



Chapter 1: Introduction

A. Background

The City of Woodinville is located in Western Washington, in northern King County. Woodinville is a small suburban city in the Puget Sound area with neighboring cities, Redmond and Kirkland to the south, Bothell to the northeast and Mill Creek and Snohomish County to the north. As of April 1, 2009, the City's population is 10,670 (Office of Financial Management). While Woodinville has a small residential population, it has a complicated transportation system with two state highways, one major east west arterial (Woodinville-Duvall), and a rail corridor running straight through downtown. This has resulted in complex transportation challenges for the City. These challenges remain today.

The purpose of the transportation master plan is to identify infrastructure needs for both motorized and non-motorized transportation to support the land use goals selected for the city; and to compile this information in one document in a comprehensive manner. The goal is to provide a safe, efficient, economical, and environmentally responsible transportation system for future growth and development. This plan and the policies and goals that are developed as a result will work in concert with the Downtown Little Bear Creek Plan and the City's Comprehensive Plan. The Transportation Master Plan (TMP) reflects the policy direction from the

Planning Commission and City Council on how to plan for transportation so it aligns with land use goals.

B. History and Context

The City's first Comprehensive Plan was adopted in 1996. This was the first document other than the Capital Improvement Plan to plan for future transportation improvements in coordination with land use planning. The comprehensive plan was routinely updated each year with a major update in 2002. A non-motorized plan for pedestrian and bike was developed by the Parks Department in 2005. The city has also developed 5, 10 and 20 year Capital Improvement Plans (CIP) for motorized and non-motorized infrastructure. Additionally, a Transportation Improvement Plan (TIP) with six years worth of capital improvement projects is developed and adopted by the Council yearly to meet state requirements. This plan will consolidate the multiple planning efforts of the city into one document for a unified vision.

The first transportation planning effort completed as part of the 1996 Comprehensive Plan included grid roads as part of a fully functioning downtown. The figure below shows how grid roads have historically been planned transportation improvements, in addition to widening the City's bi-pass routes. The grid roads were planned in 1993 because of their importance for providing connectivity in the



C. Planning Process

Technical Methodology:

Transportation Demand Model

A new transportation demand model was built for this transportation master plan. Transportation Engineering Northwest (TENW) was selected as the consultant to build the new transportation demand model for the City. The model was built using EMME/2 software which is the same software used by the Puget Sound Regional Council. Staff worked with the consultant to develop a new set of transportation analysis zones (TAZ). Once the new TAZ structure was developed, a comprehensive land use survey was completed. This land use survey provided the consultant the information necessary to calculate the trip generation (the number of car trips) generated by each TAZ. The model was then calibrated with recent traffic counts to ensure accuracy. Future land use scenarios were developed using existing zoning but speculating on what percentage of properties would be redeveloped in the future in each TAZ. Three growth scenarios were calculated: a low, medium, and high growth scenario. The modeling process, growth scenarios, and model results are discussed in more detail in Chapter 3.

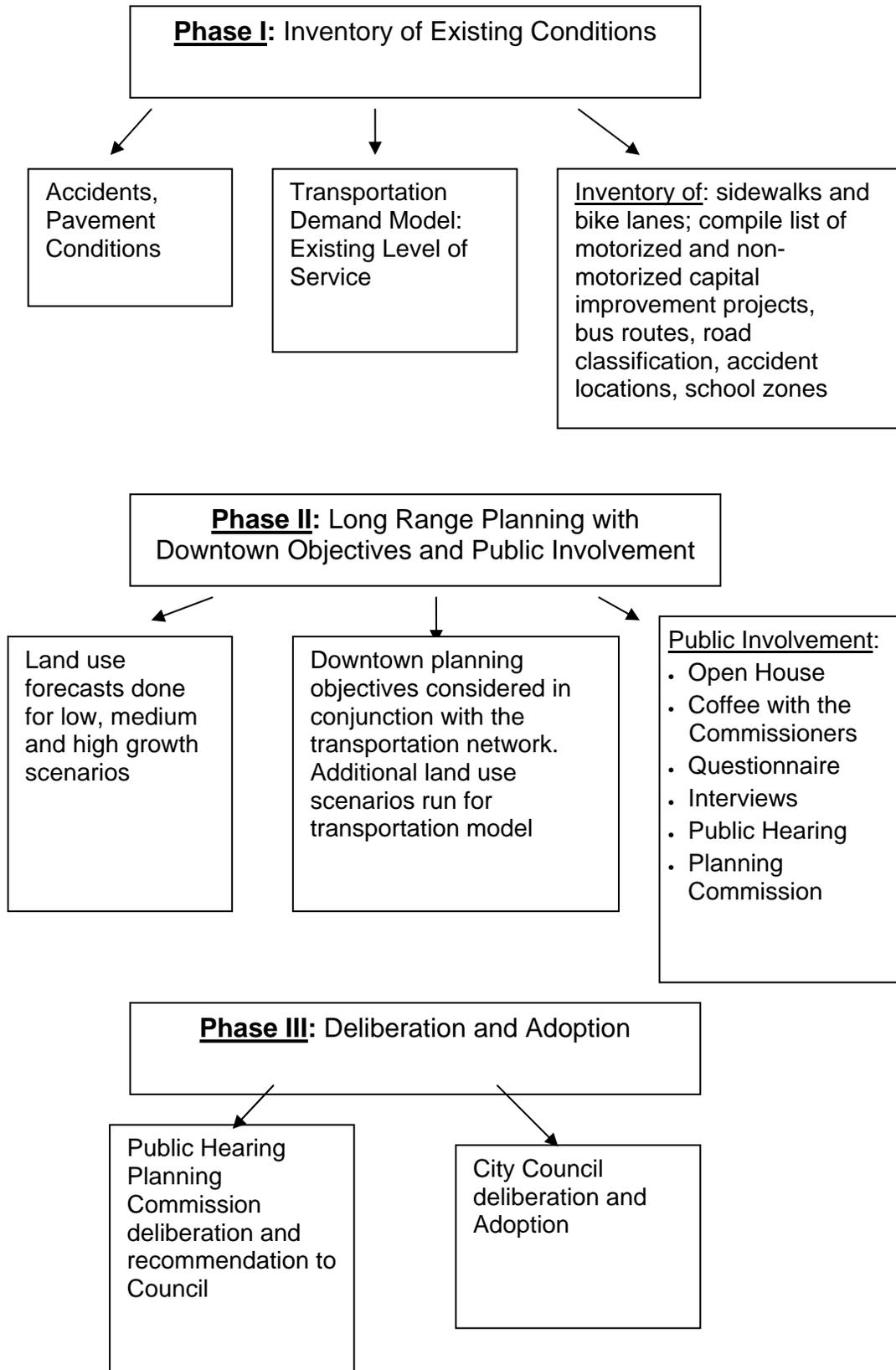
Planning Process/Public Involvement

The planning process was completed in three phases. The first phase was to conduct a system wide inventory. This included accidents, pavement conditions, existing level-

of-service for intersections determined, and a complete inventory of the non-motorized system, including bike lanes and sidewalks. The new transportation demand model was run to give a baseline for existing level of service. An existing capital improvement project (CIP) list for motorized and non-motorized projects was compiled. This first phase in the planning process was to assess existing conditions in order to inform planning efforts.

The second phase of the planning effort was to model the low, medium and high growth scenarios. These results were then shared with the Planning Commission and the public so a discussion on how to plan could begin. Ultimately, the transportation planning discussions and decisions made were to support the downtown land use planning. The public involvement included an open house on May 13, 2009 from 4 PM to 8 PM in the Carol Edwards Center; 14 coffee with the commissioner's sessions and multiple private interviews; and a citywide questionnaire was mailed to all residents of which the city received over six hundred returned surveys. The master plan was discussed at the Planning Commission meetings of May 6, May 20, June 3, and July 1, 2009. A copy of the presentations and information presented is included in Appendix L: Presentations to the Planning Commission on the Transportation Master Plan. The City's Planning Commission held a Public Hearing on November 23, 2009, and recommended the Draft Transportation Master Plan for adoption by the City Council.

Figure 1C-1 Planning Process Chart





D. State and Regional Policy Context

The City's plan must meet a number of state and regional requirements. These include compliance with the Growth Management Act (GMA), the Puget Sound Regional Council Vision 2020 and Destination 2030, CTED, and are consistent with the King County Countywide Planning Policies.

E. City of Woodinville Transportation Goals & Policies

1.1 Purpose of the Transportation Master Plan

The Transportation Master Plan consists of goals, policies, recommendations, and implementation plans to guide the development of the City's transportation system in support of the City's vision for the future.

The Transportation Master Plan is intended to ensure that the City's transportation infrastructure and its management meets the needs of the City's populace and economy for safe, efficient, and economical local transportation and access to regional transportation facilities and services today, and identify improvements to meet future population and employment growth within the City. It is intended that the Transportation Master Plan:

1. Support, coordinate, and integrate with the plans of the other elements of the Comprehensive Plan.
2. Establish a framework for transportation system planning, development, and management processes.
3. Meet level of service, concurrency, and related elements of the Growth Management Act.
4. Address transportation facilities, services, and strategies for providing an array of practical alternatives for multi-modal mobility via:
 - Automobile and truck
 - Public transit, high-occupancy vehicle, and rideshare modes
 - Non-motorized (bicycle and pedestrian modes)
5. Emphasize cost-effective, environmentally sound, and fundable transportation improvement measures, which promote and enhance the livability and attractiveness of the City's neighborhoods and activity centers.
6. Promote efficient use of the existing transportation system components through Transportation System Management.
7. Coordinate with all transit, municipal, regional, and state jurisdictions, as well as the private sector, in development and operation of the transportation system and transportation services.



1.2 The Transportation Setting

1. **Roadway and Capacity, and Level of Service (LOS)**. Woodinville's roadway system serves cars, trucks, buses, bicycles, and pedestrians. Woodinville's roadway system connects to those of the City of Bothell, King County, Snohomish County and the state highway system.

The City's adopted LOS for its roadway system is "E" throughout the City, codified in WMC 21.25.030.

2. **Transit**. Metro Transit and Sound Transit currently serve the City of Woodinville. Most of Metro's routes serve commuters traveling to either downtown Bellevue or downtown Seattle. In the downtown area, NE 171st Street, NE 175th Street, 140th Avenue NE, and a portion of State Route (SR) 202 are served by transit; Woodinville-Duvall and NE 195th Street are also served by Transit. Sound Transit has one express route in Woodinville, which is an express route that serves Bothell, Lake City and Seattle. There is no bus service along SR 202 or in the Tourist District. To get to a destination in Snohomish County, a transfer to Community Transit is necessary.
3. **Non-motorized**. Woodinville has a system of non-motorized facilities that serve bicyclists, in-line skaters, pedestrians, and other non-motorized transportation. The system is made up of sidewalks, paved shoulders, and paved and unpaved trails that provide connections between the downtown, the Tourist District, and the neighboring cities of Bothell and Redmond. The most heavily traveled non-motorized facility within the City is the Sammamish River Trail, which parallels the Sammamish River connecting to the Burke-Gilman Trail system.
4. **Freight Mobility**. The efficient delivery of freight goods is important to the vitality of Woodinville's retail and manufacturing businesses. The cost of moving freight is directly related to roadway congestion and the delay incurred by it. If the cost to deliver freight increases in Woodinville relative to its neighbors, business will be impacted. Woodinville is traversed by railroad tracks owned by the Burlington Northern Santa Fe (BNSF) Railway, which connects the BNSF Pacific Mainline at Tukwila with the Steven's Pass line at Snohomish Junction West. The Port of Seattle acquired the Eastside Railroad Corridor from BNSF on December 21, 2009. The Port was joined by several local agencies to help procure a deal with BNSF. King County, Sound Transit, the City of Redmond, Puget Sound Energy, and the Cascade Water Alliance has partnered with the Port. At this time, negotiations are underway to determine each partner's investment in the property. The use of the rail corridor will change in the near future. King County intends to purchase an easement for a trail from the Port of Seattle along the portion of the corridor from Renton to



Woodinville. The future development of this rail corridor through Woodinville may include freight, an excursion train, commuter rail and a non-motorized trail.

5. **Neighborhood Preservation.** The citizens of Woodinville are sensitive to cut through traffic on residential streets and its impact on the safety and livability of their community. Cut through traffic may be the result of congestion on arterials, by a lack of sufficient connections within the street network, or other factors.
6. **Regional Coordination.** Woodinville serves as a crossroads for regional SR 202 and SR 522 (and SR 9 within the UGA). Other regional routes also cross through Woodinville such as Woodinville-Duvall Road and Woodinville-Snohomish Road. Woodinville's regional planning partners include King County, Snohomish County, and the Cities of Bothell, Kirkland and Redmond. In addition, Woodinville is within the Interstate 405 (I-405) planning area.
7. **Funding.** The City of Woodinville endeavors to fund the development and construction of transportation projects to provide continued mobility and maintain adopted LOS. Projected revenues are unable to fund all projects. The City utilizes grant programs at the state and federal level and public / private partnerships that are available to supplement City-generated revenue. In addition to the public funding, the City of Woodinville collects impact and/or mitigation fees to offset LOS reduction and land use needs.
8. **Downtown Street Development.** Woodinville's downtown area is the commercial backbone of the City. In addition to being the primary area of commercial activity, it is also the most urbanized part of the City with the most traffic congestion. The Little Bear Creek Downtown Master Plan's land use planning and transportation planning have been completed in coordination to assure that the downtown transportation system, motorized and non-motorized, supports the land use planning goals for downtown.
9. **Travel Demand Management / Growth Management Act Compliance.** Travel Demand Management (TDM) is a way to relieve traffic congestion that does not require capital improvements. TDM can be used to help reduce the number of vehicle trips and the time at which trips are made. Reducing trips requires that persons travel via an alternative mode (for example, carpool, transit, and non-motorized travel) or decide not to make the trip at all. Promoting TDM is a requirement of the Growth Management Act (GMA) and since 1991 has been a requirement for all employers within urban areas that employ over 100 persons at a single worksite. The City of Woodinville currently has five affected worksites in 2009 that currently participate in the City's Commute Trip Reduction program, which is a TDM program. Several agencies support TDM



activities including the State Department of Transportation and King County Metro Transit.

10. **Operations and Maintenance.** The City monitors the transportation system for wear and damage to protect public investment and to respond to citizen concerns and requests. Travel within and through Woodinville is heavily dependent on the automobile. It is important to recognize that travel volumes and transportation to, in, and through Woodinville are also conditioned by its regional location, especially for automobile and transit travel. Specific challenges are posed by:
 - a. Only a few routes, all of which traverse or pass near the downtown; SR 202, NE 175th Street – Woodinville-Duvall Road, 140th Place NE – 148th Avenue NE, and arterial NE 190th – 195th Streets, Woodinville-Snohomish Road, accommodates nearly all of the arterial traffic. Most of the LOS E and F intersections and high-accident locations are on these routes, principally in and near downtown. Several two-lane arterial segments carry average weekday traffic volumes of 15,000 to 25,000 vehicles.
 - b. Consequently, Woodinville’s unique geographic location and its arterial network reflect the high percentage of through traffic on all of the principal routes serving and traversing Woodinville; I-405, SR 522, SR 202, SR 9, the Woodinville-Duvall Road, and the 140th Avenue NE – 148th Avenue NE corridor.
 - c. Woodinville-Duvall Road (with NE 175th Street) is the only through east-west arterial within the City of Woodinville.
 - d. Gaps in much of the downtown street network necessitate excessive use of the major routes for local circulation, with the attendant adverse impacts on LOS, traffic friction and delay, safety, and inconvenience.
 - f. Transit service is mainly oriented to peak-hour connections to the I-405 and SR 522 corridors south and west toward Bellevue and Seattle. Large portions of Woodinville’s residential and employment areas lack local transit service.
 - g. Portions of Woodinville lack adequate pedestrian and bicycle facilities. Portions of the low-density residential areas lack paved shoulders for non-motorized travel. The hilly terrain, railroad tracks, and the Sammamish River serve to restrict safe and convenient non-motorized access to downtown and the Sammamish River Trail.
 - h. Regional air service in the Puget Sound area is provided by Seattle-Tacoma International Airport.



Goals and Policies

GOAL T-1: To establish and maintain a transportation system that supports the land use plan and incorporates transportation/land use linkages.

Policies

- T-1.1** Cooperate with neighboring cities of Bothell, Kirkland, and Redmond; the Washington State Department of Transportation; the Regional Transit Authority; Puget Sound Regional Council; Sound Transit; King County; Snohomish County; special service districts; citizens; and private developers in defining, planning, and implementing transportation improvements that accommodate planned land use and densities.
- T-1.2** Coordinate the planning of new facilities and management of the transportation system with current and future needs of the adjacent King County Bear Creek and Northshore planning areas (including participation in a regional corridor study of the Sammamish Valley [SR 202] Woodinville-Duvall Road, and Regional Arterial Network (RAN) corridors), Snohomish County, and neighboring cities.
- T-1.3** Cooperate with these and other jurisdictions on regional transportation solutions addressing the significant pass-through traffic originating outside the City of Woodinville. Require improvements by adjacent jurisdictions to offset the impacts of the additional motorized or non-motorized traffic that is caused by their land use changes.
- T-1.4** Develop transportation systems that support the quality of life for the residents of Woodinville while enhancing the economic viability of the City of Woodinville.
- T-1.5** Prepare solutions in cooperation with neighboring cities, transit agencies, and Washington State Department of Transportation for areas where movement of employees, goods, and services are impeded by traffic congestion during peak and mid-day periods.
- T-1.6** Develop a roadway system that maximizes the person-capacity of the system.



GOAL T-2: To ensure development is consistent with the transportation goals and policies.

Policies

- T-2.1** Development in the City of Woodinville should pay its fair share toward transportation improvements to help mitigate impacts as identified through adopted road adequacy standards, an impact fee program, State Environmental Policy Act, Growth Management Act and the development review process.
- T-2.2** Monitor and modify as necessary access and circulation standards to maintain the safety and integrity of the arterial roadway system and safety, convenience, and amenity of on-site circulation.
- T-2.3** Require plan for and approval of vehicle access, pedestrian access, and circulation schemes for major public or private developments.
- T-2.4** Encourage private development to support public transportation facilities.
- T-2.5** Encourage parking facilities to be designed to facilitate transit use and pedestrian access.
- T-2.6** Encourage the location of building entrances and transit facilities near each other.
- T-2.7** Encourage pedestrian amenities as part of all new public and private development in the City of Woodinville.
- T-2.8** Encourage landscaping in the construction of all new streets and street frontage improvements.
- T-2.9** Encourage trucks to make deliveries, when possible, outside of the peak hours of traffic.
- T-2.10** Coordinate with railway owners and users to develop and manage roadway and rail intersections in order to support transportation goals.
- T-2.11** Promote the construction of grade separations between roadways and rail lines where traffic volumes, rail movements or accident experience warrant them.
- T-2.12** Coordinate with the owner of the railroad facilities to identify locations for and to develop new roadway rail crossings in order to complete key connections within Woodinville's transportation system.



- T-2.13** Incorporate special gateway/entrance treatments into transportation projects, which support the identity of Woodinville and encourage patronage of Woodinville's businesses.
- T-2.14** Provide for a complete system of sidewalks in the downtown area that connects the retail areas to transit, the regional trail system, parking, parks and public facilities.
- T-2.15** Encourage signing that directs pedestrians to downtown public facilities consistent with approved City Standards.
- T-2.16** Develop a transportation network that supports the City's Land Use goals.
- T-2.17** Promote off-street parking.
- T-2.18** Reduce block size and provide alternate routes through the development of a grid road system.
- T-2.19** Encourage transit services that are accessible to all users and provide a viable transportation alternative within the City.

GOAL T-3: To establish a transportation system planning, development, and management process.

Policies

- T-3.1** Improve the City of Woodinville's local transportation system by:
 - 1. Emphasizing the improvement of existing corridors to improve traffic circulation within those areas that are already experiencing circulation or congestion problems;
 - 2. New transportation corridors to provide alternate routes and means to meet current or future demands;
 - 3. Identifying the acquisition of right-of-way at the earliest possible time when new corridors are deemed necessary;
 - 4. Providing measures for the protection of natural systems and adequate buffering of existing and anticipated land uses during the establishment and acquisition of additional rights-of-way.
- T-3.2** Continue to assess rights-of-way for and plan completion of missing portions of the local roadway system, including neighborhood collectors. When new developments are proposed, completion of these missing roadways will be studied and encouraged as alternatives for access.



- T-3.3** Each year develop and implement a six-year transportation improvement program (TIP) that complies with State requirements that supports growth envisioned by the City's Land Use Element.
- T-3.4** Update the Capital Facilities Plan, as required, to identify in detail needed transportation improvements and their funding for the current six-year planning period.
- T-3.5** Allocate resources in the City's transportation capital investment program to address:
1. Public health and safety concerns;
 2. Ensure adequate maintenance of existing facilities throughout the City;
 3. Relieve circulation and congestion problems,
 4. Provide other growth-supporting improvements serving Downtown;
 5. Give priority to community development improvements not within the downtown, which contribute to the City's economic vitality.
- T-3.6** Emphasize the development of joint projects, such as those involving neighboring cities, King County, Snohomish County, Washington State Department of Transportation, and/or transit providers, particularly where such partnerships will increase the likelihood of obtaining funding.
- T-3.7** Coordinate with other right-of-way users and neighboring jurisdictions when planning facility construction and/or maintenance.
- T-3.8** Identify and require, as conditions of development approval, needed rights-of-way, strategies to reduce demand, and off-site improvements to the extent that such conditions are directly related to impact mitigation and will benefit the development.
- T-3.9** Integrate and achieve consistency between the short-range and long-range transportation plans and improvement programs of the City.
- T-3.10** Encourage transit providers to maintain their facilities to adopted transit standards.
- T-3.11** Coordinate transportation plans so they are consistent with the Capital Facilities Plan, and all Elements of the Comprehensive Plan.



GOAL T-4: To establish LOS standards to ensure development meets Growth Management Act transportation concurrency requirements.

Policies

- T-4.1** The City of Woodinville should only approve development that would be consistent with the LOS standards established in the WMC 21.25.030. The following criteria must be met:
- T-4.2** Cooperate with the neighboring cities and counties, transit operators, and Washington State Department of Transportation to comply with Growth Management Act concurrency and LOS requirements.
- T-4.3** Consider other modes of transportation, in addition to single-occupancy vehicles, in making concurrency determinations.
- T-4.4** Coordinate data collection and processing using professionally accepted measures and methods in determining transportation LOS and other transportation information related to travel demand and system operations with adjacent local jurisdictions and transit agencies.
- T-4.5** Develop interlocal agreements with neighboring jurisdictions that require development within Woodinville and the neighboring jurisdictions to mitigate significant impacts that are generated on Woodinville's and neighboring jurisdiction's transportation system in violation of that jurisdiction's concurrency service standard. Prior to entering into such an agreement, the City shall verify that the concurrency service standards of the neighboring jurisdiction are consistent with the policies under Goal T-4.
- T-4.6** Evaluate and ensure the adequacy of the transportation system by establishing and monitoring transportation service standards. Service standards shall:
1. Give priority to overall transportation system performance over individual locations.
 2. Reflect development patterns and objectives for different land uses.
 3. Account for the availability of alternative means of transportation.
 4. Reflect community goals in other areas such as land use, environmental protection, congestion management, and economic development.



5. Support the City's concurrency standard that defines acceptable LOS for roadway segments and intersections throughout the City.

T-4.7 Continue to consider King County Metro, Sound Transit, and Community Transit's LOS guidelines for transit when making transportation decisions.

GOAL T-5: To improve and increase use of public transit, paratransit, and ridesharing in cooperation with transit providers, adjacent jurisdictions, and the private sector.

Policies

T-5.1 Cooperate with transit providers, adjacent jurisdictions, and private development to:

1. Encourage commuters to use car/vanpool programs, public transit, and non-motorized transportation as alternatives to the single-occupancy vehicle.
2. Develop ridesharing, transit use, and incentive programs through the development review process and/or in accordance with state and local legislation for residential and commercial development.
3. Promote and encourage coordination between transit service and new development to facilitate transit use.
4. Encourage transit providers, paratransit operators, and private purveyors to provide mobility for elderly, disabled, low income, youth, and other mobility-disadvantaged residents in the City of Woodinville and the surrounding community.

T-5.2 Cooperate with transit agencies to achieve increased service from more developed portions of Woodinville by extending existing transit routes or creating new routes while encouraging Woodinville residents to take advantage of them.

T-5.3 Cooperate with King County Metro, Sound Transit and Community Transit, in coordination with local and regional transportation and planning efforts, to establish one or more transit centers in the Woodinville area to facilitate transit options for local and regional travel, increase service frequency and to shift dependence away from single-occupancy vehicle automobile travel.



- T-5.4** Locate park and ride lots along major transit corridors and near areas where high-density residential development is planned to intercept trips close to their origin, and to make use of effective transit/high-occupancy vehicle facilities.
- T-5.5** Consider moving the existing park and ride lot to a more strategic location with better access to regional highway 522 and access to commuter rail (if and when the eastside rail corridor develops to bring a non motorized trail and/or rail commuter options.
- T-5.6** Explore the potential for joint use of park and ride lots with the public and private sectors and shared parking for commercial and residential use.
- T-5.7** Encourage transit providers to improve existing park and ride lots to maximize use. This includes bicycle facilities, security, lighting, and lot expansion, where appropriate.
- T-5.8** Cooperate with public transit providers and the Washington State Department of Transportation to develop transit improvements and high-occupancy vehicle treatments on I-405 and SR 522. This may include developer contributions as part of the development review process.
- T-5.9** Cooperate with public transit providers and Washington State Department of Transportation to develop transit and ridesharing road improvements such as bus pullouts, high-occupancy vehicle lanes, high-occupancy vehicle priority treatment at major intersections, and preferential treatment of high-occupancy vehicles.
- T-5.10** Actively participate in the Eastside Transportation Partnership and its high capacity transit recommendations.
- T-5.11** Coordinate with transit agencies to identify and designate locations for planned park and ride lots and transit stations and ensure ease of access to those facilities. Ensure that clear provisions for such transit facilities are made in the City's development regulations.
- T-5.12** Coordinate with transit agencies to plan and construct transit-friendly road treatments along primary corridors and selected transit routes.
- T-5.13** Coordinate with transit agencies to plan for public transportation modes that are time-coordinated and interconnected (signal interconnect and over-ride) to increase LOS and ridership.



- T-5.14** Locate and design transportation centers and terminals to permit use by multiple modes of travel (e.g., bus, automobile, bicycle, pedestrian/disabled, and high-capacity transit).
- T-5.15** Encourage and support cooperation among neighboring cities, transit agencies, and King and Snohomish Counties to establish compatible schedules and terminal locations.
- T-5.16** Coordinate with transit agencies to promote service throughout the City and connections between the Tourist District and downtown.

GOAL T-6: To promote non-motorized travel and ensure its safety, convenience, and comfort.

Policies

- T-6.1** Actively promote the use of bicycle and pedestrian transportation as viable alternatives to motorized transportation.
- T-6.2** Develop a community-wide trail system for pedestrians, bicyclists, and other non-motorized transportation. Where feasible, this trail system will connect regional trails with local trails and walkways and provide improved access and linkages between the City of Woodinville's commercial/industrial areas, the Sammamish River Trail and other trails, residential neighborhoods, and community amenities.
- T-6.3** Pursue opportunities for expansion of multipurpose trails separated from the street systems as a transportation resource to the Woodinville community.
- T-6.4** Investigate the potential for linear rights-of-way such as utility corridors, abandoned railroad rights-of-way, and major limited-access highways to serve non-motorized transportation needs through the inclusion of separated trail facilities.
- T-6.5** Cooperate with adjacent jurisdictions and public agencies to seek and develop appropriate trail links between elements of the open space system including, but not limited to, completing the connection between existing and proposed trail systems.
- T-6.6** Enhance access to the trail system through the provision of increased parking at key access points.
- T-6.7** Examine new and existing non-motorized facilities for their ability to meet safe and effective non-motorized design standards.



- T-6.8** Incorporate the role of non-motorized travel modes as a viable and legitimate element of the overall transportation system. Transportation projects should accommodate the needs of non-motorized transportation by incorporating a network of facilities.
- T-6.9** Incorporate non-motorized friendly design in transportation projects, using a variety of design and traffic control techniques.
- T-6.10** Encourage parking facilities for securing bicycles at centers of activity throughout the City of Woodinville.
- T-6.11** Ensure that development addresses non-motorized transportation in its site planning.
- T-6.12** Plan for a continuous non-motorized transportation system that provides Woodinville's citizens and visitors safe and direct access to the City's schools, employment, housing, shopping and recreation areas.
- T-6.13** Encourage employers to provide bike facilities and amenities, such as showers and bike lockers.
- T-6.14** Encourage pedestrian facilities to be consistent with the unique downtown character.

GOAL T-7: To develop and implement Transportation Demand Management programs and policies.

Policies

- T-7.1** Utilize Transportation Demand Management techniques to:
 - 1. Help increase the person-carrying capacity of the transportation system.
 - 2. Reduce peak period traffic congestion.
 - 3. Encourage the use of high-occupancy vehicles.
 - 4. Increase use of public transportation.
- T-7.2** Implement the requirements of the Commute Trip Reduction Act and meet mandated deadlines.
- T-7.3** Encourage smaller employers not mandated to meet the Commute Trip Reduction Act requirements to offer trip reduction programs for employees.



- T-7.4** Encourage the development of coordinated traffic demand management in areas where employers are clustered within the same vicinity.
- T-7.5** Cooperate with other jurisdictions to develop Transportation Demand Management programs, policies, regulations, and strategies.
- T-7.6** Encourage development to provide physical features supportive of convenience, comfort, and safety in the use of alternative modes of travel.
- T-7.7** Pursue with neighboring jurisdictions, the development community, and Woodinville businesses an active public education on the benefits of carpooling. Assisting public transit providers and employers in providing information on the carpool/vanpool ride match services.
- T-7.8** Promote Transportation Demand Management and Commute Trip Reduction programs and activities.

GOAL T-8 To provide safe, convenient and comfortable neighborhood access and circulation properly integrated with the citywide transportation system.

Policies

- T-8.1** Based on identified impacts, new development projects should participate in providing transportation circulation solutions.
- T-8.2** Where there is an identified need, require new local access streets or missing sections of existing ones to be provided on-site as part of the permit for development. Encourage circulation improvements to include non-motorized mobility, where appropriate.
- T-8.3** Ensure convenient access to residential neighborhoods and major community facilities from collector, minor and major streets.
- T-8.4** Emphasize design of the arterial street system to minimize the potential for external traffic to cut through neighborhoods.
- T-8.5** Design residential neighborhoods to discourage cut through traffic movements.
- T-8.6** Evaluate impacts on neighborhoods when proposing to extend a neighborhood's local street to serve adjacent new development.



- T-8.7** Encourage traffic calming (speed reduction) features in residential neighborhoods; however, the City discourages the use of barriers across access points for subdivisions.
- T-8.8** Site residential driveways off of neighborhood collectors and onto internal access roads whenever feasible.
- T-8.9** Design the arterial street system to accommodate regional trips and minimize the potential for external traffic to use residential streets for through access.
- T-8.10** Encourage public involvement when considering improvements to residential streets.
- T-8.11** Design new residential streets to avoid creating roadways that are conducive to high speeds.

GOAL T-9: To ensure the development and regulation of parking facilities that support the transportation system and development goals and policies.

Policies

- T-9.1** Encourage preferential and convenient parking as an incentive for using carpools, vanpools, and disabled (pursuant to the Americans with Disabilities Act standards and specifications).
- T-9.2** Provide minimum and maximum off-street parking stall ratios for different uses to provide safe and adequately sized parking facilities. Implement the provisions and requirements of the American Disabilities Act (ADA) and other design and development standards to improve parking and access facility safety and security features.
- T-9.3** Encourage joint parking facilities for compatible uses to reduce the total number of spaces needed and reduce overall impervious surface.

GOAL T-10: To provide transportation facilities and services that enhance the health, safety, welfare, and mobility of all citizens regardless of age, disability, or income.

Policies

- T-10.1** Use generally accepted state, national, and other applicable standards and guidelines for design and operation of new and improved transportation facilities.



- T-10.2** Develop programs in cooperation with the Washington State Department of Transportation, transit operators, and neighboring cities to identify and mitigate any roadway hazards that may result in accidents and threats to public safety. Seek the input of local bicycle and trail/walking clubs, school transportation officials, and other interested groups and individuals in this endeavor.

F. Concurrency

The City's adopted LOS for its roadway system is "E" throughout the City per WMC 21.28.070. This means any development that causes any intersection to fall below LOS E as a result of the additional traffic created by the development, will not be approved until improvements are made, or will be made within the six year time frame of concurrency.

G. Level of Service Definitions

Level of Service (LOS) is a method used to evaluate and quantify roadway and street operating conditions and traffic congestion. It describes in general terms such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. Six LOS levels are defined, A through F, with LOS A representing the best operating conditions, and LOS F the worst. Each LOS represents a range of operating conditions and driver's perception of those conditions. Safety is not included in the measures that establish service levels.

Different quantitative analyses are used to calculate the LOS for different roadway elements found in the urban street network, signalized intersections, un-signalized intersections, and roadway

segments. The results from the analysis for signalized and un-signalized intersections are usually expressed in the terms of seconds of delay. This is the average delay experienced by all vehicles utilizing that intersection at that time. As in all averages, some vehicles experience no delay as they pass through an intersection or drive a section of roadway. Other drivers will be delayed even under the best of operating conditions in an urban environment due to traffic signals, stop signs and other regulatory conditions, and by traffic entering and leaving the street system. The level of delay is measured or analyzed at the peak hours of traffic volumes. The peak hour volume or traffic typically occurs during the morning or evening commuter travel times. These time periods are labeled AM peak hour or PM peak hour, respectively. In Woodinville, the PM peak hour has the highest volumes of traffic using the road network. This is the time period used to analyze operational conditions and make LOS determinations and it is the time period that is used to determine trip generation for traffic impact fees.

For urban streets, the LOS criteria is different. Urban Street LOS is based on the average through-vehicle travel speed for that segment of roadway or the entire street under



consideration. Travel speed is the basic service measure for urban streets. When the operating speed is lower than the posted speed due to congestion, the LOS for that segment of roadway is lower also. The analysis for urban streets takes into account not only the time and speed of travel along street segments, but also includes the

amount of delay the average vehicle experiences going through signaled and un-signalized intersections. Efficient operation of street intersections is a critical factor in the LOS for urban streets. Since it is usually the controlling factor, operating or planned LOS for intersections is usually the only factor analyzed.



For Signalized intersections, the LOS criteria is:

Table 1G-1

LOS	Average Delay Per Vehicle (Seconds)
A	Less than 10
B	10 to 20
C	20 to 35
D	35 to 55
E	55 to 80
F	Greater than 80

(From page 16-2, Exhibit 16-2, Highway Capacity Manual, 2000)

For Un-signalized Intersections, the Level of Service criteria is:

Table 1G-2

LOS	Average Delay Per Vehicle (Seconds)
A	Less than 10
B	10 to 15
C	15 to 25
D	25 to 35
E	35 to 50
F	Greater than 50

(From page 17-2, Exhibit 17-2, and page 17-32, Exhibit 17-22, Highway Capacity Manual, 2000)

For Urban Streets, the LOS Criteria is:

Table 1G-3

LOS	Average Travel Speed (Mph)			
	Urban Street Class	II	III	IV
		Principal Arterial	Minor Arterial	Collector Arterial Local Streets
A		35 or more	30 or more	25 or more
B		28 to 35	24 to 30	19 to 25
C		22 to 28	18 to 24	13 to 19
D		17 to 22	14 to 18	9 to 13
E		13 to 17	10 to 14	7 to 9
F		Less than 13	Less than 10	Less than 7

(From page 15-3, Exhibit 15-2, Highway Capacity Manual, 2000)