

### 3. NEED FOR IMPROVEMENTS

This chapter provides a short summary documenting the existing and potential future need for transportation system improvements within the Woodland Study area. Also presented is an overview of the development and evaluation of alternatives leading to the recommended improvement plan.

#### 3.1 EXISTING NEEDS AND DEFICIENCIES

Incorporated in 1906, the City of Woodland has recently been experiencing significant growth in both population and employment. Between 1990 and 2004 the city's population grew by approximately 65 percent (from 2,500 to nearly 4,100) or at an annualized rate of 3.7 percent, making it the fastest growing city in the Cowlitz-Wahkiakum area. Some of this population growth has been attracted by the 32 percent increase in local jobs (1994 to 2004). Other factors influencing growth include the city's convenient location between two growing metropolitan areas (Longview/Kelso and Portland/Vancouver), lower housing costs, and small town atmosphere which have combined to make Woodland an attractive home for commuters. The city's employment includes a strong base in retail, service and industrial sectors which grew by roughly 32 percent between 1994 and 2004. As of 2004, total employment in the city is estimated at over 3,000 jobs. In addition to local employment, the city also has a strong retail employment base as the market area for these services covers a sizeable area of southern Cowlitz and northern Clark County, in addition to I-5-related retail demand.

Consistent with the growth in both population and employment, traffic volumes on major streets in Woodland have also grown over the past five to ten years (ranging from 2 to 4 percent per year in the eastern and northwestern portions of city). This growth has affected existing traffic operations and accident experience within the city and presents challenges to be addressed by the community to ensure that adequate transportation resources are available to support future growth expectations. A detailed discussion of the existing transportation system and its surrounding built and natural environment is included in Appendix A. In summary, existing transportation problems affecting the major street and highway system in Woodland include the following:

- **Congestion.** While the I-5 interchange with SR 503 currently operates at acceptable levels of service, long traffic queues are now being experienced on the northbound off-ramp leading into the city from Clark County and east/west traffic movement through the interchange is constrained by the close proximity of the existing signalized intersections. Operational failures are presently occurring for side street traffic at the unsignalized intersections of SR 503 (Lewis River Road) at N Goerig Street, SR 503 at E Scott Avenue, and Buckeye Street at Goerig Street.
- **Safety** A more significant existing problem on major streets in the city is the high accident experience, particularly along sections of SR 503 (Goerig Street to Gun Club Road) and at the intersections of the state highway with Insel Road. SR 503 in the eastern portion of the city has been identified as a High Accident Corridor by WSDOT between N. Goerig Street to the north City limits. This highway segment experiences a relatively high number rear end collisions resulting from frequent turning movements and limited sight distance in a number of locations. Existing accident experience has led to many of the improvement recommendations in the city's Transportation Plan which involve widening of SR 503 to provide for center turn lanes and other improvements. Additionally, concern was raised during the

public process about the ability of heavy trucks to accelerate up the northbound on-ramp to I-5 from Dike Road.

- **Connectivity** Contributing to the existing safety and congestion problems within the City is the lack of east/west roadway connections which force all local traffic crossing I-5 to travel through the existing interchanges. This creates significant delay for persons traveling from home on the predominately residential east side to school and shop on the west side. Traffic queues in excess of one-quarter mile have been observed along Pacific Avenue traveling towards SR 503.
- **Truck traffic** There is a significant volume of truck traffic in the industrial sections of city (including the Port of Woodland) and on other streets resulting from logging and quarry operations outside of the urban growth area. In the northwestern portion of the city, truck traffic comprises more than 20 percent of existing volumes on selected streets, with significant levels also occurring in the southwestern portion of the city and as much as 5 percent of the traffic stream along SR 503. This level of truck traffic can have a major effect on traffic movement and on the development and consideration of improvement alternatives.
- **Railroad Crossings** Several east/west streets on the west side of Woodland are impacted by the existing at-grade crossings of the BNSF railroad. Of particular significance are Davidson Avenue west of 5th Street and W Scott Avenue east of N Pekin Road. As the level of train traffic increases the connectivity of the local street network will be important to provide travel route alternatives.
- **Roadway Design Issues** – The existing street and highway system in Woodland is challenged by several deficiencies in current roadway design including:
  - Sight distance impairment at two locations along SR 503, approaching the N Goerig Street intersection from the south, and approaching the E Scott Avenue intersection also from the south.
  - Many segments of SR 503 do not currently meet WSDOT standards for access management resulting in frequent turning movements and associated delay and safety problems.
  - Physical constraints around the Dike Road interchange related to the rail and freeway overcrossings, and at the SR 503 interchange due to the short spacing between some major intersections (such as the I-5 ramps and CC Street, including Atlantic Avenue).
  - Confusion at the intersection of SR 503 with the I-5 northbound off-ramp/Atlantic Avenue as some travelers have been observed treating Atlantic Avenue as a one-way street (e.g., for northbound traffic), rather than an existing two-way street.
- **Pedestrian and Bicycle Facilities** – The existing pedestrian system currently has large gaps, particularly along SR 503 and N Pekin Road.
- **Emergency Response** – Concern has been raised about the negative effect of railroad blockage of Scott Avenue and Davidson Avenue on emergency response to northwestern Woodland.

### 3.2 NEEDS AND DEFICIENCIES ASSOCIATED WITH COMMUNITY GROWTH

Significant growth in traffic congestion is anticipated in the Woodland study area by the planning horizon year of 2025, at which point the community is expected to add

approximately 4,100 more residents in comparison with 2007 estimates (approximately 80 percent increase over current levels). Additionally, Woodland employment is forecasted to more than double by 2025. A significant share of this employment growth is expected to occur in the northwest portion of the city anticipated associated with the Port of Woodland's industrial properties and other activity. Employment growth in this subarea is expected to increase by 148 percent and is highly dependent on good access to/from I-5.

Along with this growth, it is anticipated that traffic volumes will grow substantially and that many intersection in the study area will operate with unacceptably long delays. Failing intersections would include:

- I-5 southbound ramps/Pacific Avenue at SR 503
- I-5 northbound ramps/Atlantic Avenue at SR 503
- SR 503 at CC Street
- SR 503 at Goerig Street (both westerly and easterly intersections)
- SR 503 at E. Scott Avenue
- I-5 southbound ramps at Dike Road
- I-5 northbound ramps at Dike Road
- Old Pacific Highway at Green Mountain Road
- Old Pacific Highway at E. Scott Avenue
- Davidson Avenue at 5th Street
- Buckeye Street at Goerig Street

Within the vicinity of the I-5 interchange at SR 503 signalized traffic operations are affected by vehicles spilling back from one intersection to another. Traffic queues are expected to be lengthy and impact the entire interchange area from approximately Buckeye Street on the west to beyond CC Street on the east. This congestion is expected to have implications for the I-5 mainline as traffic backs up on the northbound off-ramp are expected to increase to approximately 1,300 feet.

For unsignalized intersections, traffic operational failures affect primarily the stop-controlled side streets where long delays and lengthy queues would be experienced. Traffic queues on the I-5 off-ramps to Dike Road are expected to exceed 700 feet on the southbound ramp and to be nearly 500 feet in length on the northbound ramp.

A detailed discussion of community development expectations and resulting transportation infrastructure problems is included in Appendix C.

### **3.3 DEVELOPMENT AND EVALUATION OF IMPROVEMENT OPTIONS**

The development of improvement options focused addressing the major transportation system issues within the City of Woodland including: existing and future congestion problems at the I-5 interchanges, the lack of east/west connectivity within the city for non-freeway traffic, lack of east/west accessibility over the BNSF mainline railroad, and safety issues along SR 503 in the eastern portion of the city.

A phased analysis process was undertaken which developed and evaluated a wide range of improvement options. The initial phase focused on brainstorming potential improvements which were screened against a series of evaluation criteria developed through the technical and public involvement process. The result of this screening was identification of a "short list" of feasible improvement options for which a more detailed evaluation and conceptual design process was conducted. The development and evaluation of improvement options is

documented in detail in Appendix D. This evaluation has lead to the identification of a series of improvement recommendations that are discussed in detail in Chapter 4.