

UGA-P 1.6 The Irondale & Port Hadlock UGA has a limited amount of undeveloped commercial parcels suitable for attracting and accommodating regional commercial development. To enhance the potential for commercial redevelopment opportunities in the UGA, parcels currently utilized for and designated as Urban Residential on the UGA Zoning Map (~~Figure 2-2~~) may be ~~designated~~ **rezoned** Urban Commercial on the UGA Future Land Use Map (~~Figure 2-1~~) provided that those parcels meet all of the following criteria:

- 1) are immediately adjacent to an existing designated Urban commercial zone; and
- 2) have direct frontage on or access to a state arterial roadway;
- 3) **have documented evidence of the need for transformation;**
- 4) **a capital facilities plan is in place with the capacity to support the transfer from Urban Residential to Urban Commercial, and**
- 5) **the area rezoned is planned for sewer service within the 20-year planning horizon of the Comprehensive Plan.**

The UGA Future Land Use Map may designate such parcels for Urban Commercial use indicating the long-term (i.e., 20 year planning horizon) desire for that type of development while recognizing the proper current utilization of such parcels for residential use. This policy shall not be interpreted to require a property owner with such a Zoning Map/Future Land Use Map combination designation to re-zone their property to the same designation as shown on the Future Land Use Map. Where such designations may occur for a particular parcel on the Official Maps of the County, as described herein, the Official Maps and implementing regulations shall be interpreted to be consistent with the Comprehensive Plan pursuant to RCW 36.70A.040.

## PROJECTED POPULATION GROWTH

In 2003, a new 20-year population growth allocation for the UGA of 2,353 persons was adopted by Jefferson County. **Based on a 2003 population of 2,553 persons and the projected 20 year growth of an additional 2,353 persons, the UGA must be able to accommodate a minimum of 4,906 persons by 2024.** The new allocation was based on updated Jefferson County overall population projections prepared by the Washington State Office of Financial Management (OFM) in 2002 (after adoption of the initial UGA boundary and land use designations). The new allocation was incorporated into the 2004 Jefferson County Comprehensive Plan Update per RCW 36.70A.130(1)(a).

~~Based on the existing population of 2,553 persons and the projected 20-year growth of 2,353 persons, the UGA must be able to accommodate a minimum of 4,906 persons by 2024. Growth Management Hearings Boards have also ruled that jurisdictions may allocate up to 25% additional residential capacity (beyond projected demand) within UGAs so as not to artificially constrict the supply of land to the point where rising land costs adversely affect housing affordability. Factoring in the 125% UGA sizing limitation means that the UGA should be sized and densities assigned to accommodate an approximate 20-year minimum and maximum population range of 4,906-6,133 persons, respectively.~~

One of the key efforts of the *Special Study* was the assessment of future demand for commercial/industrial lands in the County (based on assumed employment growth and other variables). This analysis is contained in the *Regional Economic Analysis and Forecast* prepared by Trotter Research Group dated January 26, 1999 and further addressed in the document titled *Memorandum: Comments on Estimates of Additional Land Needed for*

is also in discussion with the City of Port Townsend about purchasing and treating additional wholesale water for the PUD water system. This may provide for a more equitable and better long-term solution to meeting projected demands on the resource.

Three improvement projects are identified in the PUD's preliminary draft Capital Facilities Plan for the UGA Water System based upon anticipated future demand as follows:

- Sparling Well Improvements. In order to provide the water requirements for the next 20 years the PUD is increasing the treatment capacity of the Sparling well by 500 gpm. Estimated Cost : \$350,000. Funding Sources: System Development Charges. Estimated Implementation Date: 2004-2005.
- New Well. The PUD will be drilling a new production well to maximize its existing water rights, to meet potential future demands, expand system flexibility, and emergency response capacity. Estimated Cost : \$375,000. Funding Sources: System Development Charges. Estimated Implementation Date: 2005-2015.
- Surface Water Sources. The PUD is working with the City of Port Townsend to increase the amount of wholesale water purchased by the PUD from the City as alternative to pursuing additional groundwater rights.

~~The PUD is currently updating its UGA Water System Plan based on the 20 year population allocation for the UGA adopted by the County in 2003 and the Future Land Use and Zoning Maps adopted in this element. The PUD's adopted Water System Plan, as may be amended, is hereby adopted by reference and incorporated into the Comprehensive Plan.~~

However, any "Water System Plan" as adopted and as may be amended by the Department of Health (DOH) shall not be incorporated into or adopted by reference into the Jefferson County Comprehensive Plan.

### **Stormwater Management**

The UGA Stormwater Management Plan is a planning document that provides guidance to minimize adverse effects of stormwater runoff on ground and surface water, including aquatic resources and habitats, water quantity. It identifies water quality and quantity problems associated with stormwater runoff that may adversely affect the environment and community and provides recommendations for improvements and programs including a cost analysis and an implementation schedule. The primary goal of the UGA Stormwater Management Plan is to preserve and protect water quality and the hydraulic regime within the UGA drainage basins and the receiving waters of Chimacum Creek and Port Townsend Bay.

The Plan identifies specific structural and non-structural solutions to conveyance and water quality problems within the UGA. Structural solutions include constructing detention and infiltration ponds, pipes, and treatment facilities. Non-structural solutions include stormwater management facility inspection and maintenance, public education and outreach, water quality monitoring, and encouraging low impact development.

The Plan was developed in conformance with Jefferson County Comprehensive Plan Land Use and Rural Element: Drainage, Flooding, Stormwater Management Issues and Polluted Discharges. It meets the stormwater management recommendations of the Puget Sound Water Quality Action Plan and the technical standards of the 2001 Washington Department of Ecology *Stormwater Management Manual for Western Washington* (DOE Manual).

UGA designation will require the provision of drainage and stormwater management facilities at an urban level of service standard in order to avoid significant stormwater run-off and water quality impacts to Port Townsend Bay and Chimacum Creek and to ensure that stormwater run-off does not contaminate groundwater resources.

**Table 3-3  
Residential Lot Demand Compared to Existing Vacant Residential Lot Supply  
Projected Over the Next 20 Years  
1996-2016**

<b>Location</b>	<b>Future 20-Year Lot Demand</b>	<b>Existing Supply of Vacant Buildable Lots of Record <sup>(a)</sup></b>	<b>Balance (Excess Buildable, Vacant Lots of Record) Lot Surplus</b>	<b>Vacant Lot Oversupply Percentage</b>
<b>Incorporated Areas:</b>				
Port Townsend (b)	2690	8600	5910	220%
<b>Unincorporated Areas:</b>				
Quimper Peninsula (including Glen Cove)	500	1735	1235	247%
Marrowstone Island	77	458	381	495%
Irondale/Port Hadlock			112	417%
Kala Point				
Chimacum				
Discovery Bay (including Gard			227	734%
S. Chimacum / Inland Valleys / Center			608	344%
Port Ludlow Planned Community	1141	1354	213	18%
North Port Ludlow	127	367	240	188%
Paradise Bay / Shine / Thorndyke	250	730	480	192%
Toandos Peninsula (including Coyle)	80	1116	1036	1295%
Quilcene (including Lake Leland Valley)	213	1068	855	401%
Brinnon	280	1189	909	325%
West End	19	307	288	1515%
1996 Staff Inventory	3538	13,122	9584	271%
Reduced by recalculation at a minimum lot size of 12,500 sq. ft	3538	8280	4742	134%
Reduced by 752 timber and agricultural resource lands parcels	3538	7528	3990	113%
Reduced by 25% market factor	3538	5646	2993	84%
<b>Total buildable lots for the unincorporated area:</b>				
• 1996 staff inventory		5646	2993	84%
• 1995 consultant inventory		4679-5944	2025-3290	43% to 93%

**TABLE REMOVED**

Note: (a) Data compiled as of June 1, 1996 (includes "vested" lots).  
 (b) The City of Port Townsend has addressed the accommodation of future population growth in its Comprehensive Plan. The figures above are provided for informational purposes only. The City's lot inventory was calculated at a 10,000-sq. ft. lot size minimum, with some consolidation.

**Table 5-1  
Projected Jefferson County Households, 2004-2024**

<b>Location</b>	<b>2004</b>	<b>2014</b>	<b>2024</b>	<b>Household Increase 2004-2014</b>	<b>Percentage Increase 2014-2024</b>
<b>Incorporated Areas:</b>					
Port Townsend	4,717	6,250	8344	2,690	75.56%
<b>Unincorporated Areas:</b>					
Quimper Peninsula (including Glen Cove)	1,670	1,950	2689	589	43.28
Marrowstone Island	436	474	524	93	24.41
Tri-Area (Kala Point, Irondale, Port Hadlock, and Chimacum Crossroads)	1,981	2,250	3478	520	30.06
Discovery Bay (including Gardiner)	504	590	630	165	38.82
S. Chimacum /Inland Valleys/Center	671	752	840	189	33.57
Port Ludlow Planned Community	1,189	1,936	2379	1,305	206.81
North Port Ludlow	346	424	567	137	47.74
Paradise Bay / Shine / Thorndyke	489	629	752	255	68.18
Toandos Peninsula (including Coyle)	219	266	342	87	48.60
Quilcene (including Lake Leland)	676	802	905	233	40.95
Brinnon	707	867	978	302	53.45
West End	346	356	372	22	6.59
<b>Unincorporated County Totals</b>	<b>9,234</b>	<b>11,296</b>	<b>14456</b>	<b>3,897</b>	<b>52.66%</b>
<b>Jefferson County Total</b>	<b>13,951</b>	<b>17,546</b>	<b>22800</b>	<b>6,587</b>	<b>60.11%</b>

## GOALS AND POLICIES

The purpose of the Jefferson County Transportation Element is to establish goals and policies in support of the desired and projected transportation system pursuant to the Washington State Growth Management Act. Accordingly, ~~the overall goal of the transportation element is to “encourage efficient multi-modal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans” (RCW 36.70A.020(3)).~~ Goals and policies are set forth in the Jefferson County Comprehensive Plan for all aspects of the transportation system. The overall goal of the transportation element is to “encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans” (RCW 36.70A.020(3)). The Peninsula Region Transportation Planning Organization (PRTPO) also provides coordination of local jurisdiction goals and policies on a larger, regional, system-wide scale. Goals and policies set forth by the PRTPO’s Regional Transportation Plan (RTP) provide a framework on which to develop detailed goals and policies on a local level. The Jefferson County Comprehensive Plan and amendments (such as the Non-Motorized and recreational Trails Plan) contain Goals, Policies and Strategies relating to transportation for UGA’s, and should be referred to for further goals, policies and strategies applicable to transportation in the UGA.

The transportation goals and policies are an integral part of the adopted plan and set forth the adopted Level of Service (LOS) standards and other policy commitments for Jefferson County. Individual goals are established for specific targeted issues relating to transportation planning. The overall set of goals relate to the following targeted issues:

Highways and Arterials	Goal 1
Public Transportation	Goal 2
Non-motorized Transportation	Goal 3
Land Development Standards	Goal 4, Goal 5, and Goal 6
Intergovernmental Coordination	Goal 7 and Goal 8
Demand Management	Goal 9
Environment and Energy	Goal 10
Transportation Improvement Program	Goal 11

Each goal statement is followed by policies that provide direction and mechanisms for reaching the stated Goals. Also, the Capital Facilities Element provides a list of specific transportation projects determined to be necessary to address deficiencies identified in roadway sections and at intersections. These projects are also listed in the County’s Six-year Transportation Improvement Plan.

### HIGHWAYS AND ARTERIALS

#### GOAL

**TRG 1.0** Provide a safe, convenient, efficient and integrated highway and arterial system for the movement of people and goods, one that is functionally well maintained, reflects local environment, and meets the demands of the future.

#### POLICIES

**TRP 1.1** Provide for a Level of Service C, or better, for rural County Road facilities based upon Average Annual Daily Trips.

**TRP1.2** Provide for a Level of Service D, or better, on all County Road facilities within Urban Growth Areas, the Port Ludlow Master Planned Resort, and Designated Tourist Corridors as established by

the Peninsula Regional Transportation Planning Organization, based upon Average Annual Daily Trips.

- TRP 1.3** Minimize life cycle costs of the County transportation system by preserving and maintaining both the adequacy and operating condition of the existing transportation system.
- TRP 1.4** Maintain the efficiency of traffic flow by monitoring traffic, upgrading traffic control devices, and developing traffic management techniques as appropriate.
- TRP 1.5** Require that streets are designed and constructed to County standards to efficiently and effectively meet the needs of the community and promote overall transportation safety.
- TRP 1.6** Require use of access management techniques to regulate driveway access.
- TRP 1.7** Encourage the use of roadway features in rural areas that enhance rural character, minimize impervious surfaces, and minimize cost to taxpayers and developers.
- TRP 1.8** Prevent glare and minimize pollution to the night sky through the use of appropriate roadway lighting and fixtures without compromising public safety.
- TRP 1.9** Encourage the retention or use of roadway features that enhance rural qualities by applying appropriate rural standards.
- TRP 1.10** Encourage the use of roadway features that enhance urban qualities by applying urban design standards as deemed appropriate in the Urban Growth Area.
- TRP 1.11 ~~10~~** Enhance urban qualities by applying appropriate urban standards in Urban Growth Areas and Master Planned Resorts.
- TRP 1.12 ~~11~~** Design roadways in the County Road system according to their functional classification and forecasted 20-year traffic demand.

## **PUBLIC TRANSPORTATION**

### GOAL

- TRG 2.0** **Promote a coordinated and integrated public transportation system available to all residents, guests, and those without personal transportation options in Jefferson County.**

### POLICIES

- TRP 2.1** Support existing public transportation programs and coordinate with the Peninsula Regional Transportation Planning Organization to improve the system as needed.
- TRP 2.2** Encourage cooperation between private transportation providers and public transportation providers.
- TRP 2.3** Provide 8,400 Annual Transit Revenue Service Hours (ATRSH) or a minimum Level of Service of 270 ATRSH per 1,000 County-wide population for fixed routes in Jefferson County. Additionally, as a planning guideline, seek to provide the Level of Service for Transit Service Links adopted by the Peninsula Regional Transportation Planning Organization's Plan for routes that have an origin or destination in Jefferson County.
- TRP 2.4** Provide convenient automobile and bicycle access to park and ride facilities on arterial/collector

pedestrian, and equestrian routes in accordance with the Federal Manual on Uniform Traffic Control Devices (MUTCD).

- TRP 3.10** Promote development of adequate pedestrian walkways and crossings, where appropriate, including facilities separated from the roadway, in accordance with the Non-motorized Transportation and Recreational Trails Plan. Evaluate safety issues associated with pedestrian and bicycle travel near school sites and identify potential improvements.

## LAND DEVELOPMENT STANDARDS

### GOAL

- TRG 4.0** Encourage land use types, mixes, and densities that promote efficient multi-modal transportation systems.

### POLICIES

- TRP 4.1** Reinforce the link between land use and public transportation by promoting urban residential densities within urban growth areas.
- TRP 4.2** Encourage land development proposals that are consistent with the County Comprehensive Plan Land Use Element and Rural Element and utilize the capacity of the existing transportation system, including the capacity of transit and non-motorized modes, and avoid costly expansion of the system.
- TRP 4.3** Consider the use of impact fees as a means to ensure that adequate facilities (including, but not limited to transit, pedestrian facilities, bikeways or road shoulders) are available to serve new growth and development, and to maintain adopted level of service standards for those facilities.
- TRP 4.4** Enhance transportation system safety by requiring appropriate facility design, including providing landscaping and setbacks adjacent to transportation facilities.
- TRP 4.5** Protect outstanding scenic vistas accessible from transportation facilities through site design, and provide visual, and where possible and appropriate, physical, access to these resources.
- TRP 4.6** Require that subdivision and commercial project designs address the following issues:
- a. Cost effective transit and delivery of emergency service;
  - b. Provisions for all transportation modes;
  - c. Dedication of rights of way for existing and future transportation needs;
  - d. Motorized and non-motorized access;
  - e. Shoulders, sidewalks and bicycle pathways;
  - f. Compatibility between motorized vehicles, pedestrians, bicyclists, and transit users;
  - g. Inclusion of transit friendly design elements;
  - h. Adequate parking for non-peak periods; and
  - i. Frontage improvements and roadway features to meet urban design standards within the Irondale-Port Hadlock UGA.
  - ~~i. Frontage improvements and roadway features to meet urban design standards within the Irondale-Port Hadlock Urban Growth Area and, when appropriate, the Port Ludlow Master Planned Resort.~~
- TRP 4.7** Provide adequate right-of-way for future transportation needs, through implementation of a systematic right-of-way acquisition program, by limiting encroachment of structures or ancillary

uses into the right-of-way (e.g., setbacks), requiring right-of-way dedication or easements as part of development approval, and by acquiring right-of-way for future needs through purchase from willing sellers.

**TRP 4.8** Ensure that unacceptable safety hazards will be mitigated. The definition of unacceptable will be based on analysis of the existing facility(s) and the current standards for that facility(s) contained in commonly used and adopted transportation publications.

**TRP 4.9** Ensure that the Level of Service for County roads are met for existing and proposed development concurrent with proposed development prior to issuing development approvals.

**TRP 4.10** ~~Jefferson County should not approve new development that would generate traffic that would decrease the Level of Service below the adopted Level of Service Standards. If a new development would lower the Level of Service below the adopted Level of Service Standards, the development proponent should be required to implement one of the following:~~

- ~~1. Construct improvements that will maintain the Level of Service below at the adopted Level of Service Standards;~~
- ~~2. At such time as Jefferson County adopts and implements an impact fee ordinance, pay an impact fee that is a proportionate share of the cost of improvements necessary to maintain the adopted Level of Service Standards; or~~
- ~~3. Implement alternative measures such as Transportation Demand Management (TDM), project phasing, or other appropriate measures approved by the County that will avoid reducing the Level of Service below the adopted Level of Service Standards.~~

~~Ensure that new developments that would generate traffic that would significantly decrease the Level of Service below the adopted Level of Service Standard for an intersection or roadway segment not be approved without stipulations for mitigation. When a new development would lower the Level of Service below the adopted Level of Service Standard, require the development proponent to mitigate the impact by one of the following:~~

- ~~1. Construct improvements that restore the Level of Service to the adopted Level of Service Standard;~~
- ~~2. Contribute an impact fee that is a proportionate share of the cost of improvements related to the development;~~
- ~~3. Implement alternative measures such as Transportation Demand Management (TDM), project phasing, or other appropriate measures determined by the County that will avoid the impact.~~

**TRP 4.11** Encourage land use development patterns and support technologies that reduce the demand for increased capacity on roadways.

**TRP 4.12** Ensure that proposed roads on unopened public rights-of-way are constructed to appropriate County standards based on their function, location, projected traffic, and potential for future circulation.

## GOAL

**TRG 5.0** **Provide additional roadway aesthetic features that are consistent with surrounding land use.**

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## STRATEGIES

### Action Items

1. Monitor traffic volumes and intersection performance within UGAs on all arterial and major collector facilities. (Corresponding Goal: TRG 1)
2. Develop access management techniques to regulate driveway access, including use of shared driveway access. Work with the Washington State Department of Transportation and property owners to develop appropriate access management measures that will minimize the impacts to SR 19 and SR 116 from new developments and redevelopments in the Irondale and Port Hadlock UGA. (Corresponding Goal: TRG 1)
3. Discourage direct access from individual lots to present and planned future arterials and collectors wherever possible. Access from these sites should be provided through local access roadways. (Corresponding Goal: TRG 1)
4. Develop a method to assess the need for rural area parking facilities on County routes using appropriate service standards. (Corresponding Goal: TRG 2)
5. Develop site design standards for public transit facilities to be incorporated into County land use codes and regulations. (Corresponding Goal: TRG 2)
6. As appropriate, require that construction of new roadways and improvements to existing roadways address the safety needs of bicyclists and pedestrians in conformance with the Non-motorized Transportation and Recreational Trails Plan. (Corresponding Goal: TRG 3)
7. Develop a Non-motorized Project Priority Programming System that identifies and ranks projects necessary to provide safe bicycle and pedestrian travel; develop operation standards and a maintenance program that addresses the safety needs of non-motorized travelers, and; develop a proposal to the Board of County Commissioners for inclusion in the Six Year Transportation Improvement Plan for allocating transportation funds to support non-motorized transportation projects. (Corresponding Goal: TRG 3)
8. When appropriate opportunities occur, develop abandoned railroad rights-of-way or utility corridors as future transportation corridors such as bikeways, pedestrian/equestrian trails, and roadways. (Corresponding Goal: TRG 3)
9. Develop incentives for developers to dedicate land for expansion of the County's trail network and adopt into land development regulations. (Corresponding Goal: TRG 3)
10. As appropriate, require that development proposals provide bicycle/pedestrian facilities that meet the standards in the Non-motorized Transportation and Recreational Trails Plan. (Corresponding Goals: TRG 3 and TRG 4)
11. In cooperation with school districts, identify the boundaries of school pedestrian walking zones, develop standards and criteria for roadways within these areas, and define the types of improvement projects that would need to comply with these standards. (A portion of the action item has been addressed through the development of the Non-motorized Transportation and Recreational Trails

38. Develop standards that provide pedestrian facilities along one side of local access streets and both sides of collectors and arterials. (Corresponding Goal: TRG 3.0)
39. Develop and implement a Truck Routing Plan to direct truck and heavy vehicle traffic away from residential neighborhoods.
40. Develop a traffic circulation plan within and adjacent to Urban Growth Areas that considers the adjacent land use and potential development patterns to ensure that the proper transportation facilities are planned.
- ~~37. Include in ordinances a transportation concurrency management system that requires development proponents to mitigate the LOS deficiencies that result from traffic generated by their projects for Category A Public Facilities: Rural, Urban Growth Area, and Master Planned Resort Roads and Designated Tourist Road Facilities. (Corresponding Goal: TRG 4.0)~~
- ~~38. Develop standards that provide pedestrian facilities along one side of local access streets and both sides of collectors and arterials. (Corresponding Goal: TRG 3.0)~~
- ~~39. Develop and implement a Truck Routing Plan to direct truck and heavy truck traffic away from residential neighborhoods. (Corresponding Goal: TRG 1.0)~~
- ~~40. Develop a traffic circulation plan within and adjacent to Urban Growth Areas that considers the adjacent land use and potential development patterns to ensure that the proper transportation facilities are planned. (Corresponding Goal: TRG 4.0)~~
41. Amend the Unified Development Code to provide a consistent and equitable process for opening public rights-of-way in existing plats. (Corresponding Goal: TRG 4.0)
42. Develop a County Road functional classification system that includes sub-classifications for local access roads. (Corresponding Goal: TRG 11.0)
43. Revise the Unified Development Code (Jefferson County Code) Section 18.30.020(5) to require that approval of development permit applications by Jefferson County is contingent on maintaining the County's adopted transportation facility Level of Service Standard.

UNITED DEVELOPMENT CODE

TITLE 18 of the Jefferson County Code

PROPOSED CHANGES APPEAR BELOW

18.30.020 General development standards.

(5) All land use activities shall be served by appropriate transportation facilities. Transportation facilities shall be adequate to meet the Level of Service Standards adopted in the Jefferson County Comprehensive Plan and the appropriate design standards referenced in JCC Chapter 18.30.080 (1)a. ~~both to serve the proposed land use and to avoid adverse effects to the existing transportation system.~~ If transportation facilities ~~would become~~ are inadequate, the applicant shall be required to provide make provision for necessary improvements and/or implement alternative measures such as Transportation Demand Management (TDM), project phasing, or other measures acceptable to Jefferson County that will maintain the adopted Level of Service Standards and meet design standards. ~~If transportation facilities are not adequate, Jefferson County shall not approve the proposed development.~~ Transportation facilities shall be deemed adequate if necessary improvements are planned and designated funding is secured in the Jefferson County Six-Year Transportation Improvement Program [Ord. 8-06 § 1]

## **TRANSPORTATION** (Underlined/Lined Out Version)

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**PURPOSE:** The purpose of the Transportation Plan portion of Chapter 2, the Irondale-Port Hadlock Urban Growth Area (UGA) Element, is to amend and augment the Transportation and Capital Facilities chapters of the Jefferson County Comprehensive Plan. This portion of the UGA Element contains information and analysis relative to transportation both within and adjacent to the UGA. The UGA Transportation Plan considers the impacts to transportation due to UGA designation and forecasts the transportation needs and costs for a twenty-year planning period. The UGA Transportation Plan describes the service standards desired for the County's transportation system within an Urban Growth Area, projects the impact that the land use pattern contained in this Chapter will have on the transportation system, and identifies the improvements necessary to meet future demand. The Jefferson County Comprehensive Plan provides a framework of goals, policies, and strategies necessary to develop transportation facilities throughout the County. This portion of the UGA Plan further defines these goals and policies for development inside the boundaries of the Urban Growth Area at appropriate urban standards. The adopted Jefferson County Comprehensive Plan portions relating to transportation include the majority of policy needed to accommodate this UGA. This text is intended to be an amendment or supplement to the Comprehensive Plan, which should be referenced for additional goals, policies and strategies not specifically detailed in this document.

### **INTRODUCTION**

The Washington State Growth Management Act (GMA) was passed in 1990 to encourage planned, coordinated, growth for a more efficient use of the State's resources by reducing sprawl. One of the ways in which the GMA seeks to accomplish these goals is to require communities to adopt comprehensive growth plans that specify how new population growth will be accommodated. By law, these plans must address the following areas: transportation, capital facilities, utilities, land use, housing, and rural land. With respect to transportation and transportation infrastructure, the GMA requires the coordinated planning of regional transportation facilities and services. The GMA also mandates that new development cannot occur unless infrastructure is in place to accommodate the increased demand, or will be built concurrent with development.

In response to GMA requirements, the Tri-Area, an area encompassing the Chimacum, Irondale and Port Hadlock communities, underwent a transportation planning and forecasting study in 1999 known as the *Tri-Area/Glen Cove Special Study*. This study analyzed three land use alternatives over a twenty year period and evaluated the impact on Jefferson County's roadways. Building on the work that was completed for the *Special Study*, the goal of this effort is to produce a Transportation Plan that will serve as a guide for future transportation improvements that will aid in maintaining an adequate level of transportation services and facilities in the Irondale – Port Hadlock Urban Growth Area (UGA). This Transportation Plan includes the following:

- Updated functional classification of county roads
- Updated traffic volume forecasts
- Intersection level of service analysis
- Potential transportation improvements
- Environmental Considerations
- Transportation improvement cost estimates

Through this planning process, the intent is to recognize when and where deficiencies will occur and to provide solutions to capacity needs. Viable solutions may include additional travel lanes, passing and pull-out lanes, turn pockets and signalization of currently un-signalized intersections. The traffic forecasts used in this plan will provide for adequate urban levels of public facilities and services in the Irondale-Port Hadlock Urban Growth Area.

## EXISTING CONDITIONS

### *Functional Classification*

The roadways and highways in the Irondale-Port Hadlock UGA have been identified according to functional classification. The functional classification system is based on a road's ability to provide either mobility or access to adjacent land. There are five road classes used to describe roads: principal arterials, minor arterials, major collectors, minor collectors, and local roads. These classes are further defined by specifying whether the road is part of an urban or rural roadway system. Table 1 provides a brief description of the roadway functional classification system. The table is based on WSDOT publication, *Guidelines for Amending Urban Boundaries, Functional Classifications and Federal Aid Systems*.

As stated above, mobility is a key component in the functional classification system. When reviewing a regional road system, it is important to note that arterials provide the most mobility in the functional classification system. Arterials connect major destination points such as cities and communities. Principal arterials and minor arterials are distinguished by the importance of the destination, and the priority given to mobility. Collectors serve as the link between arterials and local streets. They gather (or collect) traffic from the smallest streets (local access) and direct the traffic onto the arterial system. Local streets are those which provide direct access to property and consequently provide more limited mobility. For local streets, mobility is not considered as important as access to land uses.

Roadway spacing and design standards are directly related to the functional classification of the road. In addition, right-of-way width requirements, lane widths, design speed and other similar characteristics are all related to a roadway's functional classification. Figure 1 illustrates the updated functional classification of roadways in the UGA. It is noted that SR19 has been designated as a Highway of Statewide Significance (HSS) and the functional classification will change from a minor arterial to a principal arterial. This change reflects the highway's increasing importance for the region and as an HSS route that links SR104 to Port Townsend.

### *Traffic Volumes and Level of Service*

Figure 2 illustrates existing average daily traffic (ADT) volumes at several locations within the study area. The most heavily traveled roadways within the UGA include SR19, SR116 and Irondale Road with existing traffic volumes peaking on SR19 at about 14,000 vehicles per day (vpd). A very small section of SR19 from Irondale Road to Four-Corners Road carries a peak of 16,898 vpd. This is due to higher than average Peak Hour volumes along this section of SR19. Given the relatively short period of time SR19 operates at this level and the short length of roadway that experiences this higher volume of traffic, the operational counts for the entire length of SR19 from Irondale Road to SR-20 were used in the level of service analysis of SR19 as this provides a more accurate picture of existing operating conditions along SR19.

**Table 1  
Roadway Functional Classification Descriptions  
Jefferson County**

Functional Class	Urban (5,000 population or more)	Rural
Principal Arterial	Serves regional major activity areas. Carries all inter-urban and significant intra-urban auto and transit trips. Offers most mobility, least land access. Fully or partially controlled access.	Carries statewide or interstate travel. Serves most urban areas with populations of at least 25,000. Provides an integrated network.
Minor Arterial	Interconnects and augments principal arterials. Distributes travel to areas smaller than those associated with major arterials. Places more emphasis on land access than principal arterials.	Links cities, larger towns and major activity areas (e.g., resorts). Forms integrated network of providing interregional and inter-county service. Spaced so that all developed areas are within reasonable distance of arterial highway. Provide for high travel speed with minimum interference to through movement.
Major Collector	Provides both land access and traffic circulation within residential area. Provides intra-community continuity but doesn't penetrate identifiable neighborhoods. Carries local bus routes.	Provides service to county seats and major towns. Links county seats and major towns with nearby cities and arterials. Serves the more important intra-county travel.
Minor Collector	Collects traffic from local system and channels it to arterials. Provides both land access and traffic circulation within residential neighborhoods, commercial areas, and industrial areas.	Collects traffic from local roads. Provides for all developed areas to be near collector road. Provides service to smaller communities. Link locally important traffic generators with their rural hinterland.
Local	Provides direct access to abutting land and access to higher classified cities. Offers least mobility. Usually contains no bus routes. Through traffic deliberately discouraged.	Serves primarily to provide access to adjacent land. Provides service to travel over relatively short distances.

Level of Service (LOS) is a qualitative measure that combines the features of speed, safety, travel time, comfort, convenience and traffic interruptions. Creation of the Irondale-Port Hadlock UGA changes the UGA land use designation from rural to urban. One of the impacts of this change is a concurrent change in the level of service standard for roadways in the urban growth area. See Table 2 for roadway level of service definitions. The level of service standard in Jefferson County for rural roadways is LOS C. The established level of service standard for Jefferson County roadways in an urban area is LOS D or better. This difference reflects the understanding that higher volumes of traffic are expected in urban areas because of a concentration of economic activities. These higher levels of congestion are considered acceptable during peak hours.

In 1998 the Washington State legislature passed House Bill 1487 that separated state highways into two categories: Highways of Statewide Significance (HSS) and Regionally Significant Highways (RS). This bill authorizes WSDOT to set level of service standards on Highways of Statewide Significance. SR19 was recently designated as a HSS. The Level of Service standards for SR19 are now set by WSDOT. WSDOT will accomplish this goal through consultation with the Peninsula Regional Transportation Planning Organization (PRTPO) which in turn will consult with Jefferson County. It should be noted that LOS standards employed in this document for SR19 are consistent with PRTPO recommendations but have not been established by WSDOT and are for County planning purposes.

SR19 currently operates at LOS D, an acceptable level for the Urban Growth Area. Outside of the UGA boundary, SR19 continues to operate at LOS D. The PRTPO is currently looking to designate SR19 as a Tourist Corridor. Jefferson County participates in the organization's planning process and will follow the recommendations set forth by the PRTPO. The PRTPO has identified various roadways on the Olympic Peninsula as Tourist Corridors to address the issues created by fluctuations in traffic volumes during tourist seasons that cause some roadways to drop below the adopted County standard in rural areas. 2.2 million tourists visit the Port Townsend area every year with approximately 50% accessing the area by way of SR19. As established by the PRTPO, Tourist Corridors are allowed to operate at LOS D, similar to roadways in urban areas. Figure 3 shows current Level of Service designations for roadways within the Irondale-Port Hadlock UGA.

#### ***Planned Roadway Improvements***

Jefferson County's Six-Year Transportation Improvement Program (TIP) for 2004 to 2009 plans non-capacity related improvements (channelization and pedestrian facilities) to the portion of Chimacum Road from M.P. 0.41 to 0.98 (vicinity of the Jefferson County shop southerly to the East Fork Chimacum Creek crossing). At this time, the Washington State Department of Transportation (WSDOT) has proposed only one signalization project for the State-owned facilities of SR19 and SR116 (Ness's Corner) from 2004 to 2009.

#### ***Current Deficiencies***

Under existing conditions and urban standards, there are no current deficiencies in the UGA road system. Intersection and road segment Level of Service analysis was performed using the Transportation Research Board's Highway Capacity Software (HCS). This software uses such information as functional class, design hourly volume, free flow speed, road and shoulder widths and number of lanes to determine level of service designations. HCS provides an average LOS designation for the entire intersection, averaging the level of service of both the major and minor legs of the intersection. The minor leg of an intersection is defined as the intersecting roadway that is stop controlled, while the major leg is the roadway which is free flowing. It should be noted that although overall intersection analysis shows no current deficiencies, roadways that intersect SR19 develop long queues and vehicle delays that approach unacceptable levels. This is caused by relatively high volumes of traffic traveling along SR19 with few gaps to allow entering traffic from intersecting roadways.

#### ***Non-motorized Transportation***

Jefferson County has worked to provide a network of non-motorized transportation facilities to enhance alternative modes to travel by automobile and for recreational purposes. On-road bicycle routes and lanes, wide shoulders, sidewalks and multipurpose trails that link destinations are common examples. The Jefferson County Non-motorized Transportation and Recreational Trails Plan contains a full and detailed list of County owned facilities. Additionally, the Non-motorized Transportation and Recreational Trails

Plan found no capacity related deficiencies for the planning period based on the current level of service (LOS) standards adopted in the County’s Comprehensive Plan. The Non-motorized Transportation and Recreational Trails Plan also contains a listing of non-capacity related potential projects and financing alternatives.

**Table 2  
Roadway Level of Service Definitions  
Jefferson County**

<b>LOS Category</b>	<b>Definition</b>
Level of Service A	Describes a condition of free flow with low volumes and high speeds. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. Stopped delay at intersections is minimal.
Level of Service B	Represents reasonably unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tensions.
Level of Service C	In the range of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. The selection of speed is now significantly affected by interactions with others in the traffic stream, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
Level of Service D	Represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
Level of Service E	Represents operating conditions at or near the maximum capacity level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor disturbances within the traffic stream will cause breakdowns.
Level of Service F	Describes forced or breakdown flow, where volumes are above theoretical capacity. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations, and operations within the queue are characterized by stop-and-go waves which are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion.

**Transit**

The Irondale-Port Hadlock UGA is served by the Jefferson Transit Authority that provides regular scheduled service to the UGA as well as Port Townsend, Port Ludlow and Poulsbo. Weekday service operates from 6:45 AM to 7:10 PM with Dial-a-Ride available for qualified individuals. Transportation Policy TRP 2.3 in the Jefferson County Comprehensive Plan establishes a minimum level of service based on Annual Transit Revenue Service Hours (ATRSH). The level of service standard of 8400 ATRSH as established countywide by the County’s Comprehensive Plan will continue to be met for the planning period as Jefferson Transit continues to revise its service based on demand as appropriate. Additionally, Jefferson Transit has increased regularly scheduled service to the UGA within the last two

years, and will continue to revise service to the UGA as appropriate. Jefferson Transit also provides regular updates to its Operating and Capital improvement Plan.

**TRANSPORTATION PROJECTIONS**

***Population Forecasts and Growth Rates***

A range of population projections were presented by the Washington State Office of Financial Management (OFM) for GMA planning purposes. Forecasts to be used in Jefferson County must fall within the OFM’s forecast range and the OFM’s intermediate range forecast as endorsed by the Port Townsend City Council’s Community Development & Land Use Committee and adopted by the County on August 25, 2003. This forecast proposes a 20-year population projection for the Irondale-Port Hadlock UGA of 2.76% compounded annually.

In addition to population growth, land development and intensification of land use creates additional impacts to the transportation system that exceed that of the projected growth rates in the area. At this time, a General Sewer Plan is under development to allow the County to provide sewer services to areas targeted for public, commercial, industrial and multi-family residential land uses in the core Port Hadlock commercial district as well as sections along SR19. Growth and development of the UGA commercial district is currently limited by the lack of this infrastructure. The introduction of a sewer system will increase land use densities and subsequently impact transportation facilities in and around the UGA. Assuming that the land within the UGA designated as commercial, industrial, and multi-family residential will be developed during a 20-year planning period, 2005 – 2024, the Jefferson County has developed projected rates of development in acres per year, as shown in the following Table 3.

**Table 3  
Projected Development Rates**

<b>Commercial and Industrial Land</b>	
<b><u>Time Period</u></b>	<b><u>Projected Development Rate (acres/year)</u></b>
2004	0.9
2005 – 2010	2.1
2011 – 2024	3.9

  

<b>Multi-Family Residential</b>	
<b><u>Time Period</u></b>	<b><u>Projected Development Rate (units/year)</u></b>
2005	28
2011 – 2024	66

Source: Jefferson County

This assumes that the availability of a sanitary sewer system will affect the rates of development. After the UGA designation is completed and prior to the development of a sewer system, urban commercial and industrial development will be permitted, but only by those developments that can be served by an on-site septic system. It is assumed that the sanitary sewer system will be available by 2011 to designated areas. Using these development rates, 12.6 acres of commercial and industrial land are estimated to be developed during the 2005-2010 planning period and 54.3 acres developed from 2011 to 2024. This

growth scenario includes a 15% market reduction factor to account for land that will be unavailable for development during this period.

**Trip Generation**

The impact of land development and intensification on the transportation system is determined through the use of trip generation. Average daily traffic (ADT) rates are based on averages published in the Institute of Transportation Engineer’s (ITE) *Trip Generation 6<sup>th</sup> Edition*. Daily trip generation estimates for proposed land uses in the Irondale-Port Hadlock area were based primarily on the square footage of floor space created by the development and to a lesser extent total acreage of developed land. Average daily trip rates for multi-family residential housing are based on average trips per resident. When using trips per square footage, assumptions were made on the approximate dimensions of the building in question. Each study in *Trip Generation* records the gross floor area of each type of development and the average of these was used to determine an appropriate size. The Jefferson County Unified Development Code was also referred to as a functional standard from which to approximate acreage required for development including parking lots, driveways and setbacks on the specific sites of development. Table 4 summarizes the trip generation rates, site acreage and ADT created by development in the UGA for the 2005-2010 planning period.

**Table 4  
Average Daily Trip Rates for Various Land Uses  
(2005 – 2010)**

<u>Land Use</u>	<u>code</u>		<u>Trip Rate</u>	<u>Site Acreage</u>	<u>ADT</u>
Multi-Family Residential	220	35 Residents	3.35/resident	1.6	117
Boat School	140	5.4 acres	38.88/acre	5.4	210
Credit Union	912	4,000 SF	265.2/1000 *	0.5	1061
Auto Sales	841	25,000 SF	37.5/1000 *	4.8	937
Building Supply	812	16,500 SF	39.7/1000 *	0.9	655
				<b>13.2</b>	<b>2980</b>
* Trip rates are per 1000 square feet gross floor area					

An estimated 2,980 additional daily trips will be created by the development of these sites. The distribution of the vehicle trips onto the roadway system was calculated by percentage characteristics of existing traffic conditions. The majority of trips were distributed along SR19, SR116, Irondale Rd, and Chimacum Rd, the key circulation routes throughout the area. Distribution percentages were estimated based on the location within the UGA and the type of land use planned for the site. Land available for development is generally situated along SR19 and SR116, in existing commercial districts. This trend continues through 2010 creating the additional traffic volumes seen primarily on the State Routes and Irondale Rd.

Traffic analysis for the planning period from 2011 through 2024 was based on the assumption that the sewer system would be in place and the intensification of land use adjacent to the sewer system would continue at a higher rate than the 2005-2010 period. Given 54.3 acres of developable commercial and industrial land by the year 2024, it was assumed that the distribution of land use would be broken down into the following uses:

- 20% (11 acres) light industrial

- 80% (43 acres) commercial/retail

Furthermore, it was assumed that 80% of commercial and industrial development would be concentrated in the existing Port Hadlock commercial district with the remaining commercial and industrial development located throughout the SR19 corridor. Trip generation estimates were developed based on a weighted average of trip rates per gross floor area (GFA) for various, common types of commercial and retail developments. In addition to trip rates, average values of GFA for each type of development were taken from *Trip Generation 6<sup>th</sup> Edition*. These values were used to generate average trip rates per acre of developable land, by using the ~~It was assumed~~ ~~that~~ ~~gross floor area is roughly 21% of total land developed.~~ The remainder is taken up by set backs, parking, driveways, landscaping etc. The 21% value was reached through analysis of existing buildings of similar development type in areas comparable to the UGA. The average ratio of gross floor area to total lot area for developments in an urban area came to roughly 21%. This figure was confirmed through calculations involving averages published in *Trip Generation*. Table 5 indicates the types of anticipated development, trip rates and average gross floor area.

**Table 5  
Trip Generation Rates  
(2011 – 2024)**

<b>Anticipated Development</b>	<b>Trip Rates Per 1000 SF GFA</b>	<b>Average SF GFA</b>	<b>Total Trips</b>
1. Quality Restaurant	89.95	9,000	810
2. Medical/Dental	36.13	15,000	542
3. Nursery	36.08	9,000	325
4. Tire Store	24.87	5,000	124
5. Mini-Warehouse	2.50	12,250	31
6. Super Market Expansion	111.51	20,000	2,230
7. Hardware Store	51.29	20,000	1,026
8. Fast Food Restaurant	496.12	3,000	1,488
9. Convenience Market	845.60	3,000	2,537
10. Bank	265.20	4,000	1,061
<b>Total</b>		<b>100,250</b>	<b>10,173</b>

**Table 5 Notes:**

**Gross floor area (GFA)** accounts for roughly 21% of total acreage developed. The remainder is taken up by set backs, parking, driveways, landscaping, etc. This relationship between gross floor area and total acreage of development is derived from published averages in the *ITE Trip Generation Manual*.

Dividing the Average GFA by 0.21 results in the square feet required for the anticipated development:

$$\text{Developed Square Footage} = 100,250 \text{ SF} / 0.21 = 477,381 \text{ SF}$$

Dividing Developed Square Feet by 43,560 Square Feet/Acre yields acres required for the anticipated development.

$$\text{Total Acres of Development} = 477,381 / 43,560 = 10.96 \text{ Acres}$$

Dividing the Total Trips from the anticipated development by the developed acres producing trips yields the Average Trip Generation per Acre.

$$\text{Average Trip Generation per Developed Acre} = 10,173 / 10.96 = 928 \text{ Trips/acre}$$

Multiplying Average Trip Generation per Developed Acre by the total acres of commercial designation (provided by DCD 3/8/2004) yields the projected total trips generated by commercial development for the 2011-2024 planning period.

$$\text{Projected Commercial Trip Generation} = 928 \text{ trips/acre} \times 43 \text{ Acres} = 39,919 \text{ Trips}$$

Using the data from Table 5 and the methodology described in the Table 5 Notes yields a rate of 179-928 trips per acre for typical commercial/retail uses. When applied to the 43 acres proposed for commercial designation, this yields 39,919 average daily trips (ADT) generated by commercial development for the 2011-2024 planning period. Using the rate of 52 trips per acre for 11 acres of industrial uses designation (*Trip Generation 6<sup>th</sup> Edition*) yields 572 ADT, then was determined by multiplying the number of trips per acre by the developable land available. A total of 8,26940,491 average daily vehicle trips ADT are estimated to be generated by future commercial and industrial developments in the UGA and distributed onto the road system for the 14-year period 2011-2024. Using the assumption that 80% of this total will occur near the existing Port Hadlock commercial district, 6,61532,393 ADT will be generated from commercial and light industrial development in this area. The remaining 20% of commercial and industrial development is assumed to occur throughout the SR19 corridor and create 1,6548,098 ADT.

### ***Multi-Family Residential***

Multi-Family residential development will be permitted within the UGA prior to the development of the sewer system but is not expected to develop greatly due to the restraints of on-site septic service. After the assumed availability of the sewer system by 2011, multi-family residential development will proceed at approximately 66 dwelling units per year. This assumption is based on anticipated population growth and residential capacities described in the Irondale & Port Hadlock UGA Preliminary Buildout Analysis (Personius, 3/4/2004). Zoning within the UGA has been updated to reflect this development with the addition of nearly 80 acres of multi-family residential land. This development scenario produces approximately 911 dwelling units during the 2011-2024 planning period. Assuming an average of 2 persons per unit and 3.35 ADT per person, this creates 6104 trips. These trips typically begin near SR-116, Chimacum Rd, and the Port Hadlock Intersection. They are then distributed based on existing traffic patterns in the area.

The projected addition of this level of dense residential development will increase traffic and congestion in areas near these dense developments. It will result in a proportionally decreased population locating in the northern portion of the UGA and lower the traffic impacts in this area. The transportation model for 2004-2010 assumed a traffic growth rate matching population growth at 2.76%. This rate accounts for increases in vehicles on all roadways within the UGA and is a figure to which trip generation is added. From 2011-2024, given that a large percentage of the population is being accounted for through Multi-Family trip generation; it would be inaccurate to assume single-family traffic generation will continue to increase at 2.76%. During this time period, the traffic growth rate is adjusted to 2% annually with vehicle trips added to describe traffic growth resulting from multi-family residential development. This method more accurately predicts how traffic patterns will change in the UGA with the planned concentration of the population.

### ***Trip Distribution***

Distribution of ADT was accomplished through a method of applying percentages from existing turn movement counts. A total of 11,24943,471 trips were assumed to be created through commercial and light industrial development during the planning period. The concentration of population growth into the projected Multi-Family residential developments is accounted for through the 2.76% traffic growth rate assumed throughout the 2005-2024 period. To more accurately model this concentrated traffic, distribution of the 6,104 Multi-Family residential trips was concentrated in the areas immediately surrounding the expected development sites. Although these trips do not necessarily add to projected traffic levels on a region-wide basis, they significantly impact these areas and were modeled accordingly. The percentage of vehicles currently entering and exiting intersections was assumed to remain relatively constant through 2024. The only deviation from this process was to increase the percentage of traffic

entering the Port Hadlock commercial district from SR19 along SR116. This was done to reflect the desire to route traffic to SR19 along SR116 and the assumption that multi-family residential developments will also be served primarily by SR116, putting a higher burden on this roadway and related intersections. Figure 2 displays existing ADT and 2010 and 2024 projected ADT (including trip generation) for impacted road segments. Tables 6 and 7 show vehicle delay and LOS designations for key intersections in and immediately surrounding the Irondale-Port Hadlock UGA, as well as road segment ADT and Level of Service designations. Five intersections situated outside of the UGA boundary have been included in this analysis due to the potential effect the UGA designation and growth of the surrounding area will have on the intersections. These intersections are:

- SR19/Chimacum Rd/Center Rd (Chimacum Intersection)
- SR19/Woodland Dr/Airport Rd
- SR19/Prospect Ave (Kala Point)
- SR19/Anderson Lake Rd
- SR19/West Valley Rd (Chimacum School Intersection)

**Table 6  
Intersection Delay and Level of Service**

INTERSECTION	EXISTING DELAY (seconds)	LOS	GROWTH RATE <sup>1</sup>	2010 VEHICLE DELAY	2010 LOS	2024 VEHICLE DELAY	2024 LOS
Chimacum <sup>2</sup>	12	B	2.76%	19	C	493	F
Port Hadlock <sup>3</sup>	12	B	2.76%	16	C	323	F
SR19&Irondale	14	B	2.76%	18	C	999 <sup>4</sup>	F
Irondale & Mont.	10	B	2.76%	11	B	25	C
SR19 & FourCorners	17	C	2.76%	26	D	257	F
SR19 & SR116	16	B	2.76%	30	D	999 <sup>4</sup>	F
SR116 & Cedar	14	B	2.76%	17	C	999 <sup>4</sup>	F
SR116 & OakBay	10	B	2.76%	11	B	182	F
SR19 & Woodland	14	B	2.76%	18	C	78	F
SR19 & Prospect	16	C	2.76%	19	C	424	F
SR19 & AndersonLk	18	C	2.76%	28	C	242	F
SR19 & WestValley	18	C	2.76%	33	D	999 <sup>4</sup>	F
<sup>1</sup> The actual growth in traffic volumes is due to a base population growth rate of 2.76 percent per year and impacts to traffic from new development in the Hadlock central core area and along SR19. The 2011-2024 period assumes a rate of 2.00%.							
<sup>2</sup> SR 19 and Chimacum/Center Road intersection							
<sup>3</sup> SR 116 and Irondale/Chimacum Road intersection							
<sup>4</sup> Maximum values report by <i>Highway Capacity Software</i>							

**Table 7  
Road Segment Average Daily Trips and Level of Service**

Road Segment	From	To	Existing		Growth Rate *	2010 Forecast		2024 Forecast	
			ADT	LOS		ADT	LOS	ADT	LOS
SR19	North of Irondale	SR20	14,000	D	2.76%	18,437	E	36,574	F
SR19	North of SR116	Irondale	12,470	D	2.76%	16,681	E	33,050	F
SR19	Center Road	SR116	9,878	D	2.76%	13,075	D	26,960	F

Irondale Road	SR19	Montgomery	4,248	C	2.76%	5,002	C	<b>14,518</b>	D
Irondale Road	Montgomery	Hadlock Intersection	4,276	C	2.76%	5,035	C	<b>15,594</b>	D
SR116	Irondale Rd	Oak Bay Rd	5,550	C	2.76%	6,476	C	<b>21,144</b>	E
SR116	SR19	Chimacum/Irondale Rd	6,300	C	2.76%	8,049	C	<b>20,434</b>	E
Cedar Ave	SR116	Montgomery	1,937	B	2.76%	2,281	B	<b>5,758</b>	C
Chimacum Rd	SR116	SR19	5,859	C	2.76%	6,899	C	<b>19,164</b>	E

\* The actual growth in traffic volumes is due to a base population growth rate of 2.76 percent per year and impacts to traffic from new development in the Hadlock central core area and along SR19. The 2011-2024 period assumes a rate of 2.00%.

**Deficiencies**

Under existing conditions, mobility on SR19 is adequate. There are several unsignalized intersections accessing SR19 in the Irondale, Port Hadlock and Chimacum areas. At this time, these roadways typically experience moderate but acceptable delays as vehicles wait for gaps in traffic on SR19. As volumes build, these gaps in traffic will decrease, creating greater delay on the minor legs of intersections. Long vehicle queues will develop and safety may be compromised since vehicles will not have enough time to merge onto SR19. To maintain mobility on SR19, a minimum number of interruptions to traffic flow (traffic signals) should be pursued. The most appropriate way to avoid excessive signalization is to minimize the number of locations of traffic access onto SR19 as well as control turn movements onto SR19. The intersection of SR19 and SR116 (Ness’s Corner) is the most obvious choice for signalization in the near future. If signalized, traffic could be redirected to this intersection by way of further road improvements to facilitate traffic circulation and mobility. The benefits of this would include the following:

- Limited access to SR19 would increase the mobility along SR19
- Minimize impacts of growth to the neighborhoods along Irondale Rd.
- Greater control of turn movements onto SR19
- Reduce existing delays on the minor leg of the intersection
- Provide safe, efficient route through the UGA for freight and other commercial traffic

It is likely that signalization of the SR19/SR116 intersection would create sufficient gaps in traffic along SR19 to allow safer, more comfortable turn movements onto SR19. Although this intersection will reportedly be projected to operate at LOS D by 2010, the minor leg control delay on SR116 approaches 62 seconds per vehicle and operates at LOS F. To reduce this delay, relieve congestion and enhance safety, this intersection should be signalized within the next six years.

Several intersections experience similar problems to those of the SR19/SR116 intersection. SR19 typically experiences acceptable flow while intersecting roadways begin to develop long delays as vehicles attempt to turn onto SR19. At intersections with lower turn movements such as SR19 and Woodland Dr, SR19 and Prospect Ave, SR19 and Anderson Lake Rd, minor leg delay and LOS deficiency can be alleviated through the addition of flared-right turn pockets that allow right-turning vehicles space to move around left-turning vehicles. While these intersections are located outside of the UGA, their operational status is dependent on the operational characteristics of SR19 inside of the UGA. As such, they are included in the transportation analysis for the UGA. Preliminary planning analysis of these improvements and the potential gaps created by signalization at SR19 and SR116 show slight increases in level of service through 2024.

If growth and development continues as planned over the next twenty years, further improvements to the road system will be required to maintain adopted Level of Service standards. Signalization of additional intersections will be required to handle significantly increased volumes projected to occur by 2024. In addition, capacity improvements will be required on SR19 and SR116 to handle expected higher volumes of traffic.

Based on projected volumes, signal improvements as shown in Table 8 will be required at the following intersections by 2024:

Inside the UGA:

Hadlock Intersection  
SR19 and Irondale Rd  
SR116 and Cedar Ave

Outside the UGA:

Chimacum Intersection  
SR19 and West Valley Rd.

The suggested improvements discussed below are based solely on future Level of Service projections and engineering assumptions and judgment. It is assumed these improvements will not be required during the 2005-2010 planning period given estimated LOS projections. At this time, only estimates have been made as to the satisfaction of State recognized Signal Warrants. Satisfaction is based on the following warrants:

- Warrant 1 - Eight Hour Vehicular Volume
- Warrant 2 - Four Hour Vehicular Volume
- Warrant 6 - Coordinated Signal System
- Warrant 8 - Roadway Network

The Washington State Department of Transportation recognizes the above warrants as listed in the *Manual on Uniform Traffic Control Devices* (MUTCD), Chapter 4C. These locations should be monitored and an engineering study of traffic conditions at each location should be performed to determine when installation of a traffic control signal is justified. The timing of intersection improvements along SR19 must consider a balance between providing mobility along the arterial and accessibility from the intersecting roadways.

**Port Hadlock Intersection (Inside UGA).** The Port Hadlock intersection is currently an all way stop controlled intersection in the heart of the Port Hadlock commercial district. At current traffic volumes, this intersection functions extremely well as a stop-controlled intersection. As volumes build toward projected 2024 levels, service at this intersection begins to break down and signalization will be required to handle the denser, urban conditions that are expected as growth occurs in the core Port Hadlock commercial district.

**SR19 and Irondale Rd (Inside UGA).** Conditions at SR19 and Irondale Rd will become similar to that of the intersection of SR19 and SR116. Possible widening of SR19 through the UGA to four lanes of traffic would further increase the difficulty and danger of vehicles turning onto SR19. Signalization of this intersection will be required to handle increased volumes on both legs.

Due to close proximity, it is possible that a signal at both SR19/Irondale Rd and SR19/Four-Corners Rd (just outside of the UGA) could place unfavorable restrictions on the mobility of SR19. Signal Density on SR19, as described in the Transportation Research Board's (TCB) Highway Capacity Manual (HCM), is borderline to recommended levels with two signals at these intersections. To minimize the number of stops along SR19 and reduce financial costs, it is recommended that an alternate solution to signalization of both intersections be studied.

**SR116 and Cedar Ave (Inside UGA).** Development along SR116 and in the Port Hadlock commercial district will increase the importance of SR116 as a major collector of SR19. Both legs of this intersection

will experience increased volumes and an unacceptable level of service. It is desired and anticipated that SR116 will continue to be the primary route to connect the Port Hadlock core and SR19. Signalization of this intersection will facilitate safety and access to and from SR116 and Cedar Ave. Prior to signalization the addition of right turn vehicle storage on the southbound leg of Cedar Ave should be considered. This improvement will likely increase the functional capacity of this intersection and maintain an acceptable, urban level of service until signal warrants are met.

**Chimacum Intersection (Outside UGA).** Increasing volumes at this all way stop controlled intersection will require signalization to maintain mobility on SR19 and handle increasing volumes along Chimacum Rd/Center Rd due to growth and development expected in the Port Hadlock commercial core.

**SR19 and West Valley Rd (Outside UGA).** Currently this intersection has both left and right turn lanes with adequate storage in each. However, this intersection is the principal access to Chimacum School and at peak times experiences long delays due to traffic to and from the school including numerous school buses. Undesirable delays and safety concerns may dictate signalization of this intersection.

**SR19 Roadway Level of Service** capacity for SR19 as a ~~two~~-two-lane highway with turn lane median is a maximum of 14,300 ADT for LOS threshold "D". Figure 2 shows that existing conditions approach this threshold. The ~~projected~~-2024 volumes for all segments within the UGA are projected to ~~of~~ 29,292 ADT exceeds capacity and results in the roadway operating at LOS F. (See Figure 2 and Figure 3.) Capacity improvements will have to be completed to increase the level of service of SR19 to acceptable standards both inside and outside of the UGA. Typically this involves the addition of travel lanes in each direction including illumination, stormwater mitigation, right-of-way acquisition, and wetland reparations. Capacity (mobility) improvements for SR 19 are included in the Washington State Highway System Plan: 2003-2022, Appendix K, page 24.

**SR116 Roadway Level of Service** capacity for SR116 as a ~~two~~-two-lane highway is a maximum of 12,900 ADT for LOS threshold "D". The ~~projected~~-2024 volumes for the segments within the UGA are projected to ~~of~~ 16,337 ADT exceeds this threshold and results in the roadway operating at LOS E. Capacity improvements will have to be completed to increase the level of service of SR116 to acceptable standards. Typically this would involve widening the roadway through the addition of a two-way left turn lane, curb, gutter & sidewalk, illumination, stormwater mitigation, right-of-way acquisition, and wetland reparations.

Growth and development in the Irondale-Port Hadlock UGA will have some impacts to the transportation system. A significant portion of that impact will occur on SR19 and SR116. The Washington State Department of Transportation (WSDOT) has jurisdiction over these roads. Continued and increased intergovernmental coordination between WSDOT and Jefferson County will become more important to coordinate transportation improvements within and adjacent to the Irondale-Port Hadlock UGA. The coordination will be necessary to accommodate future population growth and development while mitigating the resulting impacts and increased congestion from both within and outside the UGA.

## ENVIRONMENTAL CONSIDERATIONS

Human activity can have a major impact on vegetation, wildlife, and water resources. Land use policies seek to protect the environment, conserve our resources, and permit future development only in areas that can support it without significant adverse impact. Protecting the natural environment, including environmentally sensitive lands in developed areas of the UGA requires the following:

- Preserving ecological balance
- Maintaining or improving air and water quality

- Retaining open space in its natural state
- Protecting groundwater from pollution
- Providing public access to and setbacks from environmentally sensitive land

New developments within the Irondale-Port Hadlock UGA ~~should will be encouraged~~ required to ~~occur in a manner that will reduce or minimize~~ and mitigate adverse environmental impacts. The UGA designation will have little impact on the transportation system. This is not to say that there ~~are~~ will not transportation issues or needs associated with growth in and adjacent to the UGA, only that designation as a UGA is not the overriding factor. The foremost effect the UGA will have on transportation will be when the availability of sewers to the commercial / industrial / multi-family zoned ~~designated~~ areas allows them to be developed more intensely ~~densify and become more intense~~ generate higher traffic volumes ~~generators~~. The analysis shows that a total of about ~~17,000~~ 43,471 additional trips per day would be generated during the twenty-year planning period and distributed onto the road system.

Transportation decisions are not, and should not be, exempt from environmental review. Impacts to the natural and built environment need to be taken into consideration before any major transportation improvement projects are made. Most transportation projects are subject to state and federal environmental regulations as well as any local environmental laws that apply. County road projects routinely follow NEPA\SEPA regulations unless they are specifically exempted.

## CAPITAL FACILITIES

The concurrency requirement in the Growth Management Act (GMA) states that "...public facilities and services ... shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards." [GMA, Section 2, Planning Goals (12)] This means that public facilities and services must be in place to serve the proposed use at the level of service (LOS) set by the community. Some improvements may be completed in whole or in part, by new development within the UGA. A program should be established to complete construction of these projects in the succeeding time period.

Under current State law and Jefferson County Comprehensive Plan policies, highways owned by the State (State Routes) are not bound by the constraints of concurrency requirements. In these instances, the timing and prioritization of improvements is ultimately that of the Washington State Department of Transportation. Typically, WSDOT coordinates with the local jurisdiction and regional transportation planning organization to maintain a balance between the free-flow movement of people and goods, and the needs of the local community.

Total transportation facility improvements for the complete 20-year planning period (2005-2024) are summarized in Table 8. These improvements are directly or indirectly associated with development and growth in the Irondale-Port Hadlock UGA. ~~Jefferson County and the PRTPO are currently applying to WSDOT has to~~ classified SR19 as a principal arterial and Highway of Statewide Significance (HSS). ~~This~~ Changes in the functional classification of SR19 will likely qualify the roadway for more state and federal funding to bring ~~it~~ the Highway of Statewide Significance (HSS) into compliance with standards. Transportation facility improvements for the six-year planning period, 2005-2010, are included in Table 8. This estimate includes the Chimacum Rd improvements proposed in the Jefferson County Six-Year Transportation Improvement Program (TIP). Proposed improvements to this roadway include:

- Intersection realignments and improvements
- .57 miles of reconstruction

Proposed funding sources for this project include \$500,000 in Rural Arterial Program (RAP) funds and \$217,000 in local funding.

The SR19/SR116 intersection (Ness's Corner) is a state owned facility. Improvements will likely be funded by a combination of State and local funds. This intersection currently satisfies State warrants for signalization but is well down on the priority list of proposed projects to receive funding. Project funding options, including the application of local funding to this project, should be considered to insure this project is completed at an appropriate time. Proposed improvements include reconstruction and signalization of this intersection to urban standards.

Table 8 also shows transportation facility improvements associated with new development that should require completion or participation by adjacent property owners either through private road construction or by reconstructing public roadways through the Road Improvement District Program (RID). Required Constructing necessary transportation improvements to serve new development transportation facilities should be specifically required by County Comprehensive Planas planning policies and Unified Development Code zoning standards to assure completion. This will help disburse capital facility investments required by state and local agencies. All costs shown in Table 8 include an assumed annual inflation rate of 2.2%.

## CONCLUSION

The analysis in this portion of Chapter 2 shows that overall impacts from the development of the UGA on the transportation system and potential transportation needs in the UGA and adjacent areas are manageable. While the UGA designation may impact transportation by increasing demand earlier than it would have otherwise occurred, the impacts would still be likely to occur without UGA designation. The primary concern has been and continues to be the SR19 Corridor and how future adjacent land use will impact its ability to carry through-traffic.

While this analysis considers the overall growth of the UGA and is based on the land use assumptions provided and known at this time, further analysis of the transportation system should be undertaken when initial land use regulations are in place in order to determine impacts to individual neighborhoods within the UGA. Further analysis should look at impacts to road segments based on zoning designations in a more localized manner within the UGA. This could lead to changes in land use, to transportation standards, or transportation improvements.

**Table 8  
Transportation Improvements (2005 – 2024) – Regional and UGA Needs**

<b>Non-Capacity Projects 2005 – 2010</b>							
Route I.D.	Route Name	Description	From M.P.	To M.P.	2005-2010 Cost	Funding Source(s)	Funding Status
<u>Inside UGA</u>							
932507	Chimacum Rd.	County Shop to W. F. Chimacum Crk.	0.41	0.98	\$ 720,000	RAP / Local	Proposed
SR19/116	SR19 @ SR116	Signalization - Reconstruct to Urban Stds.	10.71	10.71	\$ 334,484	WSDOT/Local	Proposed
<b>Total Non-Capacity Projects 2005 – 2010</b>					<b>\$ 1,054,484</b>		
<b>Non-Capacity Projects 2011 – 2024</b>							
Route I.D.	Route Name	Description	From M.P.	To M.P.	2011-2024 Cost	Funding Source(s)	Funding Status
<u>Inside UGA</u>							
SR116	Port Hadlock Intersection	Signalization (2017-18)			\$ 434,297	WSDOT/Local	Unfunded
SR19	SR19 @ Irondale Rd.	Signalization (2018-19)			\$ 346,500	WSDOT/Local	Unfunded
SR116	SR116 @ Cedar Ave.	Signalization (2018-19)			\$ 346,500	WSDOT/Local	Unfunded
<u>Outside UGA</u>							
SR19	SR19 @ Prospect Ave.	Intersection Improvements (2011-13)			\$ 243,270	WSDOT/Local	Unfunded
SR19	SR19 @ Anderson Lk. Rd.	Intersection Improvements (2014-15)			\$ 254,091	WSDOT/Local	Unfunded
SR19	SR19 @ Woodland Dr.	Intersection Improvements (2014-15)			\$ 254,091	WSDOT/Local	Unfunded
SR19	SR19 @ West Valley Rd.	Signalization (2020-21)			\$ 361,914	WSDOT/Local	Unfunded
SR19	Chimacum Intersection	Signalization (2020-21)			\$ 445,160	WSDOT/Local	Unfunded
<b>Total Non-Capacity Projects 2011 – 2024</b>					<b>\$ 2,685,823</b>		
<b>Capacity Projects 2005 - 2024</b>							
Route I.D.	Route Name	Description	From M.P.	To M.P.	2005-2024 Cost	Funding Source(s)	Funding Status
<u>Inside UGA</u>							
SR19	SR19	Widen to Four Lanes (2020-22)	10.50	11.75	\$ 5,978,800	WSDOT	Unfunded
SR116	SR116	Widen to Three Lanes (TWLTL) (2020-22)	0.0	1.11	\$ 2,408,700	WSDOT	Unfunded
<u>Outside UGA</u>							
SR19	SR19	Widen to Four Lanes (2020-22)	9.00	10.50	\$ 7,174,600	WSDOT	Unfunded
SR19	SR19	Widen to Four Lanes (2020-22)	11.75	14.16	\$ 11,527,100	WSDOT	Unfunded
<b>Total Capacity Projects 2005 - 2024</b>					<b>\$ 27,089,200</b>		
<b>Private Developer Projects 2005 – 2024</b>							
Route I.D.	Route Name	Description	From M.P.	To M.P.	2005-2024 Cost	Funding Source(s)	Funding Status
<u>Inside UGA</u>							
932507	Chimacum Rd.	Reconstruction to Urban Stds.	0.41	0.64	\$ 138,600	Developer	Unfunded
SR116	SR116	Reconstruction to Urban Stds.	0.12	0.47	\$ 210,000	Developer	Unfunded
SR116	SR116	Reconstruction to Urban Stds.	.47	1.11	\$ 164,000	Developer	Unfunded
658909	D Street	Reconstruction to Urban Stds.	0.00	0.10	\$ 72,722	Developer	Unfunded
634509	Hunt Rd	Reconstruction to Urban Srds	0.00	0.20	\$ 115,000	Developer	Unfunded
933507	Irondale Rd	Reconstruction to Urban Stds.	1.56	1.79	\$ 284,545	Developer	Unfunded
<b>Total Private Developer Projects 2005 - 2024</b>					<b>\$ 984,867</b>		
<b>Total All Projects 2005 - 2024</b>					<b>\$ 31,814,374</b>		