

APPENDIX F

Identification of Improvements Needed to Support Planned Development

The County maintains a traffic forecasting model used to estimate the impacts of planned development on the County arterial system. The basic forecasting methodology includes the following tasks:

Utilizing the adopted County land-use plan and existing traffic volumes for base information, traffic assignments and forecasts for the County arterial system are developed for the base year (e.g. 2005), as well as for future years (e.g. 2015 or 2025). These assignments and forecasts identify the capacities of the existing and future arterial system and the projected volumes for the future years. Road improvement projects to support the adopted land-use plan are identified in the Transportation Element of the Snohomish County GMA Comprehensive Plan.

Traffic Forecasting Model

Future travel patterns and congestion on County arterial roadways are forecast through the use of a computer model that incorporates expected changes in land use, population, employment, and transportation facilities in accordance with VISION 2040, a growth and transportation strategy for the Central Puget Sound Region as adopted by the Puget Sound Regional Council in February 2008.

The transportation model consists of two basic elements:

1. a "trip table" or matrix that contains all the trip interchanges between designated traffic analysis zones, and
2. a network representing the arterial road system.

The data and processes leading to the creation of a trip table are developed at the regional level by the Puget Sound Regional Council. Using regional population and employment forecasts, the Regional Council proceeds through the three steps of trip generation, trip distribution, and mode split to produce vehicle trip tables. The trip tables are then assigned to Snohomish County's arterial road network. The arterial road network includes the complete system of arterial roads within the unincorporated area of Snohomish County, the cities and towns of Snohomish County, and the state highways.

Calibration of the model is accomplished by comparing the computer generated traffic estimates for the base year (2005) with existing traffic data gathered during 2003 through 2006. Adjustments are then made in the computer model to calibrate the model with existing traffic volumes and patterns.

The process used to develop the trip tables for the years 2015 and 2025 are identical to that used to develop the base year trip tables. The future year trip tables are acquired from the Regional Council and assigned to the future year networks. These networks are edited to reflect the addition of those road improvements that are reasonably anticipated to be accomplished by 2015 and 2025. The results of this modeling effort include p.m. peak hour traffic forecasts for the years 2015 and 2025 for the County arterial road system within Snohomish County.

For a more detailed discussion of the traffic assignment and modeling process, see Technical Memorandum 12-15, Traffic Forecasts and Level of Service Analysis for Snohomish County's Transportation Element, December 2005, published as a supplement to the Transportation Element of the Snohomish County GMA Comprehensive Plan.