban and rural population in the South Lewis County Subarea was approximately 8,760 in 2000 and grew to an estimated 9,450 by 2008. This was an overall increase of 8%, or an annual population growth of 1%. The Subarea population is getting older: the median age increased from 37.7 to 39.6 between 2000 and 2008. The educational attainment in the Subarea is increasing: the percentage of the population without a high school diploma declined by 3.0% (from 20.0% to 17.0%) between 2000 and 2008, and the percent of people with at least a bachelor's degree increased by 1.8% (from 12.9% to 14.7%). The proportion of people in the Subarea working in white-collar and service jobs has increased while the percent working in blue-collar jobs has decreased. Median household income increased from $37,738 to $46,695 between 2000 and 2008 with an annual growth rate of 3.0%. This is less than the annual growth rate for Lewis County and Washington State, which had growth rates of 3.3% and 4.1%, respectively. Household size increased slightly from 2.75 to 2.77 between 2000 and 2008. During the same period, the rate of home ownership increased from 73.2% to 74.0%. The median home values nearly doubled, increasing from $116,055 in 2000 to $225,280 for an annual growth rate 11.8%. Due to the recent decline in the housing market, these values and growth rates have likely declined since 2008.

Conclusions

Population growth and housing demand are affected by many variables including household characteristics, job and economic opportunities, local services availability, and individual quality of life expectations. South Lewis County is an extremely attractive location for most residents, but there are limitations that influence choices about living here. The community vision described in the Introduction speaks to the desire of maintaining the current character while also creating more housing choices, accommodating a greater range of living styles, and generating more economic opportunities for people to select the area as their home.

3 Natural Environment Element

In conjunction with the State funding to Lewis County to develop this Subarea Plan, the State legislature allocated funding to the Washington Department of Ecology (DOE) and the Washington Department of Fish and Wildlife (WDFW). The DOE was funded to study water flow processes in the Cowlitz River watershed to ensure that development would not occur in areas important to reducing the impacts of flooding. The WDFW was funded to analyze habitats and ecosystem processes in the South County Subarea.

Existing Conditions

The Cowlitz River is the major river in the Subarea and is a designated shoreline under the Lewis County Shoreline Master Program. The Cowlitz River drains portions of the Cascade Mountains, passes through Toledo, and eventually flows into the Columbia River near Longview. Almost all of the Subarea is in the Cowlitz River watershed (a small, rural portion in the northwest corner of the Subarea is in the Chehalis River watershed). Some of the important tributaries of the Cowlitz River in the Subarea include Lacamas, Olequa, Bill and Salmon Creeks.

Floodplains are a significant natural feature in the South Lewis County Subarea. Portions of the Subarea were flooded in 2007 and 2009. Approximately 5,650 acres of land, or 8%, of the Subarea is located in the FEMA 100-year floodplain. Most of this floodplain is adjacent to the Cowlitz River, including portions of the Toledo Urban Growth Area (UGA). This portion of the Cowlitz River is controlled by the Mayfield and Mossyrock Dams which can limit the extent and severity of the flooding. There are also floodplain areas associated with Olequa Creek and its tributaries in the Vader and Winlock UGAs (see Natural Environment Map, Figure 3.1).

There are many wetlands in the South County Subarea. According to Lewis County's GIS data, there are approximately 5,975 acres of wetlands in the Subarea, or almost 9% of the Subarea. Most of these wetlands are located adjacent to the Cowlitz River, major streams, and floodplain areas; however, wetlands are found throughout the Subarea.

The Washington Department of Fish and Wildlife (WDFW) has identified over 280 species of birds, mammals, amphibians, and reptiles in Lewis County. Many of the historical prairielands have been converted to agricultural use; however, there is still native vegetation. The Cowlitz River, Lacamas Creek, Olequa Creek, and Salmon Creek are all important salmonid waters. At a broad scale, the WDFW's South Lewis County Habitat Analysis Report found the Subarea to have a habitat of high suitability for wildlife over much of its area. Generally, the areas of lowest suitability were within the three Cities (Toledo, Vader, and Winlock) and the road systems and agricultural areas associated with the cities. The habitat connectivity is good throughout most the Subarea, especially in the forest lands on the west, northeast, and southeast. Major barriers to habitat connectivity include the major roads in the Subarea such as Interstate 5, US 12, and State Routes 505 and 506.

Watershed Characterization and Analysis

The Washington Department of Ecology (DOE) completed a report on watershed processes in the South County Subarea, the Watershed Characterization and Analysis of South Lewis County – Lower Cowlitz River Watershed. The purpose of the report is to provide long-term protection of watershed processes and functions by identifying areas for protection, restoration, and mitigation. DOE rated the areas in the Cowlitz River watershed for their importance to water

flow processes. The terraces around and above the Cowlitz River are of moderate to high importance with the areas within the Cowlitz River floodplain being of highest importance. The areas of lowest importance are in the mountainous areas (see the Hydrologic Process Map, Figure 3.1).

DOE synthesized their data with data provided by BHC Consultants (parcel suitability for development) and the Washington Department of Fish and Wildlife (suitability for wildlife habitat). DOE prepared different alternatives, each with different levels of environmental protection and land development. These alternatives identified the best areas for development to occur and where conflict between conservation and development could result. Typically, the best areas for development are the Winlock UGA, portions of the I-5 corridor between the US 12 and SR 505 interchanges, southwest of the Vader UGA, and infill development within the Cities of Toledo, Vader, and Winlock.

The priority areas for consideration of restoration and protection of water flow processes are the Cowlitz River floodplain and the area immediately above it. These areas include the Cowlitz River, Otter Creek, Lacamas Creek, lower Salmon Creek, Mill Creek, and Blue Creek. The recommendations of the Watershed Characterization and Analysis Report are included at the end of this element.

Habitat Analysis

The Washington Department of Fish and Wildlife (WDFW) analyzed the habitat in South Lewis County. The purpose of the South Lewis County Habitat Analysis Report is to provide information on the habitat's ability to accommodate growth while minimizing impacts on local biodiversity. The WDFW identified the habitats in the South Lewis County Subarea which are the most important areas for conservation.

The South County Subarea is not pristine wilderness, but it has a low population density and large areas of forest, agriculture, and undeveloped land which allow for large contiguous areas of forest and open habitats. To preserve the biodiversity in the Subarea, large patches of all habitat types (conifer, hardwood, mixed forest, open/grassland, and wetland) need to be maintained. In addition, maintaining the connectivity between these areas allows the continued movement of species, which is important. Conservation and development/economic activities can both be accomplished if development occurs outside of, and does not fragment, existing habitat areas.

WDFW analyzed habitat at a broad and mid-level scale. At the broad scale, the South County Subarea shows moderate to high habitat value over much of its area. The mid-level analysis mapped the potential habitat areas of focal species which represent major habitat types in the Subarea. The focal species include Short-eared Owls, Western Meadowlarks, Merlins, Oregon Vesper Sparrow, Hermit and Townsend's Warblers, Hutton's Vireo, Pileated and Hairy Woodpecker, Common Porcupines, Northern Flying Squirrels, Bobcats, Northern Red-legged Frog, Western Toad, and Common Garter Snake. Due to the presence of highly suitable habitat for a number of these species in the Lacamas Creek corridor, WDFW recommends a focus area, which includes fish-bearing streams and multiple, diverse habitats, where conservation measures can be applied (see the Fish & Wildlife Habitat Map, Figure 3.2).

The report concludes, "Focused economic development within the Winlock UGA near the intersection of Interstate 5 and State Route 505, and in the immediate area of the airport northeast of Toledo would not significantly reduce the availability of large habitat patches

across the analysis area." If most of the future residential development is within the existing UGAs, it would limit the impact of population growth on the habitat in the Subarea.

State Agency Recommended Policies and Strategies

DOE recommendations in the Watershed Characterization and Analysis of South Lewis County are as follows:

- Revise the Critical Areas Ordinance (CAO) to include a policy allowing for the adoption of a watershed based subarea plan and its regulations.
- The CAO should contain the following provisions:
    - Allow for the transfer of development rights (TDR) from areas that have high importance, habitat significance, or development conflicts to areas shown as having suitability for development.
    - Allow for the clustering of residential development on areas of higher importance outside of urban rural boundaries.
    - Application of green infrastructure measures in the terrace areas to maintain infiltration processes.
- Implement the recommendations of the Grays-Elochoman and Cowlitz Watershed Management Plan, including:
    - Protection of headwater forests and wetlands, especially for Olequa Creek.
    - Restore watershed processes in managed forest lands.
- Maintain and restore habitat in the Lacamas Creek Fish and Wildlife overlay area consistent with the recommendation of the WDFW characterization report.

WDFW's recommendations in the Habitat Analysis Report specify methods to reduce the conflict between economic development and preserving habitat as shown below:

- Minimize new roads, especially in the interior of the focus area.
- Locate new buildings near existing roads and on the periphery of existing habitat patches.
- Cluster residential redevelopment to reduce its impact.
- Protect and enhance native riparian buffer vegetation.
- Consider incentive programs, such as transfer or purchase of development rights (TDR or PDR) to protect habitat areas and to provide value to landowners.
- Locate mitigation and restoration projects to enhance habitat values.

Adopted Critical Area Regulations

Lewis County adopted its Interim Critical Areas Ordinance (CAO) in June 1996 and revised it in 1998 and 2000. In December 2008, The Lewis County Board of County Commissioners approved the most recent update of the CAO. The purpose of the CAO "is to identify and protect the functions and values of critical areas using the best available science, protect human health and safety, and give special consideration to conservation or protection measure necessary to preserve or enhance anadromous fisheries as required by the Growth Management Act…" The CAO update balances the need to protect the County's critical areas while protecting individual property rights. The CAO covers the following critical areas: wetlands, aquatic habitat, wildlife habitat, aquifer recharge areas, geologically hazardous areas, and frequently flooded areas (see Figure 3.3 for known wetlands, streams, and floodplains).

Development applications for projects on sites with critical areas are reviewed to ensure that the application is in conformance with the County's critical area regulations. These regulations include a significant menu of mitigation measures for protecting critical areas such as buffers, wetland mitigation banks, cluster development, and design standards, as illustrated in the following language excerpted from the CAO:

1) Assessment Relief.
   a) The Lewis County assessor shall consider the impact of the critical area regulations contained in this chapter on property values when determining the fair market value of land.
   b) Any owner of a critical area and its buffer who has dedicated a conservation easement to or entered into a perpetual conservation restriction with a department of the local, state, or federal government; or to a nonprofit organization to permanently control some or all of the uses and activities within this area may request that the Lewis County assessor reevaluate that specific area with those restrictions.
   c) The administrator shall notify the assessor's office of any application of this chapter which results in building restrictions on a particular site.

2) Open Space. Subject to the criteria established by law, any person who owns a critical area as identified by this chapter may apply for current use assessment pursuant to Chapter 84.34 RCW. The Open Space Tax Act allows Lewis County to designate lands, which should be taxed at their current use value. The county has programs for agricultural lands, small forest lands less than 20 acres in size, and other open spaces. Lewis County has adopted a public benefit rating system which classifies properties on the basis of their relative importance of natural and cultural resources, the availability of public access, and the presence of a conservation easement. These features are given a point value, and the total point value determines the property tax reduction. Lands with an important habitat or species would commonly qualify for this voluntary program. Applications are approved by the board of county commissioners following a public hearing.

3) Conservation Easement. Any person who owns an identified critical area as defined by this chapter may offer a conservation easement over that portion of the property designated a critical area naming the county or its qualified designee under RCW 64.04.130 as the beneficiary of the easement. The purpose of the conservation easement shall be to protect, preserve, maintain, restore, limit the future use of, or conserve for open space purposes the land designated as critical area(s), in accordance with RCW 64.04.130. Details governing easement restrictions and conditions of acceptance shall be negotiated between property owners and the county. Acceptance of such an easement and the consideration therefore, if any, shall be discretionary with the county and subject to the priorities for and availability of funds.
   a) The administrator may attach such additional conditions of acceptance as deemed necessary to assure the preservation and protection of the affected wetlands and buffers within conservation easements to assure compliance with the purposes and requirements of this chapter.
   b) The responsibility for maintaining conservation easements shall be held by the overlying lot owner(s) or other appropriate entity as approved by the administrator.

c) Lewis County may establish appropriate processing fees for such conservation easements.

Conceptual Approaches to Environmental Protection Incentives

In addition to the mitigation measures required by the CAO, the South Lewis County Subarea plan promotes the idea of using incentives as additional means for protecting critical areas and resource areas. Some conceptual approaches to environmental protection incentives that have been used in various jurisdictions include:

Public Benefit Taxation

Lewis County property taxes can be reduced if uses such as conservation, habitat enhancements, and protection of water resources, in addition to continued use of agricultural and forest lands, are judged to meet state and county criteria for tax relief. A point system is used to determine a public benefit rating and the associated reduction in the taxable assessed value. It is possible for the assessed value to be reduced as much as 80%. Property owners receiving this benefit must provide a conservation/management plan that identifies how the identified use(s) will be continued. A sampling of property taxes levied in South Lewis County ranges from less than $10/acre for forest land, less than $50/acre for farmland, less than $500/acre for residential property, and over $2,000/acre for intensive commercial and industrial property. Under State law, counties have the ability to provide tax reductions for a broad range of benefit types. The tax reduction can be as high as 90%.

Dedications and Easements

Lewis County has provisions for dedication of land or conservation easements managed by the Real Estate Division of Public Works. For the County to purchase easements, there would need to be an appropriation of funds through the Capital Projects Fund 301 for land acquisition or another action by the BOCC. Currently, there are no funds budgeted. Easements purchased by private developers would be negotiated between the purchaser and seller, as would transactions for conservation lands purchased by developers and then dedicated to the County, a land trust, or other stewardship organization.

Bonuses

Some jurisdictions grant bonuses as an incentive for developers to provide features considered public amenities, such as parks, affordable housing, and enhanced wetlands. In most, but not all cases, these bonuses are granted when the amenities are provided on-site. Lewis County grants density bonuses to properties "on which cultural or historic sites or structures are located to provide the opportunity for public and/or research access to the areas." In many jurisdictions, Residential Planned Unit Developments (PUDs) grant density bonuses as an incentive for better site design, meaning that a development project can be granted a higher density than what would have been allowed in that zone for a more traditional site design.

Transfer and Purchase of Development Rights and Density Fees

"Development right" is a term used to describe the value of a unit of development, generally a residential dwelling unit. Transfer of a development right is the transaction where the right to build the "unit" is attached to a parcel or site other than the one where the right originated.

The transfer is essentially a sale based on the value of the unit. The TDR practice has been used nationally for many years to relieve rural and resource areas from development pressures in counties. Its application in Washington has long been used by King County. King County also has a purchase of development rights program that is used to protect valuable farmland, funded by a voter-approved levy. Currently, the state and the Puget Sound Regional Council are working on a regional TDR program that is intended to allow transfers between and among cities and counties in the Puget Sound Region. TDR programs are complicated, since "sending" and "receiving" areas must be identified, and the procedures for establishing values, transaction protocols, and administration can involve substantial commitments of staff time.

A version of TDR is "in lieu" fees. According to the July 10, 2008 Alternative Transfer of Development Rights (TDR) Transaction Mechanisms by the Cascade Land Conservancy:

> A density fee may be used to achieve land conservation as an alternative to other incentive mechanisms like TDR. Developers pay a fee to the sponsoring public agency to build to higher density than baseline zoning allows, or take advantage of other incentives set forth by the program, like building to greater heights than otherwise allowed. Funds collected are used by the jurisdiction to fund Purchase of Development Rights (PDR) in high priority conservation areas. Density fees are often set to a specific dollar amount per additional unit of development.
>
> Evaluation by Criteria
>
> 1) Ease of participation for buyers and sellers
> A conservation fee greatly simplifies the transaction process. The removal of the development rights seller from the equation reduces the number of parties involved. The requirement of a fixed or formula-based fee eliminates uncertainty for the developer and expedites the transaction by eliminating price negotiations.
> 2) Cost effectiveness and ease of administration
> This mechanism would require a high degree of public involvement, as the government would be instrumental in every step of the transaction. Administrative costs would be higher than private market transaction mechanisms, since the government's responsibilities would be more diverse and complex under this scenario. Not only would the government have to perform all the clerical functions, it would have to manage a sizeable financial operation.
> 3) Effectiveness in policy implementation
> One of the most unique aspects of conservation fees is that this mechanism gives the government the greatest discretion in targeting specific parcels for conservation. With no private market to influence the spatial distribution of participation, the government has the flexibility to spend conservation funds on land that it deems highest priority for protection. The government can use the funding to organize its conservation efforts however it wants: protecting specific sensitive areas, waterways, or large contiguous areas. The main catch with this approach is that the landowner whose development rights the government wants to purchase must be willing to sell for the price offered.
> 4) Political Feasibility
> This mechanism has not been sufficiently tested empirically to provide enough evidence of its feasibility, but it should not encounter more political obstacles than any other alternative mechanism. From the point of view of the developer, the certainty of the fee structure has advantages, even if the amount of the fee may be higher than the cost of privately traded development rights. Developers may resist another government-

imposed regulatory fee. Alternatively, developers are accustomed to paying a variety of fees for construction projects, and this may come to be seen as another cost of doing business. From the point of view of the landowner, individuals may be reluctant to do business with the government, but if the payments offered for development rights are sufficiently high then the process should generate transactions.

Advantages
· This alternative is simple to administer.
· A fee maximizes certainty for developers.
· This mechanism gives the sponsoring agency control of where development rights are purchased. Purchases can be targeted to high priority areas for conservation.
· A fee can be coordinated with a PDR program, leveraging public resources for additional purchases of development rights.

Disadvantages
· This approach could be viewed by developers as another tax or fee, adding to the cost of development. For this reason, political feasibility is questionable, especially in areas where distrust of government runs high.
· If a program allows both private market transactions and a conservation fee option, coordination could be difficult. The fee would need to be carefully calibrated and routinely updated to match values established in the private market, otherwise the private market could be undermined.

Recommendations

Incentive programs should be simple to understand and manage. Development proposals inside the new economic development urban growth areas proposed by this Subarea Plan will involve a considerable amount of environmental analysis, site planning, and financial analysis, including market feasibility assessments and appraisals of land values. In these areas, County regulations require environmental protection of critical areas. However, it would be very desirable to have incentives in place which support more intensive development while mitigating impacts to on-site critical areas or protecting other nearby natural resources. While dedications, conservation easements, and development rights transfers or in-lieu fees can accomplish this objective, their implementation through a government system appears challenging at this time. One particular challenge for large scale developments presumably phased over lengthy periods, would be the correlation of land values with the timing of actual permitting and construction.

The recommended approach would link UGA development intensity to the protection of proportionate amounts of land in areas identified by Ecology and Fish & Wildlife or otherwise selected due to their functions and values. This approach would result in a formula that would associate an increase of the allowed amount of impervious surface in a development to the land area protected through outright purchase, conservation easement, or dedication, leaving the transaction up to the parties involved. Implementing this approach would require the County to:

1) Establish the maximum amount of impervious surfaces –
   For urban commercial and industrial sites, development is frequently allowed to cover up to 100% of the total area. This is not building footprint only; it includes rooftops and pavement of streets, parking lots, walks, plazas, etc. In order to reach this amount of

coverage, a piped stormwater system including underground detention would be required. In addition, such a site would have no landscaping and would not contain any wetlands or other critical areas, so the impacts associated with removing those on-site critical areas would have to be mitigated off-site according to the replacement/enhancement provisions of Lewis County's critical area regulations. However, this level of urban intensity would be unlikely in South County. Through public review, master plans for urban commercial and industrial development would likely be required to include perimeter buffers to respect adjacent rural and resource uses; surface water management would require that projects include detention ponds and biofiltration swales and rain gardens; and site amenities would likely be required, including landscaping around buildings, in parking areas, and recreation areas for employees. Recognizing the likely development scenario for South Lewis County, this approach assumes that the maximum impervious surface coverage would be 50% - 70% of the buildable or developable site area (not including wetlands, streams, habitats, erosion hazards, etc).

2) Establish the ratio of area-wide environmental protection necessary to exceed the maximum impervious coverage –
This ratio should be high enough to ensure that significant amounts of land with priority hydrological and habitat features are permanently protected from rural subdivision and development. For illustrative purposes, a ratio of 10 acres of protected land for every additional percentage of impervious surface coverage is suggested. The actual ratio could be determined through an economic proforma analysis of the development value of additional impervious surface compared to the off-setting value of the lands to be protected. However, since the "value" of protected areas is qualitative as well as monetary, it might be best to let the buyers and sellers negotiate prices. There is a considerable amount of potential land in South Lewis County that should be protected (as identified by the state agency studies). This "free market" approach would seem to be self-regulating in terms of pricing. The County role could be an administrative one rather than legislative or judicial.

3) Initiate a period of trial applications in two or three projects through the master plan process –
This would enable the approach to be used in actual cases and lead to subsequent refinements based on the outcomes.

Figure 3.1: Importance of Hydrologic Processes in the South County Subarea

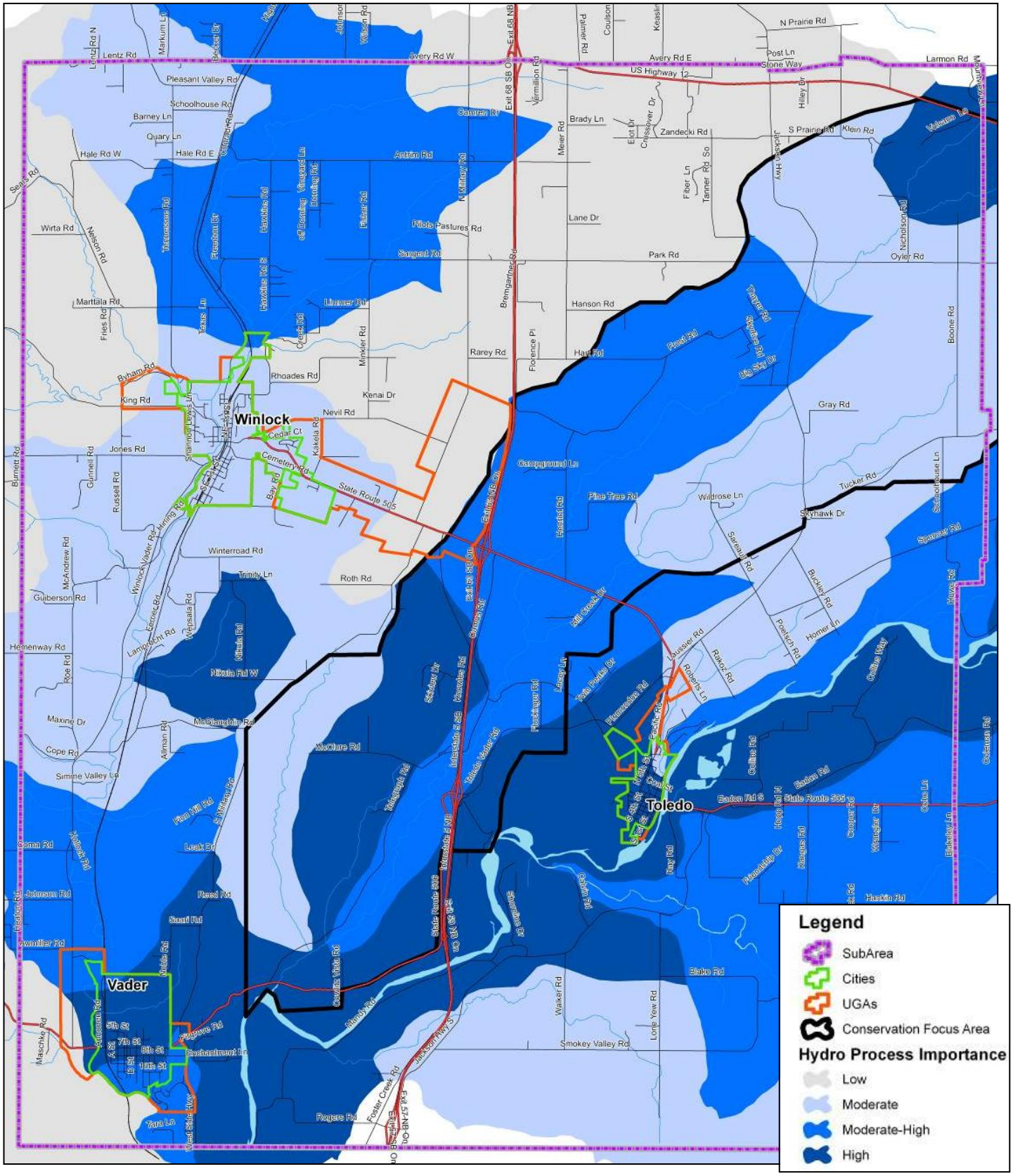


Figure 3.2: Fish and Wildlife Habitat

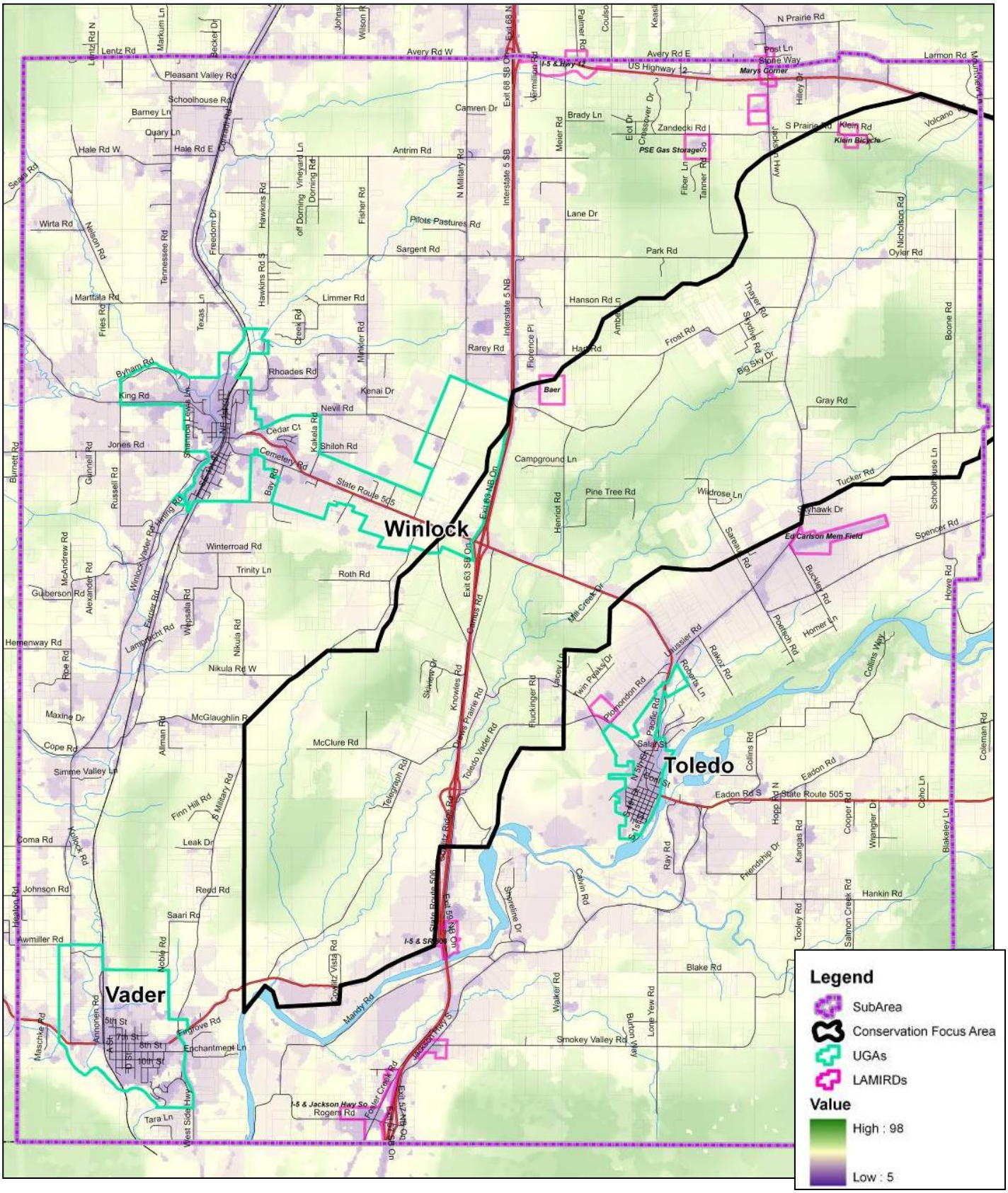
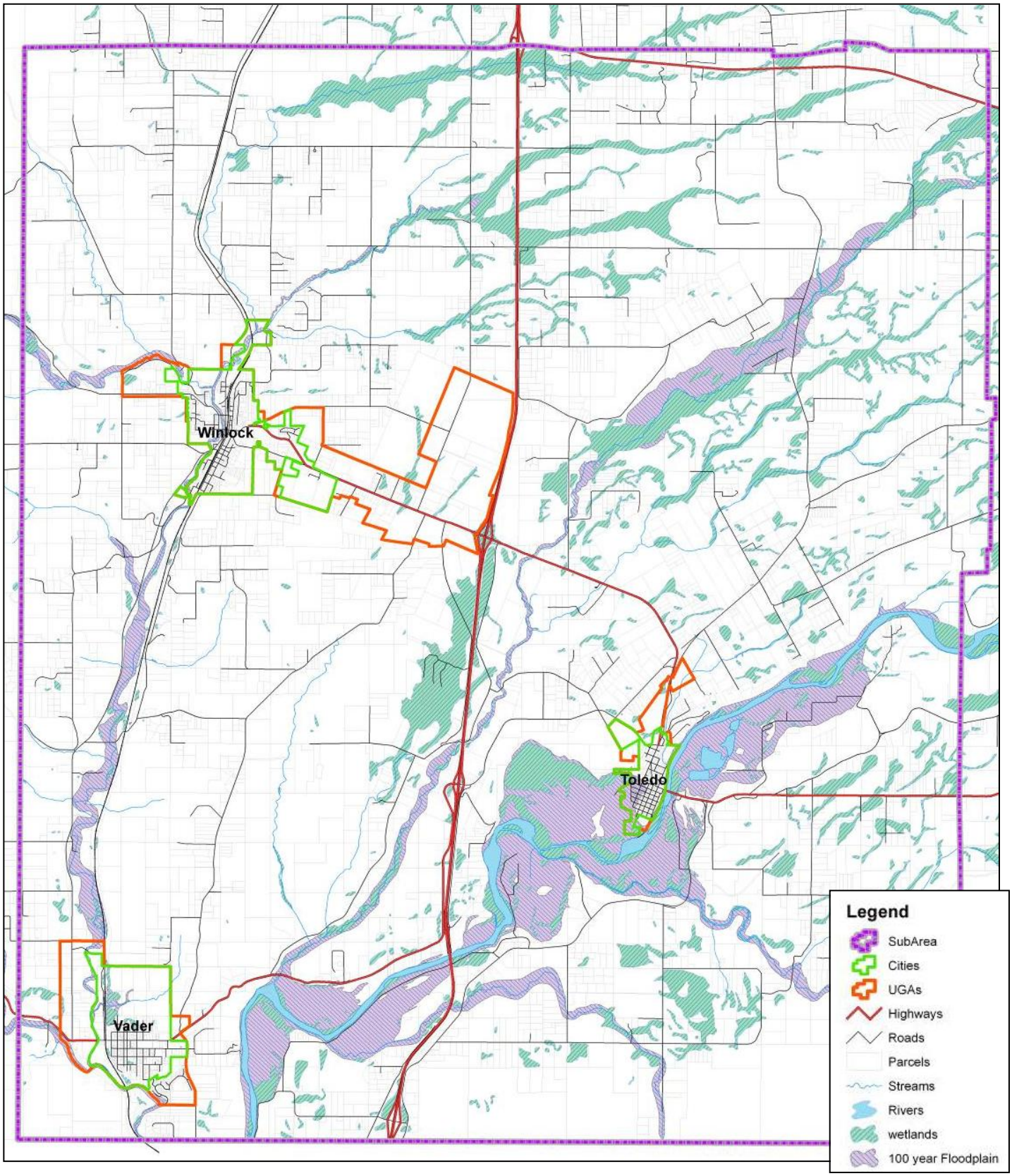


Figure 3.3: Wetlands, streams, and floodplains in the Subarea



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4 Land Use and Economic Development Element

The South Lewis County Subarea is large and diverse. The Subarea is approximately 105 square miles, or 67,690 acres, in size. The land use in the area ranges from urban residential and commercial development in the cities to large lot (1 square mile) forestlands in the rural areas. There are 7,303 parcels in the Subarea with an average parcel size of almost 8 acres and a median parcel size of approximately 3 acres. Approximately 4,350 of the parcels, or 57%, are developed with a structure, while the remaining 43% are vacant. The Subarea had an estimated 2008 population of 9,450, which results in an overall density of 90 people per square mile or 0.14 people per acre.

Current Land Use

According to the Lewis County Assessor's records, the majority of the land in the South County Subarea is devoted to forestry (42%) and agriculture (26%). Approximately 28% of the land is either used for residential or is undivided residential land. The remaining uses (park/recreation, services, open space, transportation, manufacturing, retail, and other uses) account for only 4% of the land use in the South County Subarea. These current uses do not necessarily reflect Comprehensive Plan Land Use designations or current zoning.

Lewis County Comprehensive Plan and Zoning

The Lewis County Comprehensive Plan was approved in 1999, amended in 2002, and is currently being updated. The Cities of Toledo, Vader, and Winlock regulate development within their city limits. In some instances, a city's Urban Growth Area (UGA) extends beyond the city's limits, placing portions of the UGA under County jurisdiction; development within these areas is regulated by Lewis County Code Chapter 17.15 wherein the County has adopted the city's comprehensive plan and development regulations either by reference or by inter-local agreement. This ensures consistency between the City and County portions of the UGA.

The Lewis County Comprehensive Plan provides the policy basis for land use and development in rural areas. The Comprehensive Plan identifies different rural area development guidelines for each Comprehensive Plan designation.

The current zoning in the South County Subarea is a mix of mostly rural zones. Cities, their UGAs, and County UGAs make up just over 5% of the Subarea. The Rural Development District (RDD) zones (5 acre, 10 acre, and 20 acre) make up almost 80% of the Subarea. The remaining zones make up approximately 15% of the Subarea (Refer to Table 4.1).

Table 4.1: Current Subarea Zoning for Lewis County

ZONE	Area (Acres)	% of Subarea
ARL (Agriculture)	16,471	24.3%
CC	34	0.1%
City	1,662	2.5%
FC	203	0.3%
Forest	3,976	5.9%
Mine	612	0.9%
Park	635	0.9%
RAI	282	0.4%
RDD-10	8,701	12.9%
RDD-20	24,900	36.8%
RDD-5	8,249	12.2%
UGA - Cities	1,862	2.8%
UGA - County	104	0.2%
Total Subarea	67,691	100.00%

Zone Descriptions

Agricultural Resource Lands (ARL) – The ARL zone includes lands primarily devoted to agriculture that have long term commercial significance for agricultural production (WAC 365-196-200).

Crossroads Commercial (CC) – The CC zone includes areas that have historically provided rural commercial services, including retail sales of convenience goods and services, for rural residents.

City – These areas are within the city limits of Toledo, Vader, and Winlock. The zoning is administered by the cities. See the city description below for more detailed information on zones in each of the cities.

Forest – Forest lands are lands primarily devoted to growing trees for long-term commercial timber production on land that can be economically and practically managed for such production (WAC 365-196-200)

Freeway Commercial (FC) – The FC zone includes areas which promote services to the traveling public, convenient access to major transportation routes, and provide areas for new commercial development.

Mine – The Mine zone designates mineral resource lands of long-term commercial significance.

Park – The Park zone designates County land for recreational uses.

Rural Area Industrial (RAI) – RAI zone includes areas where industrial activities have existed historically and are planned for future activity. This zone should not create a need for urban services or lead to urban development in rural areas.

Rural Development Districts (RDD) –RDDs include areas not otherwise designated for other uses. Specific RDDs designate density of one dwelling unit per five, ten, or twenty acres. RDDs preserve the rural character of the County, allow for a variety of rural residential densities, and protect small rural businesses.

UGA, "Cities" – UGAs are areas where growth should be focused. UGAs include areas of incorporated city limits as well as areas of unincorporated county land adjacent to the city limits. The unincorporated portions of the UGA are designated for urban growth and regulated via city-county interlocal agreements (which provide for zoning and permitting); ultimately these unincorporated areas will be annexed into the cities. However, references to City UGAs include all the incorporated (city) and unincorporated (county) land within the UGA boundary.

UGA, "County" – These areas are designated for urban growth which are not associated with or adjacent to a specific city. These areas include fully contained communities, master planned resorts, and major industrial developments.

City Land Use

Toledo

According to the 2005 Toledo Comprehensive Plan update, almost the entire City of Toledo and its unincorporated UGA is zoned for residential use (96%), with the remaining area zoned for commercial use. There are 275 acres in Toledo and its unincorporated UGA (not including right-of-way). According to the Lewis County Assessor's data, the current land uses in Toledo's UGA are as follows: 38% public/quasi-public, 31% residential, 17% agriculture, 8% vacant, 4% commercial/retail, and 2% transportation/utilities.

Vader

There are approximately 982 acres in Vader and its unincorporated UGA (collectively called the Vader UGA). The Comprehensive Plan update in 2005 identified the zoning breakdown in the Vader UGA. There are 785 acres of residential (80%), 109 acres of commercial/mixed use (11%), 57 acres of community services (6%), and 32 acres of industrial (3%). According to the Lewis County Assessor's data, the City's current land uses are as follows: 42% residential, 42% vacant residential, 10% agriculture, 2% transportation and utilities, 2% commercial, and 2% public/parks & recreation.

Winlock

The City of Winlock and its unincorporated UGA (the Winlock UGA) is approximately 2,190 acres in size. The 2009 Winlock Zoning Map identifies the following breakdown of zoning within the UGA: 1,015 acres residential (46%), 610 acres industrial (13%), 276 acre mixed use (13%), 185 acres commercial (8%), and 105 acres public facilities (5%). According to the Lewis County Assessor's data, the Winlock UGA's current land uses are as follows: 31% agriculture, 24% residential, 19% mining/forestry, 10% undeveloped/vacant, 5% public/quasi-public, 2% commercial, 2% industrial, 1% transportation/utilities, and 8% other.

Development Suitability Analysis

During the early phases of subarea planning, GIS parcel data was analyzed to assess development suitability for future non residential development based on the following factors:

- distance from I-5 and major arterials
- location within UGAs
- location adjacent to railroad
- parcel size
- availability of water/sewer services
- ratio of improvement values to land values

Each factor was assigned a rating scale, and each analyzed parcel was assigned a value based on how well it fit the rating scale. According to this analysis, the parcels with the highest total values are considered the ones most suitable for future development. This in turn led to the identification of the areas within the Subarea most likely suitable for development. These include: the intersection of SR 505 and I-5; the intersection of US 12 and I-5; and the UGAs of Toledo, Vader, and Winlock; additional areas along the I-5 and railroad corridors; and a few large parcels scattered throughout the Subarea that are near major arterials. The parcels most suitable for future development are shown on the Development Suitability Map in Figure 4.1.

Related Studies and Plans

Phase One South County Subarea Plan

During the 2009 Phase One process, existing conditions in South County were collected and documented. The Steering Committee developed a vision of the South County and principles to guide the subarea planning process. A market analysis and transportation analysis were done simultaneously and helped to inform phase one decisions. However, neither the environmental analysis nor the transportation plan was completed prior to the publication of the phase one plan. Additionally, the adoption of the designation of Agricultural Resource Lands was made after publication of the phase one plan.

Market Analysis

The South Lewis County Regional Market Analysis was prepared by E.D. Hovee & Company as part of this subarea planning effort. The study estimates the demand for particular land uses and is the basis on which this subarea plan is predicated.

Watershed Plan

The Grays-Elochoman and Cowlitz Watershed Management Plan for Watershed Resource Inventory Areas 25 and 26 was adopted by the Planning Unit in 2006. The planning unit is a group made up of Lewis, Wahkiakum, Cowlitz and Skamania County Commissioners and a broad range of water use interests. The State Department of Ecology uses this plan as the framework for making future water resource decisions in the Cowlitz watershed.

Environmental Analysis

The Washington Department of Fish and Wildlife (WDFW) and Washington Department of Ecology were consulted to analyze habitats and ecosystems, respectively, throughout the South Lewis County Subarea. These analyses provided information on natural systems and allowed the subarea plan to accommodate growth while avoiding unintended consequences, such as loss of local biodiversity or increased flooding. The information has also helped identify priority areas for protection, conservation or restoration.

Transportation Plan

Perteet Engineering and Cook Engineering and Development Services prepared the South Lewis County Subarea Transportation Plan for the County. Portions of that study are reflected in the Transportation chapter of this subarea plan.

Airport Master Plan

The Lewis County Community Development Department is preparing a Master Plan for the Toledo-Winlock Ed Carlson Memorial Field.

Economic Profile

In South County, there are only 2,600 jobs (7% of the County's jobs) which are half of the jobs that would be expected based on the population (14% of the County's population). The largest employment sectors in the Subarea are finance, insurance, real estate, and services (FIRES) with nearly 900 workers (33%) and agriculture with 600 jobs (24%). The other employment sectors in the Subarea include retail (14%), education (11%), manufacturing (10%), wholesale trade, transportation, communication, and utilities (WTCU) at 6%, and government (2%).

When compared to the entire County, the South County Subarea is more dependent on agriculture/resource and education jobs and has less FIRES, wholesale, and government jobs. The Subarea is more dependent on blue-collar jobs (36%) than the rest of the County (31%). The Subarea and the County have approximately 20% employment in service jobs. Both the Subarea (44%) and the County (49%) lag behind the State (61%) in white-collar employment. Between 2002 and 2007 Lewis County job growth (0.8%) and wages ($33,300) lagged behind the entire State (2.1% and $45,000).

Economic Development Demand Opportunities

Given the Subarea's proximity to road, rail, and air transportation infrastructure, there are opportunities for economic development in South Lewis County. These economic development opportunities fall into different markets, with different demands and with unique advantages and disadvantages. The South Lewis County Regional Market Analysis (SLCRMA) identified eight potential industrial, commercial, and tourism development opportunities for the South Lewis County Subarea.

The SLCRMA identifies four potential industrial uses for the Subarea: manufacturing, distribution, transportation/logistics, and business park.

- **Manufacturing:** While declining nationally, manufacturing has growth potential for specific communities. These potentials are greatest for counties, like Lewis County, that are less urban but in good proximity to major global pathway metro areas such as Portland and Seattle-Tacoma. In order to be competitive, Lewis County must offer outstanding freight transportation capabilities; available, skilled, and reasonable cost labor; and large, competitively priced industrial sites with available infrastructure and no major environmental constraints.

- **Distribution:** Between 2002 and 2006, jobs in wholesale trade and distribution increased by 3.3% per year in Washington. The demand for Distribution Centers (DCs) has shifted to places like Lewis County, outside of the core metro areas, with large sites, and access to transportation infrastructure. DCs add to the tax base, create high wage

jobs, and can set the stage for further development. However, DCs require large sites, employee few people, create aesthetic concerns, and have the potential to create environmental impacts.

- **Transportation/Logistics:** Transportation and logistics developments are more of a long-term option than a short-term solution. There is not much demand for air cargo facilities. To secure a regionally significant facility, it would be necessary to assemble hundreds of acres of industrial land near rail and the highway. However, small-scale, geographically dispersed transportation and logistics projects are a possibility in South County. This strategy will require time, public and government support, and private investment to implement.

- **Business Park:** This use supports small industrial, commercial, and retail businesses in 1 or 2 story buildings on 5 to 50+ acre sites. This can address the needs of small business, provide an opportunity for the growth of local businesses, and be phased to match demand. Due to the lack of perceived demand, a business park is only a long-term option once market demand has been established.

The SLCRMA discusses three different commercial development uses for the Subarea: office space, interchange retail, and local-serving retail.

- **Office Space:** The two sources for office demand include locally generated demand (offices serving local population) and externally generated demand (offices that seve outside populations, such as data or call centers). There is not expected to be demand for externally generated office uses in the near future. Local generated demand will grow slowly as population and employment grow in South County. Therefore, there is not expected to be a large increase in demand for offices in South County.

- **Interchange Retail:** This use includes auto-oriented businesses near the highway that serve both travelers and the local population. Interchange retail includes businesses like fast food, coffee shops, sit-down dining, hotel/motels, auto parts and maintenance shops, gift shops, farm supplies, banks, and visitor information. The first wave of this type of development could occur within 3 to 5 years, with small 5 to 10 acres commercial uses anchored by service stations and convenience stores. The second wave of development could occur in the next 10 to 20 years based on the momentum of the first wave.

- **Local-Serving Retail:** According to a study of retail leakage, South County could support 75,000 square feet of locally supported retail. However, additional population and employment is required to meet minimum store size thresholds. Population and job growth will support interchange retail because it is central to the South County population in the three cities and captures visitor demand.

- **Tourism Development:** For this Subarea, this type of development would mean a destination attraction that can change tourist visitation to South County from pass-through to stay-over. Tourism destinations include Mount St. Helens National Volcanic Monument, Winlock Waters, various community events and attractions, and outdoor recreation activities.

Lewis County Industrial Land Supply

The 2005 Lewis County Industrial Lands Analysis Update by E. D. Hovee & Company states that of the 1,900 acres of available industrial land in Lewis County, approximately 1,340 are located within cities or their UGAs. According to the report, all but 450 acres of the 1,900 acres have some variation of wetland or floodplain issues or other constraints. There are currently no vacant industrially zoned sites greater than 100 acres and only two sites 50-99.9 acres (totaling 130 acres) that are free and clear of environmental constraints. This factor significantly limits Lewis County's ability to attract larger industrial uses, such as another Cardinal Glass or major distribution centers.

Employment Growth and Land Demand

The South County Regional Market Analysis (SCLRMA) analyzed two different scenarios for future employment growth and associated land demand. The first scenario was predicated on the continuation of recent trends with relatively weak market capture by Lewis County of I-5 corridor employment growth. The second scenario assumed that Lewis County will stimulate economic development in South County through the adoption of policies and regulations pursuant to the South Lewis County Subarea Plan. As a result, the Steering Committee elected to use the findings of the analysis for the second scenario to develop the land use recommendations in the Subarea Plan. Tables 4.2 and 4.3 show employment and land acreage forecasts for this scenario.

Table 4.2: South County Employment Forecasts

Type of Jobs	Number of Jobs		
	2010-15	2015-30	2010-30
Industrial	390	2,530	2,920
Retail/Commercial	235	1,710	1,945
Tourism	105	755	860
Total Jobs	730	4,995	5,725

Source: E. D. Hovee & Company

Developable land needs to be in place to facilitate the businesses that will create the job growth. The SLCRMA predicts a need of about 1,000 net acres by 2030. The largest need for land is for industrial use.

Table 4.3: South County Land Requirements

Land Use	Net Acres of Land		
	2010-15	2015-30	2010-30
Industrial	97	632	730
Retail/Commercial	14	105	119
Tourism	67	64	130
Total Acres	178	801	979

Source: E. D. Hovee & Company

These land requirements are for net acres of land, which excludes: land required to be set aside for environmentally sensitive lands, a market factor, and long-term land reserves. As a result, the County will need to designate more than the net land requirements. While the gross/net ratio varies based on land-use type and location, for the purpose of this study, a ratio of three gross acres per one net acre was used. Therefore, in rounded numbers, South County may require approximately 3,000 gross acres of land to meet predicted development demand.

Alternatives Considered

Attracting economic development to South County will require available land with urban infrastructure. There is existing developable land within the three existing UGAs in the Subarea, especially the Winlock UGA, but infrastructure is currently not available in all locations. The Steering Committee engaged in a process to identify locations where growth within the Subarea could occur and generated a number of alternatives scenarios for comparison. Generally, the alternatives involve expansion of existing UGAs and/or creation of new UGAs in locations where the estimated demand for urban land exceeds the current development capacities of the cities and UGAs. ---

There are currently four UGAs in the Subarea: those associated with Toledo, Vader, and Winlock, and a County UGA (located on Avery Road W. approximately 2 miles west of I-5). The Winlock UGA includes approximately 500 acres of industrially zoned land and 100 acres of commercially zoned land adjacent to I-5 at Exit 63. The County UGA was created for the Cardinal Glass industrial development and is substantially developed. According to Lewis County Assessor's data, there are approximately 207 acres of vacant commercial and mixed-use land and 503 acres of vacant industrial land within the Winlock UGA. A 32 acre parcel in Vader is adjacent to both rail and highway.

Preliminary Alternatives Analysis

The 2009 Phase One process analyzed a potential market demand for 800 acres of industrial and commercial land in South County by 2030, broken down by the following net acres, rounded to the nearest 100:

- 600 acres for industrial uses (including manufacturing, processing, warehousing, and transportation uses;
- 100 acres for retail and service business uses; and
- 100 acres for tourism-related uses.

In order to arrive at this net demand, the estimated gross land area could be as much as 3,000 acres in order to accommodate public infrastructure, critical areas and other open spaces, and a

market factor that acknowledges that some land will not be available for development. The market analysis did not forecast a demand for future urban residential developments, because the Cities' comprehensive plans will be the basis for accommodating urban residential growth.

During Phase One, sites were identified throughout South County as potential future urban growth areas to meet the demand. The principles used to do this were:

Sites Should Have:	And	Sites Should Support Development That:
Logical Locations		Avoids Impacts – or
Appropriate Access		Minimize Impacts – or
Large Parcels		Mitigates Impacts

The Phase One report described sites that were felt to meet the first 3 principles. At that time, no detailed analysis of the actual development potential within the sites was completed. The Phase One process also included analyses of the subarea hydrology and wildlife habitat conditions by the state Departments of Ecology and Fish and Wildlife. Late in 2009, the Board of County Commissioners adopted new land use designations and zoning for Agricultural Resource Lands (ARL) throughout the county. These actions set the stage for the next round of Subarea planning and site analysis.

Secondary Alternatives Analysis

Using additional reports on hydrology, prime habitat, and agricultural resource lands, the land use concept for the South County Subarea was refined. Six areas were studied using the available County and State data.

- Frost Road
- Highway 12 & I-5 Eastside
- Highway 12 & Westside
- SR 505 & I-5
- SR 506 & I-5
- Toledo

Within these areas, concentrations of land that meet the criteria for urban scale development were identified. It was assumed that site constraints such as critical areas, existing development, or parcel size would require more land (gross acreage) to be designated in order to achieve a resulting net acreage that would coincide with the market analysis. Parcel size, ownership, topography, critical areas, priority habitat areas, existing development, and existing wells were mapped for each area.

Preferred Committee Alternative

Industrial Areas

Of the 600 net acre demand identified by market analysis, the industrial portion of the Winlock UGA would supply approximately 250-300 acres using the SLCRMA deduction factors for infrastructure, critical areas, and market factor. Therefore, the Subarea Plan should designate approximately 300-350 additional net acres as industrial UGA, which computes to approximately 900-1,000 gross acres, depending upon the actual characteristics of the land.

The Preferred Committee Alternative identifies a potential industrial UGA location totaling approximately 500-600 gross acres, most of which is not constrained by known critical areas. The "SR 505 – Jackson Highway Area" is located north of the SR 505/Jackson Highway intersection and slightly more than one mile east of I-5. (See Figures 4.2 and 4.3)

Regional Retail and Services Center/Tourism-Related UGA

The market demand of 100 net acres for regional retail and services center and the 100 net acres for tourism-related could be met by designating a new Economic Development UGA for mixed retail, commercial, and tourist uses. This UGA should be designated at Exit 63 ("SR 505 Area"), east of Interstate 5 and north and south of SR 505 and would total approximately 280 gross acres. Portions of the Winlock UGA at this interchange could also be used for regional retail/services and tourism related uses. (See Figure 4.4)

Urban Reserve Areas

The Preferred Committee Alternative also identifies a potential 430 gross acre Urban Reserve Area designation on both sides of I-5 at Exit 60 adjacent to SR 506. This designation would overlay the current rural zoning and would restrict subdivisions from creating lots smaller than 20 acres until planning for urban services and facilities can be executed.

Implementation

The current Comprehensive Plan does not provide a basis for designating new Economic Development UGAs which can accommodate the uses discussed Subarea Plan. The current Comprehensive Plan designations limit most of these economic development uses to existing small rural areas (called Limited Areas of More Intensive Rural Development, or LAMIRDs). While the current Comprehensive Plan policies do not specifically prohibit or discourage Economic Development UGAs, Lewis County's practice has been to rely on the cities to propose UGAs or UGA expansions. Comprehensive Plan Policies LU 8.1, LU 8.2 and LU 8.3 do set the stage for *"designating sites for industrial uses," "maintaining an adequate supply of prime industrial land within designated urban growth areas," and "allowing designation of Major Industrial Developments and Master Planned Locations outside of UGAs."*

Comprehensive Plan policies should be adopted that will allow for the designation of Economic Development UGAs through a subarea planning process in which:

- The Subarea Plan has identified locations suited to major industrial, mixed use retail/commercial, or regional tourist-oriented uses due to proximity to transportation or resource assets, parcel sizes, and land suitability for intensive development.
- A programmatic environmental review of the Subarea Plan has been completed.
- An economic/market analysis has concluded that the 20-year supply of developable urban land is inadequate to meet future demand.
- Development regulations for review and approval of specific economic development projects through a binding site plan have been adopted to ensure that:
  - urban growth will not occur in adjacent rural and resource lands;
  - development is consistent with the county's critical area regulations;
  - infrastructure requirements are identified and provided concurrent with development(such infrastructure, however, may be phased in with development);
  - and provisions for addressing environmental protection have been made.

- A mechanism for using development credits from subarea rural or resource lands has been established to increase the development capacity of the UGA.
- Preservation of critical areas and resource lands has been planned for.

Implementation of the Preferred Alternative will also require adoption of provisions in the Comprehensive Plan that will enable designation of Urban Reserve Areas (URA). The URA overlay is intended to be applied and implemented through later development, only in those cases where ensuing development can provide a significant number of family wage employment opportunities in an environmentally sensitive manner, and in cases where current market conditions and/or infrastructure and service provisions do not warrant initial designation or development of such uses. The Urban Reserve Area overlay should be applied at sites well served by existing or planned transportation systems or adjacent to uses that promote economic development.

Figure 4.1: Development Suitability

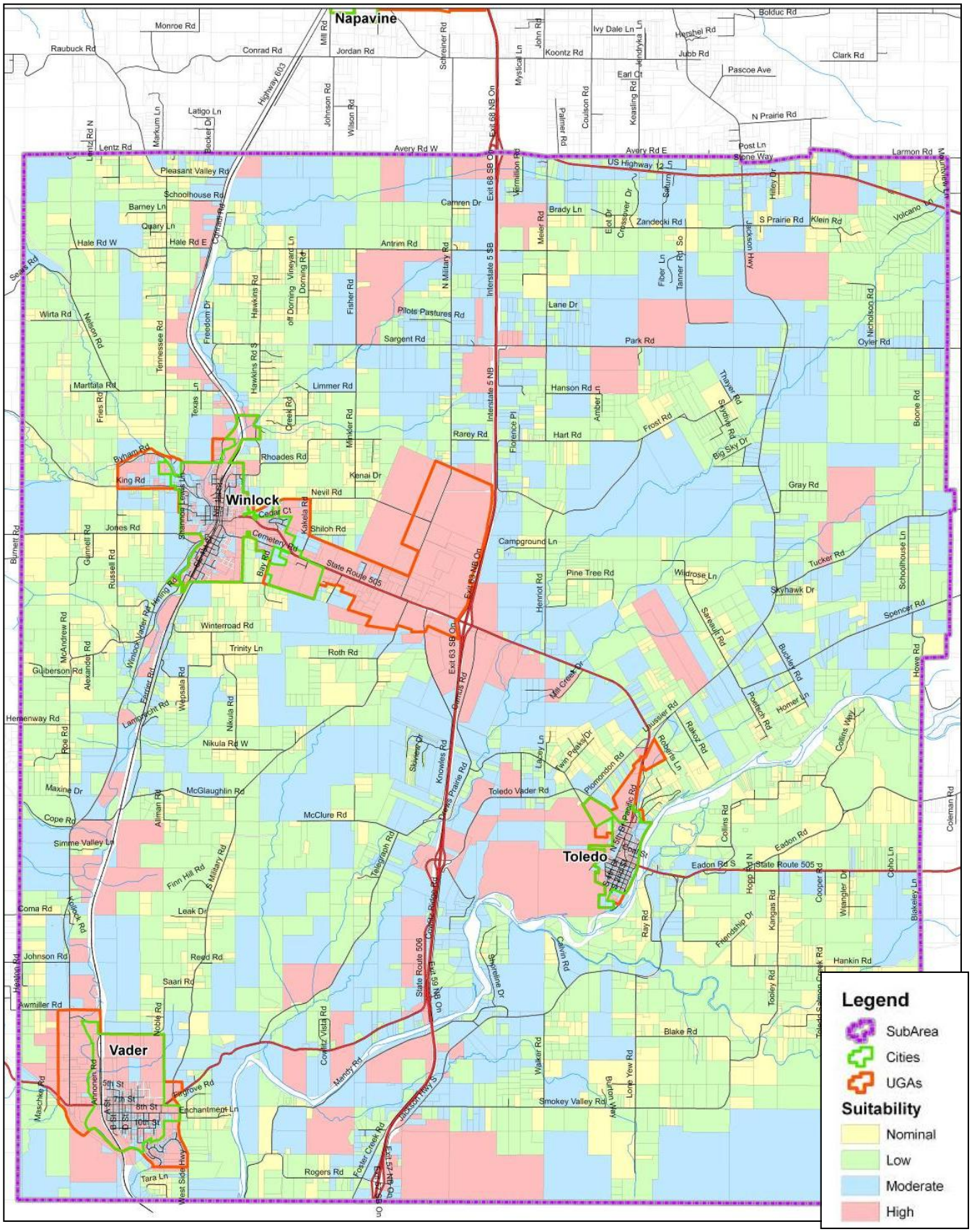


Figure 4.2: Preferred Committee Alternative

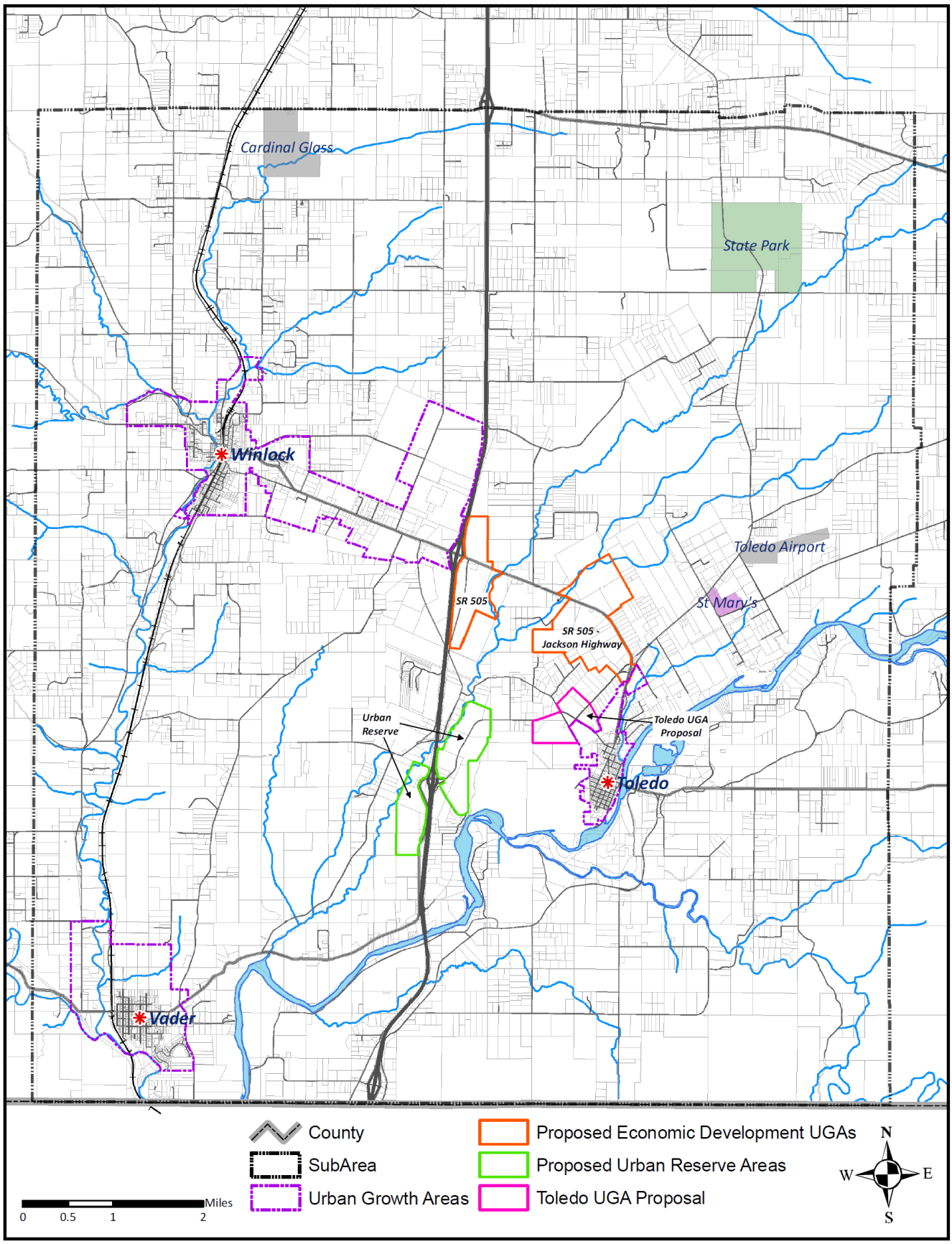


Figure 4.3: Proposed Economic Development UGA SR 505 and Jackson Highway

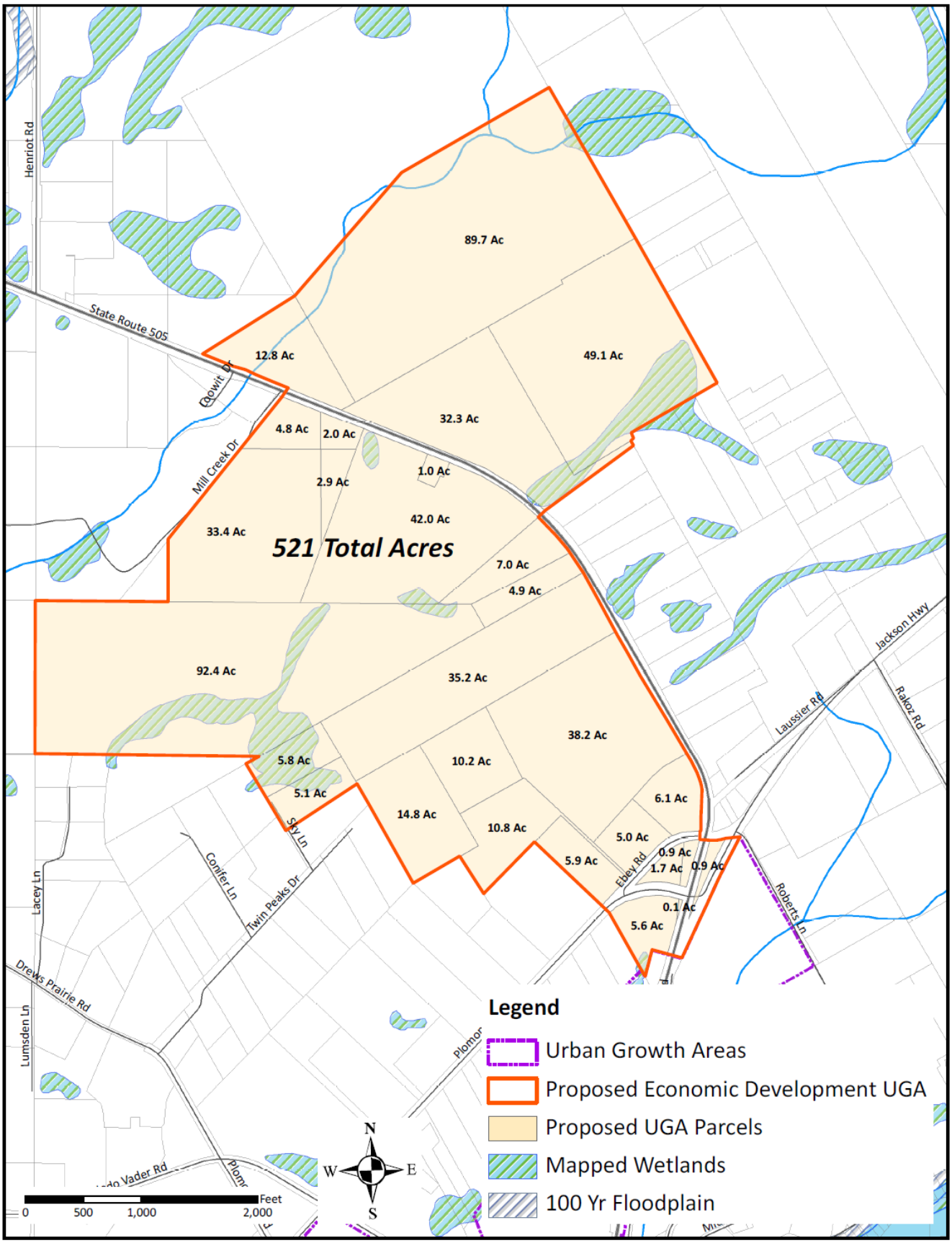


Figure 4.4: Proposed Economic Development UGA SR 505 and Interstate 5

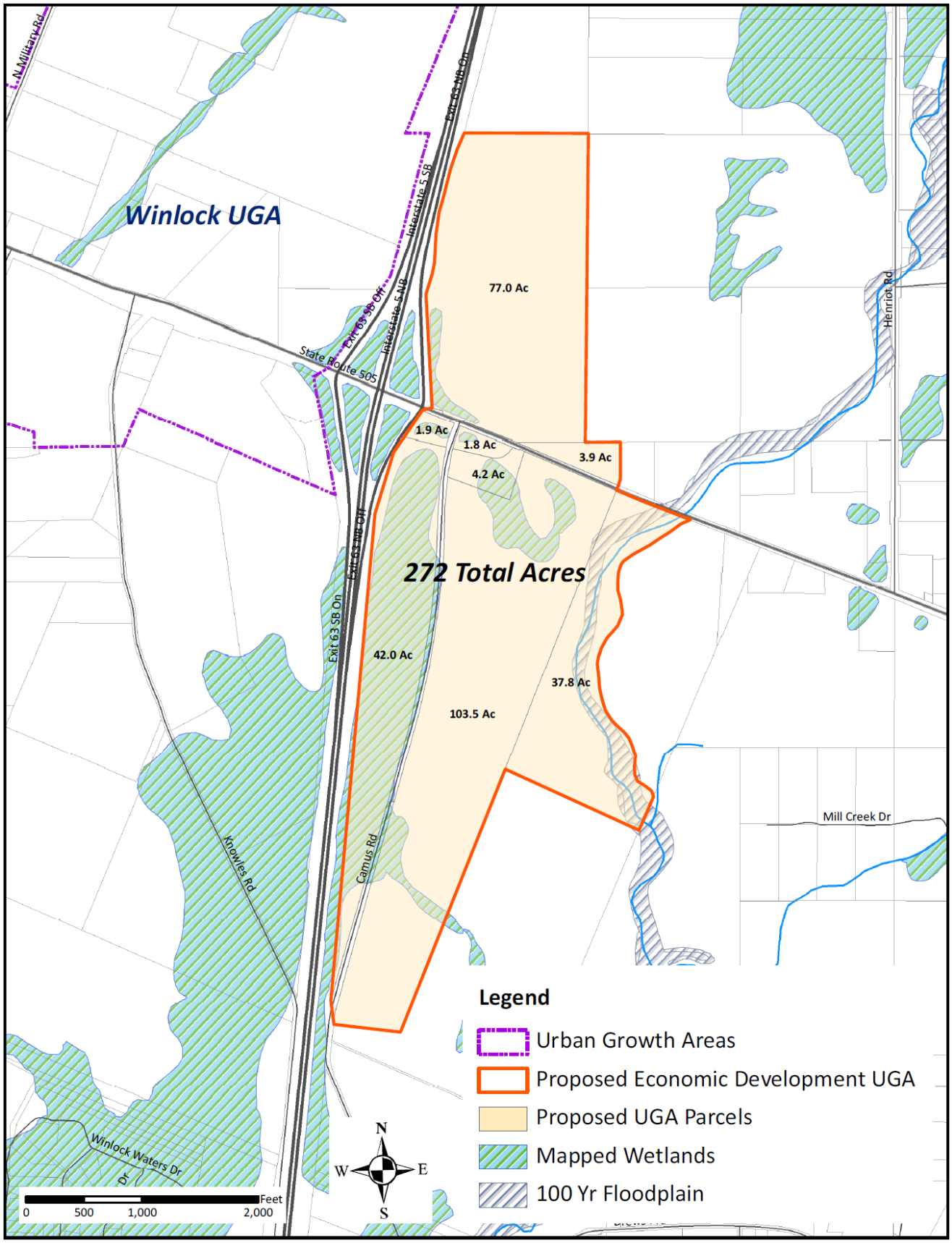
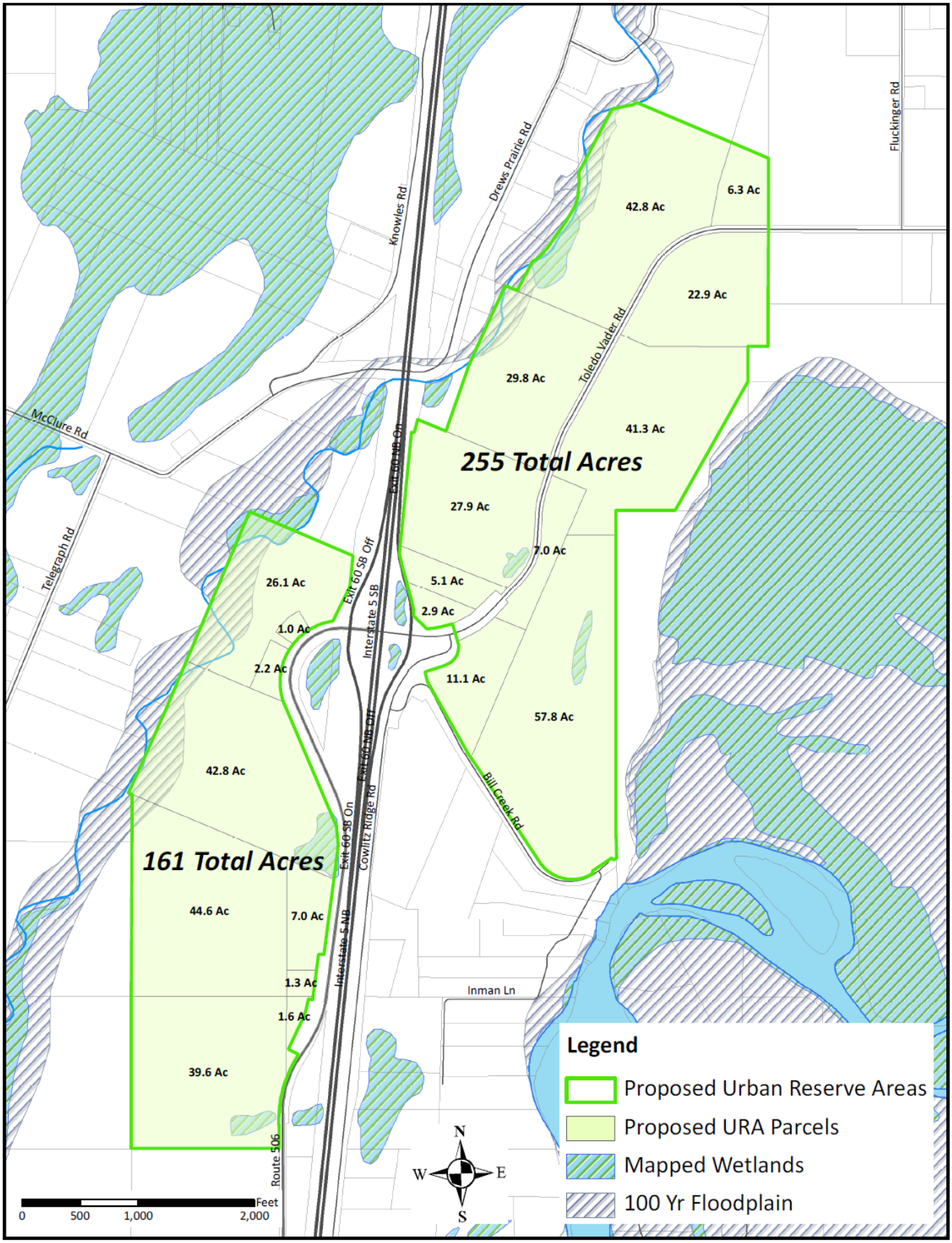


Figure 4.5: Proposed Urban Reserve Areas



5 Transportation Element

Access to regional transportation is one of the major advantages for the South Lewis County Subarea. Interstate 5 bisects the Subarea, and a number of US and State highways provide excellent local access along with county roads and public and private streets. The Burlington Northern & Santa Fe railroad passes through Vader and Winlock in the western portion of the Subarea. The Toledo-Winlock Ed Carlson Memorial Field Airport is located northeast of Toledo.

A transportation analysis was prepared for Lewis County which included an examination of existing and forecasted transportation conditions and Level of Service standards. This element summarizes the major findings from the analysis, which was prepared by Perteet and Cook Engineering and entitled the South Lewis County Subarea Transportation Plan (SLCSTP). (See Figure 5.1)

Existing Transportation System Conditions

Vehicular

Truck and automobile traffic is important in the South Lewis County Subarea. Interstate 5 is the major transportation corridor along the west coast. As a result, there are large volumes of vehicular traffic through the Subarea, as indicated by the $26.6 million in gasoline station sales in the Subarea in 2008, which is over twice as much as would be accounted for in sales to the local population. There is a significant amount of truck transportation; in 2002 an estimated 15,000 trucks a day used I-5 in Lewis County.

Interstate 5

I-5 is the major transportation route along the western coast of the United States running from Mexico to Canada. The portion of I-5 in the South County Subarea is approximately halfway between Portland, Oregon and Seattle, Washington. In 2007, I-5 carried an average of 42,000 vehicles per day in the Subarea. In 2009, the volume dropped to 41,000 vehicles per day. I-5 is two lanes in each direction and has five exits in the Subarea: Exit 57 (Jackson Highway), Exit 59 (State Route 506), Exit 60 (State Route 506/Toledo-Vader Road), Exit 63 (State Route 505), and Exit 68 (US Highway 12).

United States Highway 12

US 12 is an east-west highway that runs from Aberdeen, Washington to Detroit, Michigan. US 12 enters the Subarea from the North running concurrently with I-5. At Exit 68, US 12 splits from I-5 and heads east towards Mossyrock. In 2009, US 12 had between 7,100 and 7,900 average vehicles trips per day in the Subarea.

State Route 505

SR 505 is a 20-mile long highway that connects Winlock to State Route 504 near Toutle in Cowlitz County. SR 505 starts in downtown Winlock and heads east across I-5, south to Toledo, and east out of the Subarea. In 2009, SR 505 handled an average of 3,000 to 4,000 vehicles per day in the Subarea.

State Route 506

SR 506 travels between Ryderwood in Cowlitz County to Interstate 5. SR 506 enters the Subarea from the west, through Vader along Seventh Street, and to I-5 at Exit 59. SR 506 then heads north along the west side of I-5 before ending at the Exit 60 interchange with I-5. In the Subarea, SR 506 carried an average of 1,000 to 2,000 vehicles per day in 2009.

County Road Classifications

The Lewis County Comprehensive Plan identifies six rural functional road classifications from interstates to local access roads. Each road classification is designed for a different purpose and serves varying amounts of traffic. The road classifications include interstates, principal arterials, minor arterials, major collectors, minor collectors, and local access roads. The remaining roads in the Subarea not described above are collector and local access roads.

Rail

The Burlington Northern & Santa Fe (BNSF) is the only railroad that passes through the Subarea. The BNSF line runs from Portland, Oregon to Vancouver, British Columbia. There are approximately 13 miles of railroad tracks in the Subarea. This railroad line provides both freight and passenger traffic. In 2006, an average of approximately 50 trains per day utilized this portion of the rail corridor. This corridor has a capacity to accommodate 101 daily trains, but this is limited due to choke points around Centralia that need improvements.

The Amtrak Cascade and Coast Starlight lines travel through the Subarea while providing service between Seattle and Portland with 5 trains per day in each direction. The long-term plan is to increase service between Seattle and Portland to 13 daily roundtrip trains. The Amtrak service stops at Kelso and Centralia, but it does not stop in the Subarea. There are no plans to add a stop in the Subarea, but the Long-Range Plan for Amtrak *Cascade* does identify rail improvement in the Subarea including adding a third main track between Winlock and Chehalis and rail crossovers in Winlock.

Air

There is one airport in the Subarea, the Toledo-Winlock Ed Carlson Memorial Field Airport, located three miles northeast of Toledo. The airport is owned by Lewis County and governed by a five-member Advisory Board. This airport has one runway that is 4,480 feet long and 150 feet wide and is located on a 94-acre site. There are 75 aircraft based at this airport, and the airport had 36,363 annual operations (an operation is a take-off or a landing), most of which are for general aviation with a small amount of military operation. This airport does not serve commercial aviation. Washington DOT estimates that the airport accounts for 76.5 jobs, $1,358,000 in labor earning, and $4,967,000 in economic activity. Recent improvements at the airport include runway repaving, new lighting and drainage systems, and new security cameras. Planned projects include installation of instrument approach devices, rehabilitation of the taxiway, and development of aircraft hangars. An Airport Master Plan is currently being prepared.

Transit

A public transportation agency does not serve the South County Subarea. The closest public transit agency to the Subarea is Twin Transit that serves the Cities of Centralia and Chehalis. CAP Rural Transit provides intercity service for Cowlitz County. The Longview to Tumwater route

stops at I-5 interchange with SR 505, Exit 63 (Toledo/Winlock). This service runs twice a day in each direction during the week and once on Saturday. Lewis County Senior Transportation (LCST) provides transportation for the senior citizens in the County.

Non-motorized

Bicycle Facilities

There are few dedicated bicycle transportation facilities in the South County Subarea. Most of the bicycle transportation routes are shared facilities with automobiles. There are two major bicycle races through the Subarea each year: the Lewis County Historical Bicycle Ride in May and the Seattle-to-Portland Classic in July.

Pedestrian Facilities

Pedestrian facilities area provided in Lewis County as sidewalks, walkways, roadway shoulders, and shared facilities. Sidewalks are typically provided in urban areas. Paved shoulders and shared roadways provide pedestrian transport in the rural parts of the County.

Pathways/Trails

There are numerous recreational walking paths and trails in the Subarea. Most of the trails in the Subarea are in two of the parks, Lewis & Clark State Park and the South County Park. A network of trails and pedestrian pathways, "The Bigfoot Trail System," exists in the City of Toledo. More information about the plans for Toledo's trail system can be found in the May 2005 update to the Toledo Pathways & Trails Plan. More information on other trails in the Subarea can be found at the Lewis County Community Trails website www.lewiscountytrails.org.

Level of Service Standards

Lewis County has adopted a Level of Service (LOS) standard for the major roads in the county. LOS grades roads based on the Average Daily Traffic (ADT) and the capacity of the roadway: a LOS A means less congestion than a LOS D. LOS standards are chosen as a measure of how much congestion can be tolerated at individual intersections. The Transportation Element of the Lewis County Comprehensive Plan (last updated 2002) provided LOS standards for roads in the Subarea and throughout the County. The standards are based on current (2002) and projected (2007 and 2020) conditions and are included in the Comprehensive Plan. The County is updating the transportation information in a countywide planning process. More recent information is available as provided by Perteet and Cook Engineering for the South Lewis County Subarea Transportation Plan (SLCSTP).

The SLCSTP identifies Level of Service standards at major intersections in South County (see Table 5.1). LOS standards were calculated for both the AM and PM peak hours. The PM peak hour LOS was typically more traffic and lower levels of service, although most AM and PM LOS are similar. LOS is high for the major roads in South Lewis County. All of the intersections have a LOS of C or better and most intersections have an A or B LOS.

Table 5.1: 2008 PM Peak Hour Intersection Level of Service

Intersection	Control	2008 Existing		Worst Approach Queue	
		LOS	Delay	Feet	Direction
SR 505 @ SR 603	3-way stop	C	17.3	41	SB SR 603
SR 505 @ Nevil Road	1-way stop	A	9.4	4	SW Nevil
SR 505 @ Cemetery Road	1-way stop	A	9.5	4	NE Cemetary
SR 505 @ Kakela Road	1-way stop	A	9.8	1	SB Kakela
SR 505 @ N Military Road	1-way stop	B	11.7	14	SB N Military
SR 505 @ S Military Road	1-way stop	B	11.2	5	NB S Military
SR 505 @ Knowles Road	1-way stop	B	11.0	1	NB Knowles
SR 505 @ I-5 SB Ramps	1-way stop	B	13.0	41	SB I-5
SR 505 @ I-5 NB Ramps	1-way stop	B	13.5	15	NB I-5
SR 505 @ Camus Road	1-way stop	B	10.8	1	NB Camus
SR 505 @ Henriot Road	1-way stop	A	9.5	2	SB Henriot
SR 505 @ Jackson Hwy	2-way stop	C	16.0	26	WB Jackson
SR 505 @ Toledo-Vader Road	2-way stop	C	15.4	13	EB Ash
Avery Road @ SR 603	2-way stop	B	10.8	11	WB Avery
Avery Road @ N Military Road	4-way stop	A	8.9	0	--
US 12 @ I-5 SB Ramps	1-way stop	C	18.4	118	SB I-5
US 12 @ I-5 NB Ramps	1-way stop	B	13.4	16	NB I-5
US 12 @ Jackson Hwy	Signal	B	18.0	190	EB US 12
Jackson Hwy @ Park Road	2-way stop	A	9.4	1	EB Park
Jackson Hwy @ Frost Road	1-way stop	A	9.0	1	EB Frost
Jackson Hwy @ Tucker Road	1-way stop	A	9.6	5	WB Tucker
Jackson Hwy @ Spencer Road	2-way stop	B	10.9	7	WB Spencer
Frost Road @ Henriot Road	1-way stop	A	8.6	2	NB Henriot
SR 603 @ Antrim Road	1-way stop	A	9.6	2	WB Antrim
Nevil Road @ N Military Road	1-way stop	A	9.1	3	EB Nevil
SR 506 @ I-5 SB Ramps	1-way stop	A	9.5	3	SB I-5
SR 506 @ I-5 NB Ramps	1-way stop	A	8.8	5	NB I-5
SR 506 @ Plomondon Road	2-way stop	A	9.9	9	SB Plomondon

Source: South Lewis County Subarea Transportation Plan

The SLCSTP also provides average weekday traffic volumes for some major roadways in the South County Subarea, see Table 5.2. The traffic counts in the Subarea range from less than 300 cars per day on N Military Road to greater than 4,400 cars per day on SR 505 in Toledo.

Table 5.2: 2008 Average Weekday Traffic Volumes

Roadway Segment	2008 Daily Traffic Counts
SR 505 – east of Kakela Road	3,510
SR 505 – west of I-5	4,030
SR 505 – east of I-5	3,690
SR 505 – north of Jackson Highway	3,220
SR 505 – north of SR 506	4,440
SR 505 – south of SR 506	4,090

Roadway Segment	2008 Daily Traffic Counts
SR 603 – south of Avery Road W	2,516
SR 603 – north of Nelson Road	1,849
N Military Road – south of Avery Road W	1,948
N Military Road – north of Sargent Road	285
N Military Road – north of SR 505	1,024
Polmondon Road – south of SR 505	1,032
Jackson Highway – south of Spencer Road	2,668
Jackson Highway – north of Park Road	933
Jackson Highway – south of US 12	1,580
Tucker Road – southwest of Classe Road	831

The SLCSTP focused on the corridor capacity of SR 505 using the volume to capacity ratio (V/C), see Table 5.3. A V/C ratio greater than 0.9 usually leads to congestion. The 2008 PM peak hour segment volume to capacity ratios are shown in the table below. The highest V/C ratio in the Subarea is 0.28; therefore, there are currently no areas of congestion concern along the SR 505 study corridor.

Table 5.3: 2008 PM Peak Hour Link Volumes to Capacity Ratio

SR 505 Segment	Eastbound		Westbound	
	Volume	V/C	Volume	V/C
SR 603 to Nevil Road	159	0.20	210	0.26
Nevil Road to Cemetery Road	133	0.11	173	0.14
Cemetery Road to Kakela Road	152	0.13	200	0.17
Kakela Road to N Military Road	149	0.12	197	0.16
N Military Road to S Military Road	190	0.16	201	0.17
S Military Road to Knowles Road	183	0.15	221	0.18
Knowles Road to I-5 SB Ramps	179	0.15	224	0.19
I-5 SB Ramps to I-5 NB Ramps	257	0.21	127	0.11
I-5 NB Ramps to Camus Road	216	0.18	120	0.10
Camus Road to Henriot Road	204	0.17	115	0.10
Henriot Road to Jackson Highway	194	0.16	107	0.09
Jackson Highway to Ash Road	225	0.28	187	0.23

Future Transportation Conditions

Traffic forecasts in the SLCSTP for the South Lewis County Subarea were based on the County's 2030 and 2035 housing and employment data and the visioning work of the South Lewis County Subarea Steering Committee during 2009 Phase One. It was necessary to evaluate the additional five years (2030-2035) to meet WSDOT interchange evaluation criteria at I-5 Exit 63, however for the purposes of this plan, the two dates are used interchangeably. Land use data was provided by participating jurisdictions. Employment data was developed by Lewis County based on the South Lewis County Regional Market Analysis, prepared by Hovee & Company, 2009. Additional assumptions for 2035 forecast included 75 acres of commercial land (converted to jobs) at Knowles Road for the Winlock UGA and anticipated development east of I-5 north and

south of SR 505. For forecasting purposes, it was also assumed that areas around the airport and lands north and west of Toledo would be developed by 2035.

The trip generation forecast for the Subarea assumes that 8,200 new housing units and 7,540 new jobs will be added by the year 2035. In 2008, the Subarea had about 4,200 housing units and 2,250 commercial and industrial jobs.

The SLCSTP made the following network assumptions in its analysis:

- Widening of I-5 to 6 lanes in the South Lewis County by 2035;
- Mickelson Parkway extension;
- Nevil connection to Mickelson Parkway;
- SR 505 – westbound (from I-5) truck climbing lane;

Future Traffic Conditions without Mitigation

The analysis forecasted that Volume to Capacity (V/C) ratios for SR 505 intersections would range from a high of 0.84 (South Military to Knowles) to a low of 0.36 (Jackson Highway to Ash and from Nevil to Cemetery). Other Subarea roadways' V/C ratios would range from a high of 0.40 (Spencer to SR 505) to a low of 0.09 (US 12 to Jackson Highway). Seven SR 505 intersections would operate at LOS F. One County intersection (Northbound I5 ramps at Avery Road) would operate at LOS F.

Mitigations

According to the SLCSTP, nine intersections (seven SR 505 and two Lewis County arterial intersections) have low levels of service which should be mitigated. Two mitigation alternatives were evaluated for each intersection - intersection signals and roundabouts. Cost estimates were calculated for each alternative.

- **SR 505 at Highway 603** – This four legged intersection is currently controlled by a three way stop with free movement westbound on SR 505. Maintaining free westbound movement in the future will cause excessive delay for the other approaches, particularly the southbound left turn movement. Turning this intersection into an all-way stop would give the other approaches a chance to get through the intersection, thus improving the average delay to acceptable standards. However, because the railroad crosses SR 505 just to the east of this intersection, having the east leg stop-controlled will be unsafe. To safely mitigate this intersection a signal will be required so that vehicles will not stop on the railroad tracks. The mitigated intersection will operate at LOS B.

- **SR 505 at North Military Road** – This intersection is currently a stop-controlled intersection with southbound traffic on North Military Road forced to stop before entering SR 505. SR 505 has no stop control on it. In the future, the southbound traffic will experience excessive delay due to waiting for breaks in the traffic flow on SR 505. To mitigate this intersection, an eastbound left turn pocket should be provided to store vehicles waiting to turn left. In addition, this intersection will require a signal to allow adequate time for eastbound vehicles to turn left on to North Military. The mitigated intersection will operate at LOS B.

- **SR 505 at South Military Road** – This intersection is currently a stop-controlled intersection with northbound traffic on South Military Road forced to stop before entering SR 505. SR 505 has no stop control on it at this intersection. In the future, the northbound traffic will experience excessive delay in having to wait for breaks in the traffic flow on SR 505. The westbound left pocket that will be phased into this intersection in 2020 will not be sufficient for this intersection to operate at a sufficient level of service. To further mitigate this problem, an additional northbound right turn pocket should be added. The mitigated intersection will operate at LOS B in 2035.

- **SR 505 at Knowles Road** – This intersection is currently a three legged intersection with northbound traffic having to stop before entering SR 505. It is assumed that this intersection will continue to be stop-controlled both northbound and southbound. As part of the truck climbing lane mitigation that is recommended, the westbound approach will have one shared left-through lane and the truck climbing lane will drop at the intersection as a right turn only. With this configuration, both northbound and southbound vehicles will experience excessive delay. To mitigate this problem, a signal should be installed to allow northbound and southbound vehicles adequate time to cross SR 505. This mitigation is proposed to be installed by the year 2020. The mitigated intersection will operate at LOS C.

- **SR 505 at Southbound I-5 Ramps** – Currently, this intersection is stop-controlled for the one-way southbound approach with free movement for vehicles on SR 505. As part of the recommended truck climbing lane mitigation, the southbound approach will have a free right turn into the additional westbound truck climbing lane. Even with this free turn lane in 2035, the southbound approach will experience excessive delay. Mitigation for this intersection includes installing a signal to allow southbound traffic adequate time to turn on to SR 505. The intersection will operate at LOS B.

- **SR 505 at Northbound I-5 Ramps** – This intersection currently allows traffic to travel on SR 505 freely and northbound traffic from I-5 is required to stop. In the future, the northbound approach will experience excessive delay and will require mitigation. A signal will allow northbound traffic adequate time to merge on to SR 505. However, with the addition of a signal, eastbound traffic will experience excessive delay unless a left turn pocket is added to keep vehicles turning left from blocking vehicles that are traveling straight. The mitigated intersection will operate at LOS A.

- **SR 505 at Camus Road –** This intersection currently allows traffic to flow freely on SR 505 and requires northbound traffic to stop when approaching SR 505. In 2035, this intersection will operate at an acceptable level of service, however, there will be enough traffic on SR 505 to cause significant delay to northbound traffic, particularly those wishing to turn left onto SR 505. To alleviate some of the cross traffic a westbound left turn pocket is proposed which will provide a two way left turn lane west of the intersection. The mitigated intersection will operate at LOS A.

- **SR 505 at Jackson Highway** – This intersection currently allows traffic on SR 505 to travel freely and requires traffic on Jackson Highway to stop when approaching SR 505. In 2020 and 2035, both the eastbound and westbound approaches will experience

excessive delay and queuing. To mitigate this problem, a traffic signal will be necessary to allow vehicles on Jackson Highway to cross traffic on SR 505. No turn pockets will be necessary to make this intersection operate at an acceptable level. Then, the intersection will operate at LOS B with no further mitigation.

- **Avery Road at Southbound I-5 Ramps** – This intersection currently allows traffic to travel on Avery Road freely and southbound traffic is required to stop. In the future, the southbound approach will experience excessive delay and will require mitigation. A signal will allow southbound traffic adequate time to merge on to Avery Road. No turning pockets will be necessary to make this intersection operate at an acceptable level. The mitigated intersection will operate at LOS B.

Proposed Improvements

A phased transportation improvement plan with projects identified for completion in 2014, 2020, and 2035 is included in the SLCSTP (see Table 5.4). The improvements range from a total cost of $12,761,000 to $13,512,000. The costs include improvements associated with SR 505 as well as with other county arterials. The two mitigation alternatives are based on the installation of traffic signals or roundabouts.

Table 5.4: Phased Transportation Improvement Plan

OPTION	2014	2020	2030	TOTAL
SR 505				
• Signals		$2,245,000	$6,083,000	$8,328,000
• Roundabouts		$2,044,000	$6,204,000	$8,248,000
Arterials				
• Signals	$3,445,900	$232,000	$755,000	$4,432,900
• Roundabouts	$3,445,900	$232,000	$1,817,000	$5,494,900

Based on screening of these two mitigation strategies through traffic forecasting, speed analyses, environmental screening, and the operations/maintenance cost**,** the transportation plan stakeholders agreed that each strategy has merit though the group did acknowledge a preference to pursue the roundabout alternative. A 25-year comparative analysis suggests that the cost for roundabouts could be significantly reduced by crediting project life cost savings from collision reduction, maintenance savings, and fuel savings ($7.5 million +/-).

Each strategy requires supporting actions by local jurisdictions. Each strategy ensures operating levels of service D or better at 2035. Currently, the identified funding vehicle for all forecast improvements is via developer mitigation. The range of transportation improvements that are planned by WSDOT and Lewis County will be refined on a project by project basis.

Recommended Long Term Option

Roundabouts are the preferred strategy for mitigating intersections under 2035 traffic conditions. Owing to site topography, current permitted access, and the number of existing legal lots of record; a divided highway segment from MP 2.88 (SB Ramps) to MP 2.22 (North Military Road) may provide minimal benefit. The addition of the truck-climbing lane on the north side of the highway from MP 2.88 to MP 2.52 (Knowles Road / Mickelsen Parkway) is

anticipated to minimize access congestion (in-bound) on the hill segment. SR 505 roundabout costs are estimated at approximately $8.2 million.

Potential Improvements (2014, 2020, 2030)

As growth continues, the following locations will need to be further analyzed. Several of these locations are on WSDOT facilities and therefore WSDOT will need to be included in discussions that determine what improvements are warranted to handle traffic associated with State Routes identified in the Subarea plan. Following are potential improvements in the South County Subarea to mitigate the increase in traffic due to growth:

- Additional capacity to SR 505 between the I-5 southbound off ramp and Cemetery Road.
- Add a fourth lane (truck climbing lane) to SR 505 between the I-5 southbound off ramp and Knowles Road.
- Improve six SR 505 intersections to include intersection improvements at N Military Road, S Military Road, Knowles Road, I-5 SB Ramps, I-5 NB Ramps, and Jackson Highway.
- Intersection improvement at the I-5 SB Ramp and US 12 intersection.

Recommended Implementation Strategies

Currently, Lewis County does not have a systematic funding mechanism for transportation improvement associated with new development. Instead, the County relies on the SEPA process to identify appropriate transportation mitigation measures for new development. This is not a sustainable solution because it will continue to allow development until the roadway capacity is filled, and then the only way to develop will be to construct voluntarily off-site roadway improvement with no cost recovery. In order to implement the recommended improvements, the following funding strategies have been identified.

- **Transportation Benefit Districts** (TBDs) are quasi-municipal corporations with independent taxing authority, including the authority to impose property taxes and impact fees for transportation purposes. TBDs can be funded through ad velorem taxes, bonds, fees, charges, and tolls. TBDs have the flexibility to “sell” capacity to future development.

- **Road Improvement Districts** (RIDs) are similar to Local Improvement Districts where road improvements are paid for by an assessment on parcels that benefit from the improvement. RIDs will likely result in large unit costs to developers.

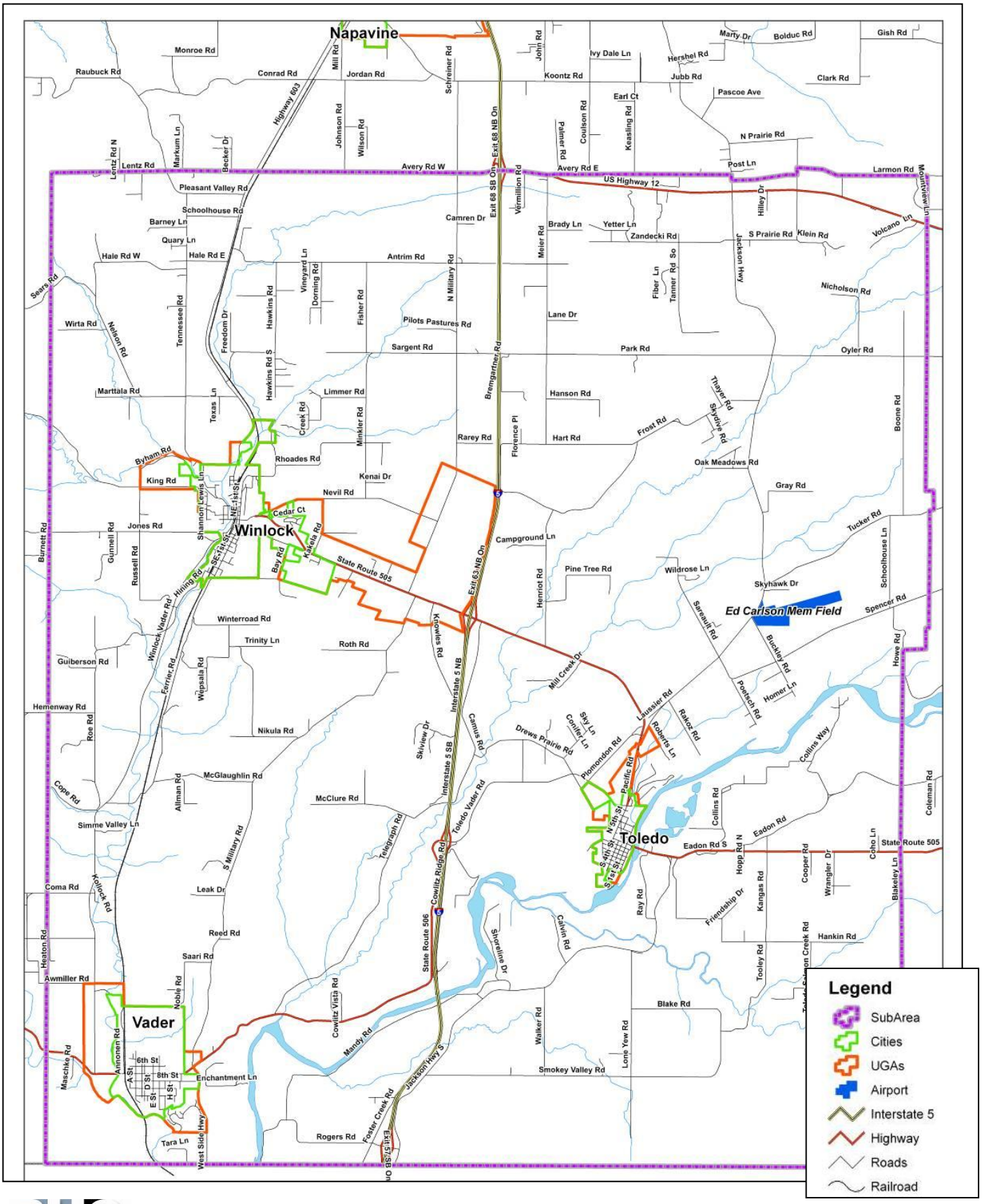
- **Impact Fees** are fee charged by local governments against new development projects to cover the cost of providing roadway improvements and new roads. For Lewis County, the collected impact fees will provide little benefit given the costs to create, maintain, and implement the program.

In the Transportation Impact Mitigation Strategies in WA, Perteet and Cook Engineering and Development Services identified the follow suggested course of action.

- Comprehensively identify system capacity countywide and at intersections of regional significance.
- Generate transportation system improvement plans that can be relied upon for decision making when large development stresses existing system capacity.

- Plan financial reserves into the County's TIP allowing fair share contributions to capacity projects of significant economic development interest.
- Expand capacity for seeking grant funding or supplemental funding for capacity project of regional significance.
- Define the extent to which TBDs can be used to generate existing system capacity charges for new development.
- In the absence of being able to use TBDs, begin formulating a proposal for legislative support in the development and use of transportation system access charges for local government.
- Implement transportation system access charges in the next several years while significant system capacity still exists.

Figure 5.1: Transportation Map



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6 Capital Facilities Element

With continued population growth in the Subarea and the plan for economic development, it is important to have a public facilities scheme in place to serve new households and businesses. This section will identify the existing capital facilities in place and will identify the need for new public facilities necessary to serve the projected growth in the South Lewis County Subarea.

Public Utilities Profile

The Growth Management Act (GMA) requires that infrastructure, including public utilities, be available when the impacts of urban development occur or within a specified time thereafter. Public utility services include potable water, sanitary sewer, surface/stormwater management, and solid waste. Power, natural gas, and telecommunications services are provided by private companies and regulated by state and local governments. Most of these utilities require significant public investment, and coordination between utilities and land use is important.

Concurrent with the preparation of the South Lewis County Subarea Plan, the County and the Cities of Toledo, Winlock, and Vader have engaged in a process to determine whether a regional organization should be established to manage the provision of water and sanitary sewer services in the South County urban areas. In this process, current and projected water and sewer service demands have been analyzed, and multiple alternatives for the provision of water and sewer services have been considered, including the feasibility of forming a regional utility. The elected officials of the jurisdictions have met regularly to discuss their respective objectives and identify further planning and analysis that will be necessary prior to creation of a regional governance structure. There is consensus amongst the governing bodies that a full service regional water and sewer entity, designed under the state Interlocal Cooperation Act, would best serve current and projected water and sewer service demands in the South County Subarea. However, this very complex undertaking which involves: determining the value of current utility assets and liabilities owned by the cities; defining the capital investment requirements for future utility system improvements (including systems to serve the new economic development UGAs proposed in the Subarea Plan); and establishing financial systems and rate structures necessary to cover long-term capital and operating costs for utilities. This process will take time.

The following summarizes the current status of water and sewer services provided by the cities. If the regional alternative is implemented, the regional service provider would prepare and approve facility plans to extend water and sewer services to the new economic development UGAs proposed by the Subarea Plan. The regional facility plans would blend the cities' existing facilities plans and accommodate specific master plan requirements for approval of development applications in the economic development UGAs. If the regional alternative is not implemented, or is delayed, then development within new UGAs will either require on-site self-contained systems or city-provided services through individual agreements.

Water

The Subarea contains three major water systems. The water systems for the Cities of Toledo and Vader serve the entire city limits and adjacent unincorporated UGAs. The water system for the City of Winlock serves the city limits and a portion of the unincorporated UGA, and is planned to serve the large UGA that has been extended to I-5.In addition to the Cities' water systems, there

are a number of systems that serve residential and commercial developments in rural areas in the South County Subarea. The County and Cities are participants in the Grays-Elochoman and Cowlitz Watershed Management Plan for the Water Resource Inventory Area 26 (WRIA 26) for the Cowlitz Basin. This plan recognizes the lower Cowlitz River as a significant source of water that could serve future demand for the Subarea. Under the Watershed Management Act, the Department of Ecology has developed draft rules incorporating recommendations from the Watershed Management Plan. These include a reservation of water for future allocation in the lower Cowlitz Basin. The County prepared an analysis of future water supply demands for the Subarea, in conjunction with the Watershed Management Plan and Department of Ecology's rule-making process, for the purpose of developing a regional water supply and allocation scheme to meet the combined needs for planning area while preserving the Cowlitz Basin's in-stream flow requirements.

Toledo

According to the City's 2010 Draft Water System Plan (WSP) update, the system has nearly seven miles of water mains, two wells, and a 250,000-gallon reservoir. In 2010, the City was serving 368 connections and was approved for 420 connections by the Washington Department of Health in February 2010. The City owns 144-acre feet of water rights per year, equating to 128,000 gallons per day (GPD) and has WRIA reservations for another 304,000 GPD. Average consumption is approximately 74,000 GPD. The City anticipates an average daily demand of 157,000 GPD in 2030, leaving a surplus of approximately 275,000 GPD. The City has plans for $3.5 million worth of improvements, including a third well, a new reservoir, and various repairs, upgrades, and replacements.

Vader

The City of Vader provides water to the area residents. Recently, the City took over servicing the Enchanted Valley water system. According to the Comprehensive Plan and the 2010 amended Water System Plan, there are 344 connections, including 99 in Enchanted Valley, in the City's water system. The City's water source is the Cowlitz River, providing a maximum flow of 224 gallons per minute. The system contains 5.5 miles of pipes and has an average daily demand of 95,000 GPD or 106 acre feet per year. According to the State Department of Health, Vader loses 40% of its treated water, well above the State's 10% standard. As a result, the water system is operating at near-maximum capacity. The City will have to either analyze the system to repair leaks and replace water meters or build another water storage tank. The cost of these options ranges from $10,000 to $250,000. The capital improvement program for Vader plans $1.9 million of projects through 2025. Recent problems with Vader's water distribution system will be addressed in 2010-2011 with state funding. The County, City, and State Department of Health (DOH) are working on a legal action to put the system into receivership and to name the County as receiver to assume control and become the responsible entity for repairs, maintenance, and operations. The County has been awarded approximately $950,000 in grants and $350,000 in loan from the Community Development Block Grant (CDBG) and Drinking Water State Revolving Fund (DWSRF) to replace distribution lines and water meters. With Vader's water rights of 162,000 GPD and if systems repairs can cut distribution loses to 20%, the City could potentially have water supplies of 178,000 GPD, 62,000 GPD over the projected 2030 demand of 116,000 GPD.

Winlock

According to Winlock's 2008 WSP, the system has four wells, three reservoirs totaling 1.1 million gallons, and 482 acre feet per year of water rights. The City expects high residential and commercial growth, which would increase the average daily demand from 375,000 GPD to 967,000 GPD in 2030. Approximately $14.1 million worth of capital improvement projects have been planned through 2013. Water availability, based on current water rights, WRIA reservations, potential conservation and reclamation and reuse, comes to about 727,000 GPD, 240,000 GPD short of projected demand.

County

Future water needs projections are recognized as estimates based on expected changes in population, land use, and economic development. The Grays-Elochoman Watershed Management Plan and proposed WRIA reservation sets aside 6.6 CFS, or approximately 4,266,000 GPD, to support future growth and economic development in the lower Cowlitz Basin. Determining the amount of water needed for future use in unit terms for various economic purposes must be expressed as low and high range potentials. For the proposed new economic development UGAs in the South County Subarea, if the County allocates half of its reservation, 2,133,000 GPD, to the Subarea, availability could fall short by 742,000 GPD if all the proposed UGAs had developments with high water demand at full build out. In a scenario having developments with lower water demand, the proposed UGAs could have adequate supply. These ranges will also be affected by integrating conservation goals and water reclamation or reuse strategies.

Wastewater

There are three sewer systems in the Subarea located in each of the three Cities. The Toledo sewage treatment plant is located in the south of the City next to the Cowlitz River. The Vader sewage treatment plant is adjacent to the Olequa Creek in the south of the City. The Winlock sewage treatment plant is located in the south of the City next to the Olequa Creek.

Toledo

The 2005 update of the Toledo Comprehensive Plan describes the conditions of the Toledo sewer system. The sewer system contains approximately 23,000 linear feet of pipe and a three-pond sewage treatment plant that discharges treated effluent into the Cowlitz River. The treatment plant has a capacity to handle up to 400,000 GPD and serve a population of up to 900 people. At this time, the National Pollutant Discharge Elimination System (NPDES) permit only allows 135,000 GPD, perhaps due to groundwater infiltration into the collection system. With a new NPDES permit allowing full use of the sewage treatment plant, the system can accommodate the 2030 population forecast of 880. The City has made progress in addressing the infiltration problem bringing it in line with Ecology's standards, but other problems have been found due to the reduced flow and will have to be addressed in order for the system to expand. The City's 2008 General Sewer and Wastewater Facility Plan identifies wastewater system improvements and a plan to finance them. This includes constructing a new $12 million oxidation treatment facility as well as the regional utility option.

Vader

According to the 2005 Capital Facilities Element of the Vader Comprehensive Plan, the City's sewer system has approximately 19,800 linear feet of sewer mains and one lift station. In 2000/2001, 222 sewer connections served a population of 605. The 2005 Comprehensive Plan

identified problems such as raw sewage overflows, inability to measure flows, damaged lagoon liner, lagoon erosion, and blocked and damaged pipes. In February 2008, the State informed the City that their wastewater treatment facility is not functioning effectively and needed to be replaced. In order to accommodate growth, the City completed an update to its sewer plan in 2009 which included alternatives to construct a new $8-10 million treatment facility or construct lines and pumps to send effluent (intertie) to the Winlock treatment plant for $8-10 million dollars. The preferred alternative in the Plan is for the City to construct its own treatment plant. However, the City is considering the Winlock option as a part of the regional utility option.

Winlock

The Winlock 2005 Capital Facilities Plan states the current conditions and the future needs for wastewater systems in the City. There are five sewer basins in Winlock with 50,830 linear feet of gravity flow pipe. To accommodate new growth in the adjacent unincorporated UGA, the collection system needs to be expanded eastward to I-5. The original wastewater treatment plant (WWTP) was built in the 1950s and was upgraded in the late 1970s. The WWTP had flow capacity of 1.2 million GPD for primary and secondary treatment and 3.0 million GPD for only primary treatment. In 2007, Winlock received $6.9 million from the Washington DOE Water Pollution Control Revolving Fund to construct a new wastewater treatment plant.

The new WWTP increases capacity and meets future growth and water quality standards. The new WWTP can handle 2 million gallons a day (MGD) peak flow with the ability to increase capacity to 4 MGD in the future. The new WWTP will meet the needs of existing customers and areas of the unincorporated UGA east of the city through 2028. Expansion will be scheduled based on actual development. Winlock's new WWTP is capable of more than doubling its capacity, which might make it possible to provide service to new economic development UGAs.

Surface Water

Information on surface/stormwater conveyance systems in the South County Subarea is not readily available. The City of Vader is the only community that published data on its stormwater system in the Comprehensive Plan. According to the 2005 Vader Comprehensive Plan, there are 6,250 linear feet of stormwater lines, and the system is adequate according to the existing level of service standards.

The Cities and Lewis County regulate stormwater management at the development project level through respective permitting procedures using the guidance provided in the Department of Ecology's Stormwater Management Manual.

Solid Waste

The 2008 Solid and Hazardous Waste Management Plan (SHWMP) addresses solid waste and moderate risk waste management throughout Lewis County as a joint county and cities plan. The SHWMP documents current waste management programs, evaluates future waste management needs, and outlines a 20-year program for managing solid waste in Lewis County.

Solid waste collection in unincorporated Lewis County is provided exclusively by private companies. The Cities of Toledo and Winlock have opted into the County's certified haulers, and Vader contracts solid waste collections with a private refuse company. The hauler delivers the waste to the two transfer stations located in Centralia and Morton. There are two drop boxes in the Subarea. The Winlock Drop Box is located on Winlock-Vader Road halfway between Winlock and Vader. The Toledo Drop Box is located on Toledo-Vader Road, 1.5 mile northwest of the

City. Lewis County does not operate a landfill and has no plans to do so. Waste is sent from the two transfer stations to the Roosevelt Landfill located in eastern Washington near the town of Roosevelt in Klickitat County.

Power

Lewis County Public Utility District (PUD) serves all portions of the South County Subarea, including the three cities. Lewis County PUD currently serves over 30,000 customers with approximately 25,000 residential, 4,300 commercial, 625 public, and 80 industrial customers countywide. The most recent winter peak load for the PUD was 212 megawatts and the total energy load for 2007 was 980,870 megawatt-hours. The PUD currently obtains all of its power supply from the Bonneville Power Administration (BPA) through 2012. In addition, the PUD is required to meet a portion of its power supply in 2012 from qualifying renewable resources. As a result, the PUD is evaluating capital improvement alternatives to meet future power supply requirements. The PUD's capital improvement program generally amounts to approximately $5 million of investment annually.

Natural Gas

Puget Sound Energy (PSE) provides natural gas service to more than 737,000 customers from Snohomish to Lewis Counties. PSE currently has more than 4,600 residential, commercial, and industrial customers in Lewis County. Utilizing the current distribution system, PSE has the capacity to supply approximately 8,500 customers in the County. PSE serves some of the urban areas in the Subarea including Toledo and Winlock (but not Vader). The existing system can be expanded to meet any future needs beyond the existing capacity to supply.

Telecommunications

Several local and national telecommunication companies provide service to Lewis County residents. These providers are regulated by federal, state, and local jurisdictions. The County coordinates provisions of these services through the development permitting process.

Toledo

Toledo Telephone provides telephone, high-speed internet (DSL) and DIRECTV services to the Toledo area. Toledo Telephone provides wireline service to over 2000 customers. Toledo currently has gigabit ethernet connections directly to Seattle, Washington and Portland, Oregon over their own fiber facilities. Toledo Telephone currently provides DS-1 facilities to AT&T Wireless, Verizon Wireless, T-Mobile, Sprint PCS, and Nextel.

Vader

CenturyLink (formerly CenturyTel) provides telephone service and DSL to the Vader area. CenturyLink provides DS-1 facilities to Verizon Wireless and Sprint PCS.

Winlock

According to the 2005 Winlock Comprehensive Plan update, Qwest Communications (formerly U.S. West, and recently purchased by CenturyLink) and CenturyLink provide telephone service and DSL to the Winlock area, Comcast (formerly TCI Cable) provides cable service within the city of Winlock. Since 2006, Toledo Telenet (an Affiliate of Toledo Telephone) offers broadband internet access within the City of Winlock via fiber optic cable. Qwest provides DS-1 facilities to Nextel.

Public Utilities Demand Forecast

As the South County Subarea's population and employment grows, there will be a need for more utility service in the Subarea. Most of this growth is expected to occur in urban areas and will require urban services. Growth within the economic development UGAs may be served through several combinations of public and private improvements depending on the timing, scale, and intensity of planned projects. Consequently, coordination between the providers and users will be critical to maintain concurrency between development proposals and utilities.

Extrapolating from the South Lewis County Regional Market Analysis (Hovee), estimated 80 to 85 net acres could be developed for retail, commercial and tourism uses between 2010 and 2015. This could result in approximately 500,000 square feet of building area. Using estimates from the South Lewis County Water Analysis and Demand Forecast, this amount of development of these use-types would generate a demand for water of approximately 400,000 to 450,000 gallons per day. Assuming, conservatively, that 90% of the water used would be disposed of in the wastewater system, the demand for wastewater capacity would be in the range of 360,000 to 405,000 gallons per day.

Using the same sources to analyze the potential growth in manufacturing/distribution uses between 2010 and 2015, an estimated 75 to 100 net acres of new development would result in a demand of 200,000 to 250,000 gallons per day for water and 160,000 to 200,000 gallons per day of wastewater.

Although the 2010 to 2015 time window is used in these estimates, the actual time period that this development would occur should be considered the approximate six-year period after the Subarea Plan and implementing measures are adopted.

There is a broad range of capacity demand for both water and sewer for the different types of uses that could be developed in the economic development UGAs. Therefore, the above estimates are conservative, and actual demand may be less than stated.

Public Services Profile

While public utilities are mostly "in the ground infrastructure," public services are general services provided by public employees. The public services provided in the South County Subarea include schools, libraries, parks and recreation, public safety, and emergency services.

Schools

There are six school districts that serve students the South County Subarea. Three school districts have schools in the Subarea (Toledo #237, Winlock #232, and Evaline #36). The three school districts whose facilities are outside of the Subarea include Castle Rock #401C, Napavine #14, and Chehalis #302. (See Figure 6.1)

Toledo School District #237

The Toledo School District has one elementary school, one middle school, and one high school. In 2009, the District served 952 students in grades K-12. The 2009 – 2015 Capital Facilities Plan forecasts that the district will serve 991 students by 2015 and approximately 1,200 students by 2025.

The middle school and the elementary school were remodeled in 1996. The high school was built in the 1970s, and two classrooms were added in 2008. Other district facilities include the district office, a bus barn, and three athletic facilities.

The Toledo School District has served many non-resident students. Approximately 16% of enrolled students reside in surrounding districts. There is a district policy in place with an enrollment cap on the number of these students.

The most significant issues facing the District in terms of facilities are:

- Modernizing the present high school and addressing the needs to support the Advance Placement program, math and science curriculum, and adding restrooms at the football facility.
- Modernizing the middle school, adding capacity for growth and improving the woodshop.
- Adding classrooms to the elementary school and high school for growth; and adding space for special education, pre-school, and an outside covered play area.
- Adding safety and security improvements, including lighting and fire alarm systems.
- Expansion and improvement of the office space in the district office

Winlock School District #232

The Winlock School District has served approximately 732 elementary, middle, and high school students in two facilities. The middle school and high school are co-located. Portable classrooms are also in use at each location. The district owns and operates two support buildings; the administrative offices and the transportation building.

The District's current capacity, its educational programs, standard of service and enrollment forecast is used to determine its facility needs. According to the District's 2009 – 2015 Capital Facilities Plan, the current enrollment is 732 students (October 2008 headcount); current capacity is 781 students; and the projected enrollment for 2015 is 953 students. The District has adequate capacity for existing enrollment, but will require additional capacity for 172 students by 2015.

To attain the needed increased capacity for 172 students, the District intends to acquire property and construct an intermediate school for 240 students in 4th through 6th grades. Additionally, the District plans to improve and reconfigure the existing middle school for additional high school capacity and to evaluate its programs and grade configurations. Lastly, the District will look at making improvements to the high school athletic facilities.

In addition to forecasting enrollment for the year 2015, the District has used county population and housing data to make a long range forecast to the year 2025. Using a medium growth scenario, the estimated student population will be approximately 1,300 by 2025, or an increase of 600 students.

Evaline School District #36

The Evaline School District consists of only one elementary school located three miles north of Winlock. This year, Evaline Elementary has served an average of 38 fulltime equivalent students. The Evaline School District does not have a Capital Facilities Plan.

Castle Rock School District #401C

The Vader Elementary School closed in 2007. Now the Vader area is served by the Castle Rock School District in Cowlitz County. Castle Rock is located 10 miles south of Vader. The Castle Rock School District serves more than 1,300 students in three schools: an elementary school, a middle school, and a high school.

Napavine School District #14

The northern portion of the Subarea is located in the Napavine School District. The School District has an elementary school, middle school, and high school that serve about 760 K-12 students. All of the schools are located in the City of Napavine approximately one mile north of the northern edge of the Subarea.

Chehalis School District #302

Approximately 80 acres in the northeast corner of the Subarea is located in the Chehalis School District. The district currently serves approximately 2,700 students at three elementary schools, one middle school, and one high school. The District has a capacity of 3,889 students, and the only capital project being considered is the possible replacement of the 80 year old R.E. Bennett elementary school.

Library

There is one library in the Subarea, which is located in downtown Winlock. The Winlock Library is part of the Timberland Regional Library (TRL) system. The TRL has 27 libraries that serve a five-county area (Grays Harbor, Lewis, Mason, Pacific, and Thurston Counties) with a population of approximately 500,000. The TRL has a 1.7 million item collection with an annual circulation of 4.8 million, an $18 million budget, and 314,000 cardholders. There are five branches in Lewis County including the Winlock branch.

The Winlock branch joined the TRL in 1969, and it is located in 2,800 square feet of the Winlock City Hall. The library houses approximately 25,000 items and circulated nearly 111,000 items in 2008. The Winlock branch is the home library of almost 6,000 cardholders, and the branch, with its four employees, served over 61,000 patrons in 2008. The library is free for rural Lewis County and Winlock residents because the County and City have contracted with the TRL system. Vader, Toledo, Napavine, and Cowlitz County residents must purchase a card for $78 a year per household. The library would like to expand, but there are no funds available to do so. The Friends of Winlock Library have pledged money to help fund an expansion feasibility study.

Vader has opened a community library across from the Post Office. The library has donated books, and its $500 a month budget will come from the City, fundraisers, and individual donations. The library is staffed by volunteers in donated space.

Parks and Recreation

There are eight parks in the Subarea, including State, County, and local parks. There are three State Parks in the Subarea. All of the parks are located on Jackson Highway near US 12 in the

rural portion of the Subarea. The State Parks include Lewis and Clark State Park (a large, approximately 600-acre park with an old growth forest), Jackson State Park (a small 5-acre park), and Jackson Court House State Park (a historic 1845 log cabin on a one-acre site). The one County Park in the Subarea is South Lewis County Regional Park. Also in the rural area, South County Park is approximately 25 acres and is located just across the Cowlitz River from Toledo. The remaining parks in the South County Subarea are located in the three cities. (See Figure 6.2)

Toledo

There is only one park inside the city limits of Toledo. Toledo City Park includes approximately nine acres with a picnic shelter, restrooms, playground and camping for recreational vehicles. The park is maintained by the City, though the City and the Toledo Lions Club usually split improvement costs, and often improvements are done by volunteers. The City opened a public boat launch into the Cowlitz River in early 2010. Other recreational areas in Toledo are located at the Toledo School Districts, the Toledo Little League Field, and the Girls Softball Association Field.

Vader

There are three parks in the City of Vader. McMurphy Park is an approximately 12-acre park located at 607 Annonen Street. Park Street Park is about 3 acres in size. Werden Park contains less than one acre and is located at 510 A Street. Vader's Comprehensive Plan notes the importance of parks, but cites a lack of funding to improve adequately the existing City parks.

Winlock

Winolequa City Park is the only park in the City of Winlock. Winolequa City Park is 36 acres in size and is located on North Rhodes Road. According to Winlock's Level of Service (LOS) standards, Winloqua meets the City's needs for a community park (4 acres per 1,000 people). The City does not have any neighborhood parks or developed trails. To meet the recreation demand for the projected 2025 population, Winlock needs 10.5 acres of neighborhood parks (LOS standard of 2 acres per 1,000 people) and 2.6 miles of trails (LOS 0.5 miles per 1,000 people). The City estimated that it would cost approximately $1.8 million to meet the City's LOS standard of 6.5 total acres of parks per 1,000 residents.

Public Safety

The Lewis County Sherriff's Office provides law enforcement for unincorporated Lewis County including the portions of the South County Subarea outside of the cities. The Lewis County Sheriff is organized into two groups, the Sheriff's Office and the Corrections Office (jail). The Sheriff's Office has 43 Deputy Officers, an administrative staff of 29, and an annual budget of $7 million. The Corrections Office has 52 officers and an annual budget of $6.5 million. The main Sherriff's office is in Chehalis, and there is a satellite office on Kirkland Road, south of Chehalis, and a substation in Packwood. The Sheriff's Office receives approximately 16,000 to 17,000 service calls per year. The Sheriff's Office does not have any expansion plans.

The Washington State Patrol has concurrent jurisdiction with the County and municipalities on all state routes in the Subarea, including I-5, US 12, SR 505, and SR 506. The Cities of Toledo, Vader, and Winlock operate their own Police Departments.

Toledo

The City of Toledo Police Department is located at 130 N 2nd Street. The Police Department is staffed by a police chief, one paid officer, and two active reserve officers, and has a fleet of

three patrol vehicles. The City contracts with Lewis County to provide jail, court, emergency management, and communication services.

Vader

The Vader Police Department is located in City Hall at 317 8th Street. The Police Department is comprised of one police chief and three reserve officers. The Vader Police Department responds to between 550 and 600 calls per year. The Vader Comprehensive Plan identifies that the police headquarters needs improvement and to expand to accommodate an additional officer.

Winlock

The Winlock Police Department, located at 323 NE First Street, has two fulltime police officers and three vehicles. The Winlock Police Department and Lewis County Sheriff's Department have mutual aid agreements for law enforcement support in the city limits and surrounding areas and for use of the Lewis County Jail. According to the City's LOS standard of one officer per 1,000 people, the City will need 4.6 officers by 2025. The cost of new officers, vehicles, and office space will result in a 20-year cost of over $1.0 million.

Emergency Services

Five fire districts serve the South County Subarea, Fire Districts 2, 5, 7, 8, and 15. Fire District 2 serves the Toledo area, Fire District 7 serves the Vader area, and Fire District 15 serves Winlock and the surrounding area. Fire District 5 serves Napavine and the northern portion of the Subarea. Fire District 8 serves the northeast corner of the Subarea. There are seven fire stations in the South County Subarea: three stations in Fire District 15, two stations in Fire District 2, and one station each in Fire Districts 5 and 7. There is an interlocal agreement among Fire Districts 2, 7, and 15 where the South County EMS provides emergency medical services for these three districts. There is also a contract between the cities and Lewis County for the provision of 911 services/dispatch and emergency management. (See Figure 6.3)

Fire District #2

Fire District 2 provides fire protection and emergency medical services to 98 square mile of Lewis County with three stations. The District serves the eastern portion of the Subarea with two stations, one in Toledo and another on Tucker Road 5 miles northeast of Toledo. According to the City of Toledo Comprehensive Plan, Fire District 2 has 22 volunteer fire fighters, nine emergency medical technicians, and eight paramedics. The District has three fire engines, three tenders, two ambulances, two command units, and rescue/bush engine. In 1995, the Toledo Fire Station was renovated adding a new bay, office, and training room.

Fire District #5

Serving 41 square miles in the Napavine area, including the northern portion of the Subarea, Fire District 5 has four fire stations. There is one fire station just north of the boundary of the Subarea, located on Jackson Highway north of US 12. Fire District 5 has 35 volunteer fire fighters, seven fire engines (five large and two small), and four pumper trucks.

Fire District #7

Fire District 7 serves the 16 square miles in and around Vader in the southwest portion of the Subarea. The one fire station in the district is located in the Vader City Hall complex.

Fire District #8

Serving the Salkum area, Fire District 8 provides fire protection for 108 acres with four fire stations, none of which are in the Subarea. Less than one square mile of the fire district is located in the Subarea. Fire District 8 has 30 volunteer firefighters and another 13 staff and volunteers.

Fire District #15

Fire District 15 serves 55 square miles with a population of 3,500 citizens in the Winlock area in the western portion of the Subarea. The District has three fire stations, one in Winlock, in the east Winlock UGA and one 2 miles northwest of Winlock. According to the Winlock Capital Facilities Plan, Fire District 15 has a staff of 35 (including 20 volunteer firefighters) with a fleet of three pumpers, two pumper tenders, two ambulances, one brush truck, one rescue vehicle, and one support pick-up. The District responds to approximately 150 emergency service calls each year. The Plan indentifies the needs of the Fire District by 2025, which includes 10 new vehicles, a new fire station, and new staffing at a cost of $3.2 million.

Public Services Demand Forecast

As the population and employment in South County Subarea grow, more public services will be required. This will require investments in things like more teachers, police officers, ambulance drivers, and equipment. Depending on the location and amount of growth, new or expanded facilities (such as a police station or a school building) may be required.

Capital Facilities Implementation

Since the main focus of this plan is to establish the policy and regulatory basis for new economic development UGAs in South County, the demand for urban services will be driven by the nature and extent of the land uses to be accommodated in those UGAs. This demand will not be generated by residential development, but rather by commercial, industrial, and other business uses. Consequently, the provision of water, sewer, and roads will be a shared responsibility of the developers and the County. This will be determined in the binding site plan review and approval process where the mix of uses and their associated infrastructure requirements will be defined. This process will lead to development agreements establishing how, when, and by whom, improvements will be designed, constructed, and funded.

Implementation of municipal capital facilities will be in accordance with the individual Cities' policies and regulations. As the Cities' comprehensive plans are updated, their respective approaches to facility improvement timing and concurrency will be revisited. Interlocal agreements which establish the roles and responsibilities of the County and the Cities for development and infrastructure investment in the municipal UGAs will further provide direction for capital facilities implementation, depending largely upon how the regional utility program comes about.

Implementation Phasing

There are several perspectives on the phasing of infrastructure development within the Subarea. These include: City Implementation; County Implementation; Regional Implementation and Private Implementation. These are not mutually exclusive. Since the planning horizon is 20 years, the identification of projects and financing becomes more speculative as the future view looks outward. For example, the Six-Year Capital Facilities Plan

"will finance such capital facilities within projected funding and clearly identifies sources of public money for such purposes . . ."(WAC 365-196-415(1)(d)). In addition, "Counties and cities should forecast needs for capital facilities during the planning period . . ."(WAC 365-196-415(2)(b)(i)).

In this evolving perspective, the phasing of capital facilities to serve growth in South Lewis County must first address current needs; then short-term needs anticipated due to imminent development proposals; and then, longer-term needs that are expected to be driven by market forecasts. For the economic development UGAs, this phasing is complicated because the magnitude of the facility need and the related cost of the infrastructure depend on the type of development that is proposed. Since this future development will not include residential growth, the primary capital facility needs will be for water and sanitary sewer service. There will be internal roadway circulation, but that will be the responsibility of the users, or as part of public/private agreements. Later, improvements to the arterial system will be needed, and that will be addressed as outlined in the Transportation Element. Public services needs generated by the economic development are not anticipated in the near-term. Within this context, the anticipated phasing will involve:

City Implementation

Each of the cities has an adopted capital facilities element that describes its approach to providing (and financing) improvements. While these plans are keyed to the allocated 20-year growth within the current UGAs, they also indicate some existing or planned capacity to serve growth outside of the current areas for some time. For example, the Winlock wastewater treatment plant has excess capacity. Provided that interlocal agreements can address use of this capacity in the short term with concomitant financing and revenue sharing, the County can entertain development permit proposals for an initial level of economic development.

County Implementation

The County's adopted capital facilities element does not include plans for providing urban levels of service particular to utilities in the proposed economic development UGAs. This is expected to come either through the regional approach described below or with coordinated service agreements between the County and Cities.

Regional Implementation

A long-term solution to providing utilities to all of the urban areas in South Lewis County will emerge as the structure of the proposed regional utility organization is established and the drafting of a short term and long term capital facilities plan is prepared. This will produce a budget and finance plan including debt, user charges and fees, and grants and loans.

Private Implementation

Technology has advanced to a point where wastewater treatment can occur on-site through the use of facilities such as Membrane Bio Reactor systems. These systems can create reclaimed water that can be reused for irrigation, toilets and other purposes associated with the land uses on the site. The ownership and operation of such a facility could be done in a variety of ways. If it is designed and installed by a single user, the ownership and operation could be private. If it is installed by a private party (i.e. the initial developer) and designed to serve a cluster of adjacent

users in the future, the owner and operator could be the regional utility entity, or operation could be done by contract with another public agency.

Recommended Strategies

The most important strategy for progress in achieving the Subarea Plan vision is the institution of the regional utility system. This will initiate coordinated planning, construction, and operation of water and sewer services throughout the Subarea serving growth in all urban areas.

The County and Cities should also initiate the process for securing additional water rights in accordance with the Department of Ecology's rule "Water Resources Management Program for the Cowlitz Basin, WRIA 26" (WAC 173-526). This requires preparation of an allocation scheme through a public process that considers existing water demand, available supply and local land use planning. This Subarea Plan should provide substantial information in support of the allocation scheme preparation.

The 2009 Comprehensive Economic Development Strategy (CEDS) prepared by the Cowlitz-Lewis Economic Development District includes a number of South Lewis County projects shown in the following table. Adoption of the Subarea Plan, and updates of the County and Cities' comprehensive plans, will affect most of these projects and add others. Implementation of the Subarea Plan will involve more specific project-level planning, cost analysis, and financial strategies. Since the CEDS is a gateway to federal economic development funding, it will be important for this list to be updated and refined in 2011. For the purposes of a Subarea six-year implementation plan, the Toledo and Winlock projects should be funded, subject to more refined scopes and cost estimates.

Table 6.1: Six-Year Capital Improvement Projects 2009-2015

Project	Completion Timeline	Cost	2010 Status
Toledo Wastewater Treatment Plant Upgrade	2009-2011	$8,906,000	Pending
Toledo Water Tower & Water Rights	2008-2013	916,000	Pending
Toledo Area Water & Sewer Extension	2008-2010	2,640,000	Pending
Lewis County Regional Wastewater Treatment Plant	2011	10,000,000	Pending
South Lewis County Subarea Plan	2010	750,000	In Process
Ed Carlson Memorial Field Airport Master Plan Expansion	2010	100,000	In Process
Ed Carlson Memorial Field Airport Commercial/Industrial Expansion	2010	350,000	In Process
South Lewis County Transportation Plan	2009	650,000	Completed
Winlock Water/Sewer Infrastructure to Industrial Park	2011	6,000,000	Pending

Financing Strategies

Capital improvement project financing will depend on a mix of federal, state, local government, and private investment. This will include grants and loans as well as debt through levies and bond issues.

Figure 6.1: South County Subarea School Districts

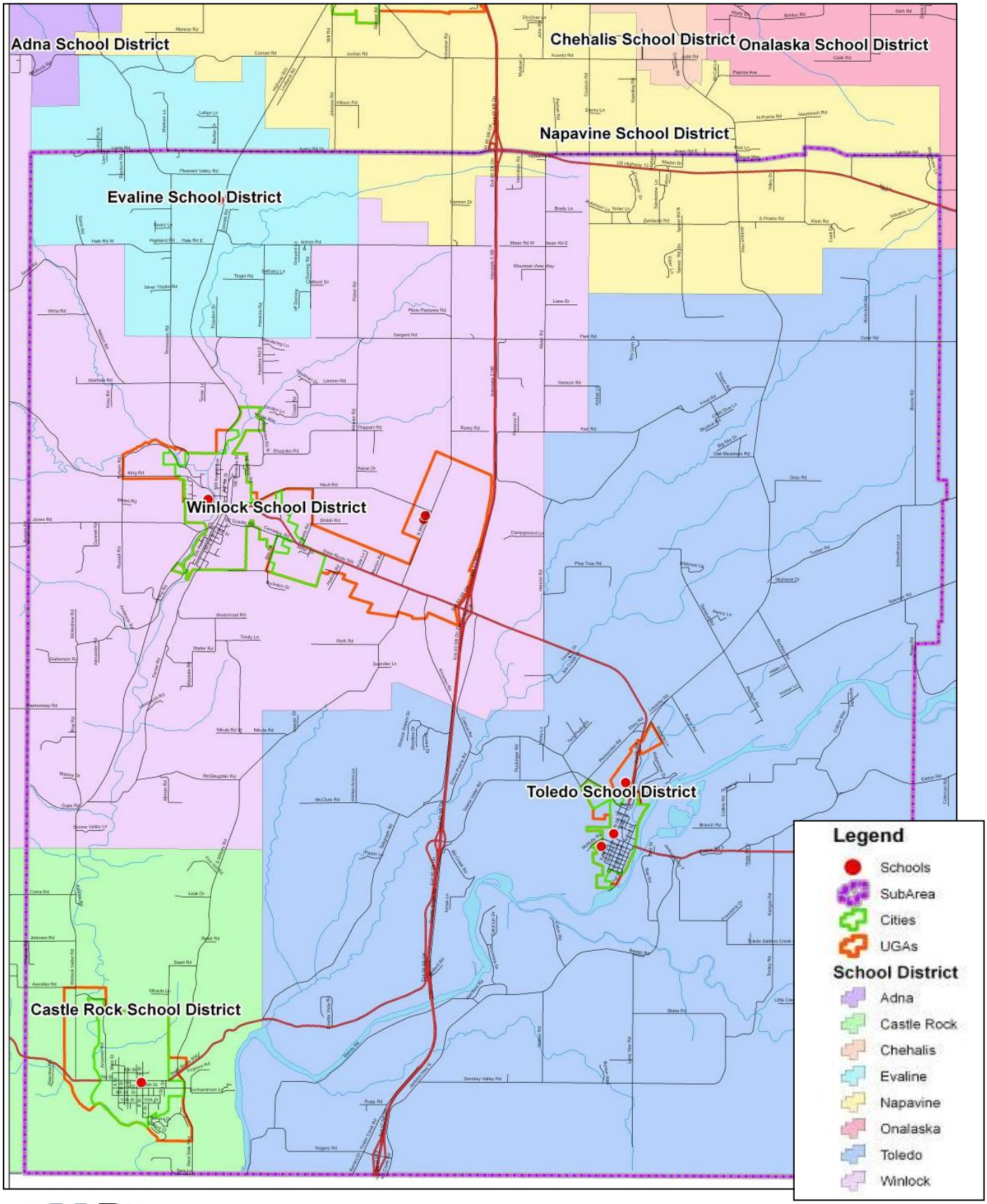


Figure 6.2: South County Subarea Parks and Recreation

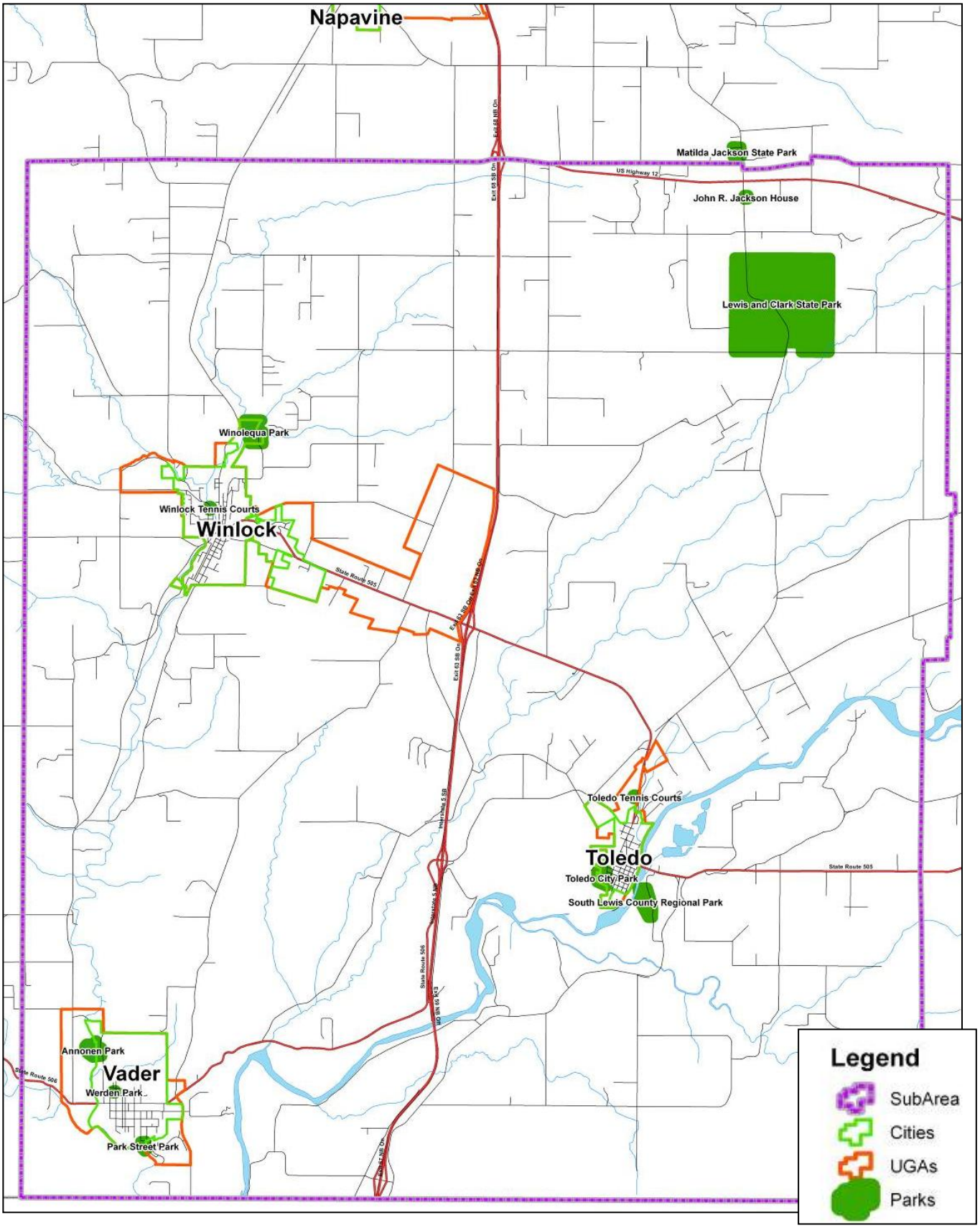
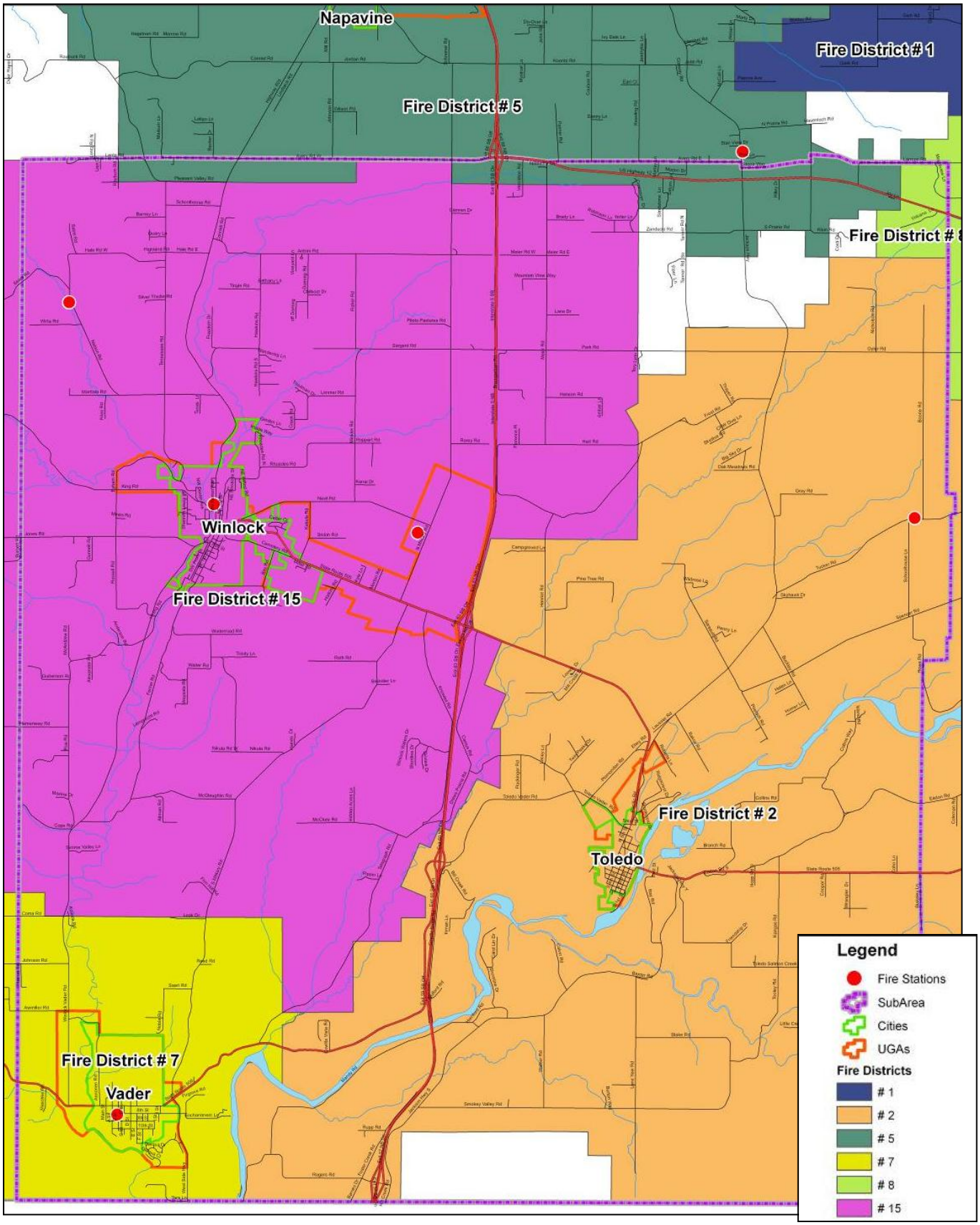


Figure 6.3: South County Subarea Fire Districts



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Appendix A: Resource Documents

Lewis County Industrial Lands Analysis Update, 2005, E.D. Hovee and Company, LLC.

South Lewis County Regional Market Analysis, E. D. Hovee and Company, LLC.

South Lewis County Habitat Analysis Report, Washington Department of Fish and Wildlife.

Watershed Characterization and Analysis of South Lewis County - Lower Cowlitz River Watershed, Washington Department of Ecology.

Grays-Elochoman and Cowlitz Watershed Management Plan, Lower Columbia Fish Recovery Board, Lead Agency.

South Lewis County Transportation Plan Existing Conditions Report, Cook Engineering and Development Services and Perteet Engineering.

South Lewis County SR 505 Transportation Infrastructure Strategic Plan, Cook Engineering and Development Services and Perteet Engineering.

South Lewis County Subarea Transportation Plan, Cook Engineering and Development Services and Perteet Engineering.

South County Subarea Regional Utilities-Sewer Memorandum, Gibbs & Olson, Inc.

South County Water Analysis and Demand Forecast, BHC Consultants, LLC.

2005 Comprehensive Plans, Cities of Toledo, Vader and Winlock.

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Appendix B: Subarea Plan Glossary

Acreage, Gross

Total area of land calculated within a boundary or designation drawn on a map.

Acreage, Net

Developable area of land within a boundary or designation drawn on a map; i.e. Gross acreage MINUS acreage for the following: environmentally sensitive undevelopable land or buffer required to be set aside, market factor to account for land that is unlikely to be developed, long-term land reserves, and land for roads, stormwater management, and public uses.

- Gross/Net ratio used for South Lewis County Market Demand Analysis: three gross acres per one net acre

Cluster Development/Clustering

The practice of grouping development into a small portion of a site in order to avoid developing restricted environmentally sensitive areas or natural resource areas, make more efficient use of common infrastructure and utility needs, or preserve open space on the remainder of the property.

Comprehensive Plan Designation

Comprehensive Plans use Designations similar to the way Land Use Codes use Zoning: to regulate the intensity of development and the types of land use within geographic boundaries.

Conservation Easements

Any of a variety of legal methods for voluntarily placing perpetual development restrictions on a parcel of land.

Critical Areas Ordinance (CAO)

State mandated regulations to protect the following critical areas: wetlands, aquatic habitat, wildlife habitat, aquifer recharge areas, geologically hazardous areas, and frequently flooded areas.

Development Capacity

Ultimate amount of development possible as determined by land use and intensity regulations, environmental restrictions, and available infrastructure.

Development Suitability

Parcel by parcel analysis, performed during the Subarea planning process, to determine how likely any given parcel might be to attract and support economic development. Each parcel was analyzed for distance from major roads or railroads, location, parcel size, availability of water and sewer services, and ratio of potential improvement value to existing land value.

Economic Development UGAs

Non-residential urban growth areas proposed by the Subarea plan to: designate areas best suited for future Industrial, Commercial, and Tourist related development; attract economic development to South Lewis County in response to anticipated market demand; preserve rural character; preserve valuable resource lands and critical areas.

Forecast

Predictions about future conditions (population, traffic, development, etc) based on best available data and modeling.

GIS

Geographic Information System: a system that captures, stores, analyzes, manages, and presents data that are linked to location. GIS merges map making, statistical analysis, and database technology.

Green Infrastructure

Alternative systems, materials, or techniques designed to reduce or avoid adverse environmental impacts or resource depletion. Examples include porous concrete, solar or wind energy generation, reclaimed water plumbing, etc.

Master Plans

Design plans for the ultimate development of large sites that depict the location of buildings, roads, parking and open space. Master plans may be developed in phases or over a long period of time.

Mixed-Use

A development that includes several types of mutually beneficial land use, as encouraged by the regulations or zoning for that land. For example, the South County Subarea Plan encourages commercial and retail uses in the same development or project.

Planned Unit Developments (PUD)

Similar to Master Plans but usually more detailed and intended to be developed in a shorter time period. PUDs may allow development of different density and intensity than permitted by underlying zoning.

Population Allocations

Predictions about population growth are made at the County level and then allocated to the Cities and rural parts of the county through a process that combines forecasting, discussion, and negotiation. The allocation numbers are used by individual jurisdictions to best plan for growth.

Subarea

A defined geographic area that is a portion of a larger geographic entity (in this case, Lewis County).

South Lewis County Subarea Steering Committee

Committee authorized by the Lewis County Board of County Commissioners in 2009, charged with working with County staff and consultants to conduct a public outreach process leading to a Subarea Plan. Committee members represented entities and jurisdictions in Lewis County and the Cities of Toledo, Vader, and Winlock; they attended monthly public meetings in from 2009-2010.

Steering Committee

See South Lewis County Subarea Steering Committee

Urban Growth Areas (UGAs)

UGAs are areas where growth should be focused. UGAs include areas of incorporated city limits as well as areas of unincorporated county land. The unincorporated portions of the UGA adjacent to cities are designated for urban growth and regulated via city-county interlocal agreements (which provide for zoning and permitting); ultimately these unincorporated areas will be annexed into the cities. However, references to City UGAs include all the incorporated (city) and unincorporated (county) land within the

UGA boundary. County UGAs areas are designated for urban growth not associated with a specific city, and they include fully contained communities, master planned resorts, and major industrial developments.

Urban Residential

Residential development at a density or intensity typically found in areas where urban services are provided.

Urban Services

Refers to services historically provided by Cities, such as storm and sanitary services, domestic waster, police, fire, emergency services, etc.

WRIA

Water Resource Inventory Area as designated by the State. WRIAs usually include one or more defined watershed.