NEEDS ASSESSMENT

10

LINKING STATE, REGIONAL, AND LOCAL NEEDS

The State Transportation Planning Rule (TPR) provides the framework for preparing regional and local transportation system plans. The goal of the TPR is to ensure that Oregon's transportation system functions in a manner that is safe, convenient, economic, and balanced between modes to avoid livability issues such as congestion and poor air quality. To this end, the TPR requires that regional and local transportation system plans (TSPs) "establish a system of transportation facilities and services adequate to meet identified needs." The TPR defines 'transportation needs' as:

> 'Transportation Needs' means estimates of the movement of people and goods consistent with acknowledged comprehensive plans and the requirements of this rule. Needs are typically based on projections of future travel demand resulting from a continuation of current trends as modified by policy objectives, including those expressed in Goal 12 and this rule, especially those for avoiding principal reliance on any one mode of transportation.

The TPR requires TSPs to define and address transportation needs with solutions that support the goal of creating a balanced transportation system. The TPR defines transportation needs by level of government. Local TSPs are required to be consistent with the needs analysis and findings of both the regional and State transportation plans. According to the TPR, 'State transportation needs' means:

> . . . needs for movement of people and goods between and through regions of the state and between the state and other states.

'Regional transportation needs' means:

> . . . needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county, or associated group of counties.

'Local transportation needs' means:

> . . . needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.

Section 660-012-0030 of the TPR identifies the specific requirements for a 'determination of transportation needs' as follows:

> The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned, including:

- State, regional, and local transportation needs

- Needs of the transportation disadvantaged
- Needs for the movement of goods and services to support industrial and commercial development planned, consistent with Statewide Planning Goal 9 (Economic Development)

Local jurisdictions must rely on the analysis of State transportation needs in adopted elements of the State TSP (which is the Oregon Transportation Plan) and regional transportation needs in adopted regional TSPs (which is the Regional Transportation Plan adopted by Metro).

Within an adopted urban growth boundary (UGB), the determination of local and regional transportation needs must be based on:

- Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan, including the policies that implement Goal 14 (Urbanization), including Goal 14's requirement to encourage urban development on urban lands prior to conversion of urbanizable lands. Forecasts and distributions may be for 20 years or longer.
- Measures to reduce vehicle miles per capita by 10 percent in 20 years and 5 percent more over the next 10 years.
- Measures to reduce parking spaces per capita by 10 percent over the life of the TSP.

STATE AND REGIONAL TRANSPORTATION NEEDS

The Regional Transportation Plan (RTP) provides regional population and employment forecasts that predict that by 2020, the Portland region (including Clark County) will have approximately 2.3 million people, an increase of 51 percent from 1994. Employment in the region is expected to grow by 70 percent, reaching 1.6 million jobs by 2020. The population and employment forecasts are based on the 2040 Growth Concept adopted by Metro in 1995. The 2040 Growth Concept reflects the following regional approach to urban form:

- A modest expansion of the urban growth boundary
- Using land more efficiently through infill and redevelopment, emphasizing higher densities and mixed-use development in key centers and corridors
- Focusing jobs and shopping closer to where people live
- Expanding transportation choices
- Protecting prime farm land, rural reserves, open spaces, and other environmentally sensitive lands

Metro, with the assistance of the state and local jurisdictions, has identified the following state and regional needs through the RTP development process:

- **I-5 North.** Reduce peak-hour congestion in the corridor between I-84 and the Columbia River.

- **Northeast Portland Highway.** Streamline the highway connection between the Rivergate industrial area and I-205 to improve freight and traffic movements.
- **I-205 North.** Maintain an acceptable level of access to the Portland International Airport and Gateway regional center, and preserve freight mobility emphasizing connections to I-84 east, Northeast Portland Highway, and Portland International Airport.
- **Marine Drive.** Reduce conflicts between rail and truck freight movements, and maintain accessibility between Rivergate/West Hayden Island intermodal facilities and I-5/Northeast Portland Highway.
- **St. Johns Town Center.** Provide bicycle and pedestrian connections to and within the center, expand transit service and traffic management strategies, improve pedestrian access to transit service, and reduce impacts of truck through-traffic.
- **Portland International Airport.** Maintain an acceptable level of access to the passenger and freight terminals, and improve traffic circulation in the airport vicinity to serve emerging industrial and office activities without impacting terminal access.
- **I-5 South.** Preserve access to and from Portland's Central City, maintain off-peak freight mobility, and improve connections to the Central Eastside Industrial District and Highway 99E/224.
- **I-405 Loop.** Maintain traffic and freight access and mobility between Portland's Central City, I-84, US 26, and I-5.
- **Banfield Freeway.** Mitigate for spillover I-84 traffic on adjacent arterial streets between I-5 and I-205, and expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth in the corridor and maintain acceptable access to Portland's Central City.
- **Sunset Highway.** Maintain access between Portland's Central City, I-5, I-84, and the western suburbs, and preserve off-peak freight mobility on the Sunset Highway between I-405 and the Sylvan interchange.
- **Highway 99E.** Maintain access between Portland's Central City and Highway 224, and provide a transit alternative to Highway 99E.
- **Going Street/Greeley Avenue.** Reduce conflicts between rail and truck freight movement, maintain access to intermodal facilities on Swan Island, and improve access between industrial areas and regional facilities, including I-5, I-205, and Northeast Portland Highway.
- **Powell Boulevard/Foster Road.** Expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth in the corridor west of the Lents town center and maintain acceptable access to Portland's Central City.
- **Macadam Avenue/Highway 43.** Expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth in the corridor and maintain acceptable access to Portland's Central City.

- **Barbur Boulevard.** Improve the pedestrian and streetscape environment at selected locations, and expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth in the corridor north of Highway 217 and maintain acceptable access to Portland's Central City.
- **West Burnside Street.** Enhance the pedestrian and transit environment between NW 23rd and Downtown, and expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth in the corridor east of Barnes Road and maintain acceptable access to Portland's Central City.
- **Highway 30.** Maintain freight mobility between the northwest industrial area and the Rivergate terminals, and maintain access to Portland's Central City. A long-term strategy to serve freight movement should be developed as part of refinement planning for a North Willamette River crossing study.
- **East Burnside Street.** Expand traffic management and high-capacity transit strategies to better accommodate expected traffic growth on E Burnside west of the Gateway regional center and adjacent parallel streets, and maintain acceptable access to Portland's Central City.
- **Portland Central City.** The Portland Central City and its environs are designated as an Area of Special Concern in the RTP. Implement additional transit service, system management strategies, and pedestrian and bicycle improvements, and continue parking strategies to address congestion.
- **Union Station.** Continue developing Union Station as an intermodal passenger terminal, and preserve access to the site by all modes of transportation.
- **Hollywood Town Center.** Redesign diagonal street intersections along Sandy Boulevard to improve pedestrian and motor vehicle safety. Improve pedestrian and bicycle access to and within the center and to transit service. Expand transit service and traffic management strategies to better accommodate expected traffic growth in the town center consistent with the Hollywood town center plan.
- **Lents Town Center.** Reduce the impact of truck traffic from I-5 and high traffic volumes in the town center. Develop a strategy for providing and managing on-street parking to support redevelopment. Improve pedestrian and bicycle access to and within the center and to transit service. Expand transit service and traffic management strategies to better accommodate expected traffic growth in the town center.
- **West Portland Town Center.** Redesign the intersection of Barbur Blvd/Capitol Highway/Taylors Ferry Road to improve safety and access to for all modes. Study the potential for new southbound freeway access between Portland's Central City and the town center to relieve traffic concentration at the Barbur Boulevard interchange. Improve pedestrian and bicycle access to and within the center and to transit service. Expand transit service and traffic management strategies to better accommodate expected traffic growth in the town center.
- **Hillsdale Town Center.** Redesign the Beaverton-Hillsdale Highway/Capitol Highway/Bertha Boulevard intersection to improve safety and town center access for all modes. Improve pedestrian and bicycle access to and within the center and to transit

service. Expand transit service and traffic management strategies to better accommodate expected traffic growth in the town center.

- **Southeast Portland Neighborhoods.** Improve pedestrian and bicycle access to Portland's Central City and transit service. Expand transit service and traffic management strategies to better accommodate expected traffic growth in the town center.
- **Gateway Regional Center.** Define new access routes to the regional center that move regional traffic from the heart of the center to the periphery. Examine the role of park-and-ride facilities in the center. Create a fine-grain network of local streets to meet regional connectivity standards. Optimize traffic flow in the center. Create a transit service plan that maximizes the use of transit to access the regional center. Provide pedestrian and bicycle facilities.
- **East Columbia Corridor Industrial Area.** Improve freight access to Portland International Airport and intermodal facilities in the west Columbia Corridor, and improve substandard rail crossings that limit freight mobility on the north/south arterial streets.
- **Division Street.** Improve pedestrian access to transit, and expand transit service and traffic management system strategies to better accommodate expected traffic growth in the corridor between I-205 and the Gresham regional center.
- **Powell Boulevard.** Expand transit service and traffic management strategies, new traffic capacity as needed. Between I-205 and the Gresham regional center, Powell Boulevard will experience significant congestion due to "planned growth in the Pleasant Valley and Damascus urban reserve areas. As capacity is added to this corridor, local access should be carefully managed to adequately serve the demand for this route to serve longer trips."
- **Foster Road.** Between the Lents town center and the future Damascus town center, Foster, (along with Powell,) "is expected to emerge as a major travel corridor due to expected growth in Clackamas County and the Pleasant Valley /Damascus urban reserves." Capacity improvements in conjunction with system management strategies should be examined while connectivity on local streets and potential parallel route improvements are needed in urban reserve areas near Foster.
- **I-205 Middle.** Include ramp, overcrossing, and parallel route improvements along with examination of capacity improvements to preserve freight movement in the corridor between Oregon City and I-84. A corridor study should evaluate the potential of express, peak-period pricing, or High Occupancy Vehicle (HOV) lanes as a strategy for expanding capacity.

The RTP addresses these state and regional needs through RTP projects, strategies, or other activities or through the refinement plan process. Refinement plans are intended to address a transportation need "for which decisions regarding function, general location, or mode are being deferred." Chapter 4: Refinement Plans and Studies, in Volume I of this document provides a thorough discussion of the refinement plan process.

CITYWIDE NEEDS

Population and Employment Forecasts

For purposes of analysis, the RTP breaks the region into subareas that do not conform to City boundaries. To better evaluate Portland's transportation needs, the TSP breaks the City down into districts that conform more closely to the TSP Transportation District boundaries.

In general, the City of Portland will have a lower rate of growth than the other jurisdictions in the region. Regional growth, however, will have a substantial impact on Portland. New residents in the region will use Portland streets to pursue employment, recreation, shopping, and cultural and social opportunities.

Over the next 25 years, population in the four-county area is estimated to increase by 766,600 persons (48 percent). Portland's population increased from 437,319 in 1990 to 529,121 in 2000 and is expected to grow to over 630,000 by 2020. Metro's employment forecasts indicate that, while employment growth will be substantially slower in Portland than in the rest of the region, it will still experience a 41 percent increase between 1994 and 2020, from 434,182 to approximately 612,000 jobs.

Table 10.1 shows the projected changes in population and employment for Portland and the remainder of the region between 1994 (which is the base year of the regional model) and 2020.

On a percentage basis, the largest increases in residents will be in the Central City and Far Southeast districts. All areas of the City will experience substantial increases in jobs, with the Far Southeast district experiencing the largest percentage gain.

Table 10.1
Changes in Population and Employment 1994 - 2020

District	1994 Population	2020 Population	Percent Change	1994 Employment	2020 Employment	Percent Change
Central City	19,318	35,193	82	153,818	236,962	54
North	45,099	53,735	19	35,829	50,658	41
Northeast	106,548	121,572	14	60,051	90,394	51
Southeast	147,204	160,223	9	61,538	71,973	17
Far Northeast	44,531	55,811	25	24,280	34,101	40
Far Southeast	61,961	105,998	71	20,271	36,743	81
Northwest	18,782	26,522	41	39,061	46,543	19
Southwest	69,914	72,742	4	39,334	44,836	14
Total City	513,357	631,796	23	434,182	612,210	41
Rest of Region	1,039,307	1,712,829	65	513,465	998,746	95
Total Region	*1,552,664*	*2,344,625*	*51*	*947,647*	*1,610,956*	*70*

Growth in Traffic

Motor vehicle volumes are expected to increase in the City, in part because of the growth in trips throughout the region. The motor vehicle modal plan in Chapter 5: Modal Plans details the growth along major regional corridors inside the City. In addition to traffic increases on these regional corridors, other Portland streets will experience traffic increases.

The City needs to address significant street segments on the RTP motor vehicle system that will exceed the acceptable level of service established by the region. Metro used a regional model to make these determinations; however, the model tends to underestimate capacity because it does not include all traffic modifications, such as free right turns. The commentary below indicates that Portland streets shown by Metro's regional model to experience unacceptable levels of congestion in the future will in fact operate adequately.

SW Campus Drive (Marquam Hill)

The congestion shown on this street results from an oversimplification of the network model. Campus Drive is the only street shown in the network model between Marquam Hill and SW Terwilliger Drive. In reality, there are three other streets – SW Sam Jackson, SW Veterans Road, and SW 6th Avenue – that each have a capacity similar to SW Campus Drive.

SW Taylors Ferry/SW Terwilliger

The congestion shown on this street results from the network model's oversimplification of the southbound and westbound intersection approaches. Both approaches are actually two through-lanes and a protected left-turn lane. The model also shows that the intersection of Boones Ferry and Terwilliger allows all through and turn movements, while the existing condition allows only right turns into and out of Boones Ferry. The model is therefore overassigning trips to Boones Ferry and underassigning trips to Taylors Ferry west of Boones Ferry.

SW Boones Ferry south of Terwilliger/SW Taylors Ferry west of Macadam

The network model shows street segment capacities that reflect traffic signals and stop-controlled intersections, rather than the free-flow links that actually exist. As a result, the street segments show congestion along their lengths, when congestion is actually occurring only at signalized intersections. An operations level of analysis of these street segments could verify this.

SW Garden Home/SW Oleson Road

The network model does not include recent intersection improvements. The west, south, and east legs of the intersection all have free right turns and protected left turns. The model should show traffic capacities of 100 to 200 more vehicles per hour for these approaches.

NW Cornell Road

Northwest Cornell in the City is characterized by stretches of roadway without traffic signals. The network model shows capacities on this street that reflect traffic signals and stop-controlled intersections, rather than the free flow that actually exists. As a result, the street shows congestion along its length, when congestion is actually occurring only at signalized or stop-controlled intersections. The network model may also show additional trips loading onto Cornell that do not actually do so. An operations level of analysis of this street could verify this.

SW Scholls Ferry Road north of Beaverton-Hillsdale Highway

Similar to Boones Ferry and Cornell, SW Scholls Ferry is characterized by stretches of roadway without traffic signals. The network model shows capacities on this street that reflect traffic signals and stop-controlled intersections, rather than the free flow that actually exists. As a result, the street shows congestion along its length, when congestion is actually occurring only at signalized or stop-controlled intersections. An operations level of analysis of this street could verify this. There may also be improvements proposed for the Raleigh Hills town center that would address the level of service at the intersection of Scholls Ferry with Beaverton-Hillsdale Highway and Oleson Road.

US Highway 30 and the St. Johns Bridge

The network model does not reflect the free-flow segment of this intersection south of the St. Johns Bridge. The model also oversimplifies the operating characteristics of the north end of the intersection with the bridge.

SE 39th Avenue

The network model may be overassigning trips to SE 39th because it does not take the South Portland street grid (which relieves traffic on arterials such as SE 39th) into account.

SE Johnson Creek Boulevard

The network model shows the street system in the vicinity of SE Johnson Creek Boulevard incorrectly. Southeast Harney between SE 52nd and SE 62nd is not included. This missing link may result in overassigning trips onto Johnson Creek Boulevard. The model assumption of traffic loading onto Johnson Creek Boulevard may also be a contributing factor.

NE Marine Drive

Northeast Marine Drive is characterized by stretches of roadway without traffic signals. The network model shows capacities on this street that reflect traffic signals and stop-controlled intersections, rather than the free flow that actually exists. As a result, the street shows congestion along its length, when congestion is actually occurring only at signalized or stop-controlled intersections. The segments of Marine Drive shown as unacceptably congested are not intended to function as a through route for vehicles, particularly trucks. Resolving any localized congestion in this stretch of Marine Drive could make it more attractive for inappropriate truck trips.

NE Columbia Boulevard/NE Lombard/NE Alderwood

Northeast Columbia Boulevard is characterized by long stretches of roadway without traffic signals. The network model shows capacities on this street that reflect traffic signals and stop-controlled intersections, rather than the free flow that actually exists. As a result, the street shows congestion along its length, when congestion is actually occurring only at signalized or stop-controlled intersections. In addition, the network model does not include all the improvements to these street segments shown in the RTP, specifically RTP project numbers 3048 and 4041.

Vehicle miles traveled (VMT) is commonly used to describe automobile use on a daily or annual basis. This measure of travel incorporates both the number of vehicle trips and the length of those trips. For example, 10,000 vehicles each traveling an average of 15 miles per day would result in 150,000 VMT per day. The TPR calls for the Portland metropolitan region to reduce VMT per person by 10 percent over the next 20 years and an additional 5 percent in the following 10 years.

There is no easy way to measure VMT for all vehicles all days for a period of time. Planning models estimate travel within the region and can be used to derive VMT. Any measure of VMT is accurate within the constraints of the model. The Portland Office of Transportation (PDOT) developed a methodology for measuring VMT. (See Appendix A for more specifics

on VMT and calculations of VMT.) This methodology provides an estimate of VMT in the City and region that will allow changes in VMT per person to be measured over time. Table 10.2 compares VMT for Portland per person in 1994 (the base year for the model) and 2020.

Table 10.2
Change in Portland's VMT per Capita

	Produced by the City		Attracted to the City
	Residential	Work	
Year	VMT/resident	VMT/employee	VMT/employee
1994	9.35	5.44	24.19
2020	8.53	5.49	22.24
Change	*-9%*	*+1%*	*-8%*

Given the assumptions in the regional model used to evaluate the RTP, Portland comes very close to meeting its share of the regional goal of reducing VMT per capita by 10 percent over 20 years. It is important to note that Portland used different geographic areas to calculate VMT per capita than the RTP, which excluded both Clark County and the area outside the UGB.

Operational Performance

High-Accident Locations

Each year, State high-accident data are analyzed for the number of injuries, fatalities, and property damage per entering vehicle and the cost of accidents per arterial intersection. Intersections with more than six crashes over a four-year period are termed major intersections. Currently, 1,204 of the City's 13,000 intersections are major intersections. Most of these carry through-traffic on arterials. Intersections are rated A, B, or C, depending the number and cost of crashes.

Table 10.3 shows that 18 of the major intersections (two percent) are in critical condition and need immediate attention or study.

Table 10.3
Ranking of Major Intersections (High-Accident Locations)

Condition	Number	Percent
Poor (Level A)	18	2
Fair (Level B)	232	19
Good (Level C)	954	79
Total	*1,204*	*100*

Source: City of Portland, PDOT, July 1998

The Level A critical intersections (1999 data) are listed below:

E Burnside at 80th
N Cook at Williams
N Broadway at Vancouver/I-5 southbound off-ramp
N Alberta at Missouri
NE Weidler at Grand
NE Halsey at 47th/Euclid
NW Bridge at NW Germantown
NW Broadway at NW Davis
NW Everett at 6th
SE Ankeny at 6th
SE Stark at 2nd
SE Stark at 102nd
SE Main at 162nd
West end/Hawthorne Bridge (some modifications have since been made as part of the bridge rehabilitation project)
SW Madison at SW 6th
SW Market at SW 1st
SW Naito/Ross Island Bridge
SW Oak at 5th

It may be possible to modify critical intersections to improve their condition by signing, striping, signal phasing, or other minor changes that do not require capital solutions. Some locations require major reconstruction projects or new signals. The estimated unmet need for these intersections as of 1999 is $8.9 million.

District Highways

District highways within Portland are under the jurisdiction of the Oregon Department of Transportation (ODOT). They include Sandy Boulevard, 82nd Avenue, Lombard Street, Martin Luther King (MLK), Jr. Boulevard, and Grand Avenue. The function of these highways has changed over time as parallel State routes and limited access highways were constructed.

The City is interested in assuming jurisdiction for these district highways from the State to better implement land use goals, including 2040 main street development. Driveway location, street design, and street operations are currently under the State's authority. State regulations and standards are sometimes at odds with the City's land use and transportation goals.

Many of the district highways need reconstruction or are not built to the level of urban standards the City uses. While ODOT is interested in transferring these highways to the City, there are substantial cost implications for reconstruction, maintenance, and operations.

Environmental Needs

Metro adopted the Stream and Floodplain Protection Plan in June 1998 as a functional plan to protect vegetated corridors along rivers, streams, and wetlands. The plan also addresses ways to control soil erosion and reduce flooding. The requirements are intended to enhance the region's water resources and manage land use in floodplains.

On March 16, 1999, the National Marine Fisheries Service (NMFS) listed eight species of salmon and steelhead in Washington and Oregon as threatened and one as endangered under the Endangered Species Act (ESA). Culverts and other instream structures may impede adult migration to spawning areas, smolt migration to the ocean, or juvenile movement within the watershed during rearing. Portland has identified and ranked 26 culverts for replacement. (Chapter 15: System Performance, provides more information.)

Maintaining the Transportation System

The Portland transportation system is aging and needs increased maintenance and reconstruction. The backlog of pavement that needs treatment, but has no funds budgeted, has grown from 406 miles in 1993 to 497 miles in 1999. Arterial streets account for 22 percent of the value of the backlog. Arterials deteriorate more rapidly than local streets because of their high traffic volumes. Approximately 140 lane miles of streets used as travelways in the City are unimproved, with neither pavement nor drainage.

Eighty-eight of the 149 bridges under the City's control have structural details that do not meet current earthquake design standards. The unmet need for bridges is $50 million.

Portland has 959 signalized intersections. The condition of the intersection hardware has deteriorated, from 89 percent in fair or better condition in 1986 to 73 percent in 1999. The 51,500 streetlights within the City are also aging. Streetlight condition will continue to decline to less than 20 percent in good condition by 2010 if no capital replacements are made.

The City expects to add very little mileage to the transportation system. ODOT, however, is interested in transferring 74 miles of State roads to the City. Many of these roads are in poor condition and require substantial work.

Portland's network of transportation facilities, including streets, sidewalks, bridges, signals, streetlights, and other facilities, has a value estimated at around $2.6 billion. The identified unmet need to maintain and repair the system is $141 million.

Bicycle Needs

The Bicycle Modal Plan (see Chapter 5: Modal Plans and Management Plans) identifies existing conditions and deficiencies in the bicycle network and in end-of-trip facilities. The Bicycle Master Plan (1996) states that as of 1996, approximately 30 percent of the total 654 bikeway network miles were either complete or planned. At that time, approximately 69 percent of City-owned and State-owned streets in Portland had the appropriate bikeway facility. The unmet need for the bicycle network in 1996 was:

- Bicycle lanes, existing curbed streets 238 miles
- Bicycle lanes, shoulder widening 80 miles
- Bicycle boulevards 66 miles
- Off-street paths 39 miles
- Local street connections, signing only 22 miles

Bicyclists also need end-of-trip facilities. The Bicycle Master Plan includes the results of a 1995 survey of bicycle parking outside the Central City, which found that:

- Bicycle parking amounted to only three percent of off-street automobile parking, compared to the five percent required by City Code.
- Two of every five bicycle racks were inadequate in some way.
- Over 88 percent of all surveyed locations provided no bicycle parking at all.
- Forty percent of the covered bicycle parking spaces still allowed bicycles to get wet.
- Less than two percent of bicycle parking is adequate for long-term parking.
- Thirteen percent of bicycle parking was so poorly placed as to invite the theft of any bicycle parked there.

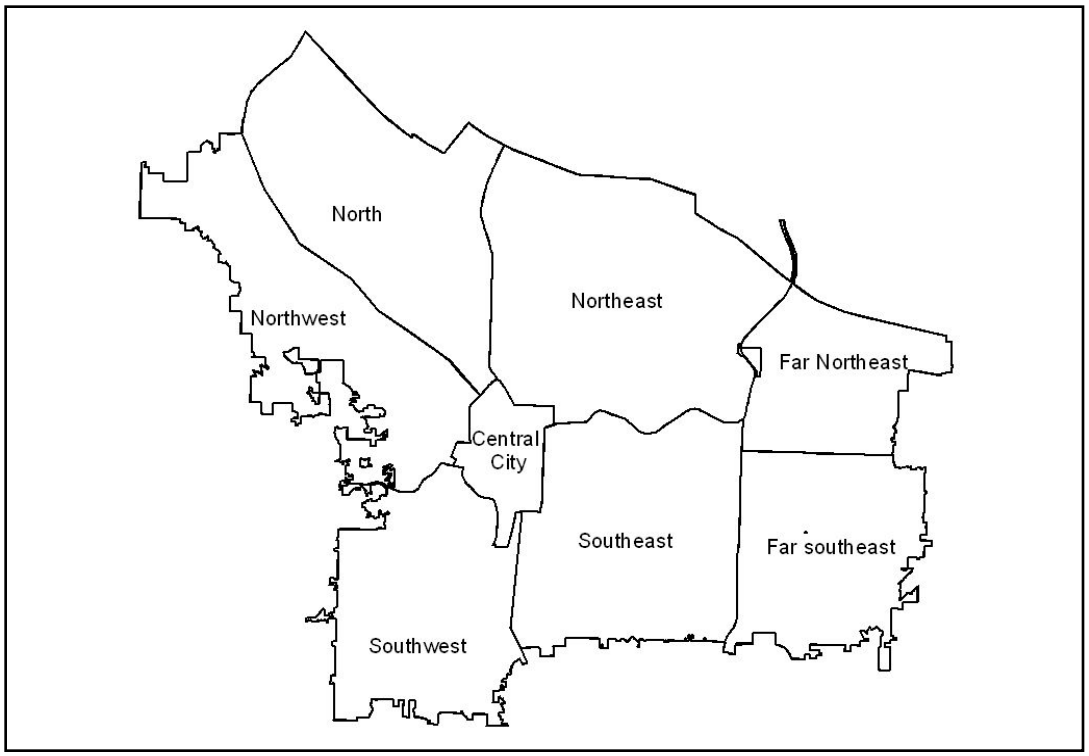
Pedestrian Master Plan

A 1994 'snapshot' inventory of street segments within the City limits documented the presence or absence of sidewalks and curb ramps. No attempt was make to assess condition or compliance with the American with Disabilities Act (ADA). The inner, older neighborhoods found in the Southeast, Northwest, and North Transportation Districts are much more likely to have a completed sidewalk system than the more recently annexed areas of the City, such as neighborhoods in the Outer Southeast, Outer Northeast, and Southwest Transportation Districts. Citywide, a slightly greater percentage of local streets have sidewalks than do arterial streets.

Transportation Needs by District

For transportation purposes, the City is divided into eight districts as shown on Map 10-1. The following sections describe the transportation needs for each district. The needs are derived from a variety of sources including recent transportation studies and plans, Tri-Met's Transit Choices for Livability process, neighborhood and community plans, and the Bicycle and Pedestrian Master Plans. Other needs were identified through the eight district workshops held in 1998 on the TSP.

Map 10-1
Transportation Districts



CENTRAL CITY DISTRICT

Introduction

When City Council adopted the Central City Plan in 1988 (Ordinance No. 160606), the plan area encompassed about 2,750 acres, or 4.3 square miles. Additional land north of Burnside and west of SW 18th was included as part of the Goose Hollow Station Area Plan. The Central City includes eight subdistricts (Downtown, University District, North Macadam, Central Eastside, Lloyd District, Lower Albina, Goose Hollow, and River District) and one subarea of the River District (Northwest Triangle). Portions of the Central City are claimed by the Eliot, Lloyd District, Kerns, Buckman, Hosford-Abernathy, Corbett-Terwilliger-Lair Hill, Downtown, Goose Hollow, Pearl, Old Town-Chinatown, and Northwest neighborhood associations. Business district associations with interests in the Central City include the Association for Portland Progress, Central Eastside Industrial Council, Downtown Retail Council, East Burnside Business Association, Goose Hollow Business Association, Historic Old Town, Lloyd District Community Association, Lower Albina Council, Northeast Broadway Business Association, Macadam Corridor Business Association, and Pearl District Business Association.

Land Uses

Each Central City district has a distinct history and development pattern. The Lower Albina District is predominantly industrial, with approximately 49 percent of the area in that use and about 20 percent of the district made up of vacant land or buildings. The Russell Street Conservation District is located in Lower Albina to preserve a small area along Russell, with N Interstate on the west.

The Lloyd District is dominated by commercial uses, with 41 percent in general office, event and entertainment activities, and hotel/motel uses. Surface and structured parking occupy approximately 29 percent of the district. The Lloyd District is experiencing rapid development, with several office and residential buildings under construction.

The Central Eastside is still composed primarily of industrial uses, but is undergoing changes, especially in the southern portion. The East Portland/Grand Avenue Historic District is located between SE Ankeny on the north, SE Salmon on the south, SE 6th (approximately) on the east, and mid-block between Grand and MLK, Jr. Boulevard on the west.

Located on the west side of the river, the Downtown District continues to be the City's office and retail/commercial core. Downtown has seen significant change since adoption of the Central City Plan. Riverplace, Pioneer Place, and several new hotels and office towers have all been erected since that time. Downtown also includes the Yamhill Historic District on SW Yamhill east of the mid-block between 3rd and 2nd. The portion of the Skidmore Fountain/Old Town Historic District south of Burnside is also in Downtown.

The 52-block area between I-405, SW Market, and SW 4th is known as the University District. While this area was envisioned as a University District in the 1988 Central City Plan, it was not officially adopted until the Central City Plan was amended in 1995 to include it. Portland State University controls the vast majority of land within the district. The district

also includes part of the South Park Blocks, high-rise residential buildings, and commercial uses.

The Goose Hollow portion of the Central City originally extended only to SW 20th between Burnside and Jefferson, south of Burnside, and west and north of I-405/US 26. Goose Hollow underwent a planning process after the Central City Plan was adopted. The Goose Hollow Station Community Plan was adopted in 1996 to respond to the changing needs of the district as light rail was extended to the west, with stations at SW 18th and Morrison and 18th and SW Jefferson. As a result, the Central City Plan district was expanded to include commercially zoned land north of Burnside up to 21st, most of the land between 20th and SW King, south of Burnside, and west and south from Jefferson between 18th and the Vista Tunnel. The area is characterized by large institutional and community facilities, including Lincoln High School, the Multnomah Athletic Club, and Civic Stadium (now PGE Park). The district also has a mix of older multifamily buildings and new multifamily development at the light rail stations, and commercial and office uses. The Goose Hollow District includes the eastern part of the King's Hill Historic District.

The Northwest Triangle and North of Burnside Districts were combined in 1995 to become the River District. The boundaries are W Burnside, I-405, and the Willamette River. The southern portion of Terminal 1 between the Fremont Bridge and the railroad tracks are also part of the River District. This rapidly changing district is envisioned as strongly residential, with office and commercial uses also represented. The district's housing target is 5,500 units. The district contains three historic districts: Thirteenth Avenue Historic District, roughly between NW Johnson and Davis, 14th, and mid-block between 13th and 14th; the north half of the Skidmore Fountain/Old Town Historic District between the river, Burnside, 4th, and Everett; and the New China/Japantown Historic District between Burnside, Glisan, 3rd, and 5th. New development includes the Chinese Garden, the Port of Portland Office, and a large number of new residential buildings and warehouse buildings converted into housing.

The North Macadam District is located south of the Marquam Bridge, between the river and SW Macadam, and north of SW Bancroft. While nearly all industrial in the past, the district is envisioned to transition to a mixed area of housing and office uses, with supportive commercial activities.

The 1988 Central City Plan had the objectives of 5,000 new housing units and 50,000 new jobs. These targets were increased to 15,000 housing units and 75,000 jobs with the adoption of the River District and University District Plans in 1995, which amended the Central City Plan.

Table 10.4 shows population and employment projections or the Central City districts. The Central Business District (CBD) includes River District, Downtown, and University District.

Table 10.4
Central City Population and Employment

District	Population		Employment	
	1994	2020	1994	2020
CBD	8,726	18,775	102,833	153,139
Lower Albina	271	299	1,966	3,117
Lloyd District	231	1,935	17,142	29,896
Central Eastside	5,614	6,514	23,687	30,552
N Macadam	146	2,812	3,046	13,972
Goose Hollow	4,330	4,858	5,144	6,286
Total Central City	*19,318*	*35,193*	*153,818*	*236,962*

Source: Metro
Note: Metro analysis boundaries are not identical with district boundaries.

Transportation

The Central City Plan envisioned the Central City Transportation Management Plan (CCTMP) as a tool to address parking and circulation comprehensively. Adopted in 1995, the CCTMP uses a 'high-growth scenario' (75,000 new jobs and 15,000 new housing units by 2010) to evaluate how concentrated growth in the Central City would affect the regional and local transportation system. The high-growth scenario projects a 26 percent increase in peak hour traffic during the 20-year planning period, but only a 4 percent increase over the traffic growth forecast by the RTP. The projected traffic increase is relatively small because of the expected benefits from more housing development, a wider area of parking management, and a substantial increase in transit service.

The RTP identifies the entire Central City as an 'area of special concern'. Metro defines an area of special concern as an area planned for mixed-use development, and "characterized by physical, environmental, or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided." The Central City continues to meet the alternative transportation performance standards for areas of special concerns. These standards are:

- *Non-SOV (single occupant vehicle) modal targets consistent with Table 1.3 in Chapter 1 of the RTP*
  The non-SOV target is 60 to 70 percent for the Central City. According to the RTP, "the proportion of trips made to and from downtown Portland by walking, bicycling, shared ride, and transit represent 67 percent of all trips in this part of the region."

- *Parking ratios consistent with Title 2 of the Urban Growth Management Functional Plan*
  The CCTMP includes several regulatory tools to manage parking in the Central City Plan district. Land use review requirements, parking lot size limitations, and parking maximums far exceed the Title 2 regional requirements in most cases. The Citywide

Parking Ratios Project adopted by City Council October 11, 2000 (Ordinance No. 174980) adjusted and added to these regulations to ensure the Central City parking ratios meet or exceed the regional requirements. Parking maximums were added for office uses in the River District sectors 1 and 2, as well as for Lower Albina and for Central Eastside sectors 1, 4, 5, and 6. The parking ratio for offices uses in Lower Albina and Central Eastside sectors 1, 4, 5, and 6 is 2.5 spaces per 1,000 square feet of net building area (equivalent to the Title 2, Zone A ratio). The boundary between sectors RD1 and RD2 was moved north to the rail line, and a ratio of 2.5 spaces per 1,000 square feet of net building area was adopted for it. A ratio of 3.4 spaces per 1,000 square feet of net building area was adopted in RD1. The exception is a parking maximum of 4.1 spaces per 1,000 square feet of net building area for preservation parking in River District1 under certain circumstances. A separate planning process for North Macadam is proposing maximum parking ratios for office uses. (The Citywide Parking Ratios Project City Council Adopted Report, October 11, 2000, contains additional detail about compliance with Title 2.)

- *A street connectivity plan for the Area of Special Concern that meets the connectivity requirements set forth in Section 6.4.5 of the RTP*
  A 1998 analysis of the City's consistency with connectivity standards revealed that the vast majority of the Central City complies with or exceeds the 530-foot spacing for streets. This is because Portland's original street layout focused on 200-foot blocks. Most of the areas that does not meet the connectivity requirements are either subject to street plans (River District and North Macadam) or are in industrial zoning and are not subject to the requirements. The remaining parcels that do not meet the connectivity standard are already developed (Lloyd Center, Memorial Coliseum, South Auditorium). South Auditorium is interwoven with numerous public accessways and provides a fairly high level of connectivity for pedestrians and bicyclists. Large parcels in Lloyd District (superblocks) are frequently traversed by pedestrian/bicycleways, generally in the location of previously vacated streets.

- *A plan for mixed-use development*
  The 1988 Central City Plan establishes a 20-year plan and zoning pattern designed to create a dense core of residential, commercial, institutional, and offices uses. Certain areas are targeted for residential development, and some areas have required residential components. The industrial zoning on the east side of the Willamette provides a broad range of employment opportunities, in addition to the office and retail jobs centered in the Downtown core and Lloyd District.

  Housing and employment targets established for the Central City in 1988 were updated after the CCTMP was completed and the River District and University District components of the Central City Plan were adopted. The area of required residential development in the River District was expanded, and areas previously zoned industrial were designated as high-density residential (e.g., the south part of Terminal 1). The targets are now 75,000 new jobs and 15,000 new housing units by 2010. The 1996 Goose Hollow Station Community Plan further encourages a mix of residential and commercial development by requiring residential as a part of development in nearly all CX (Central Commercial) zoned areas.

The RTP identifies the I-405 loop between I-5 north and I-5 south as a segment that will experience unacceptable congestion. (Other identified segments are discussed above under

Citywide Needs.) Segments of I-405 are congested during the two-hour evening peak period, particularly from the Burnside interchange at I-405 to I-5 north. The RTP notes that I-405 does not exceed the level-of-service performance measure for this corridor. The congestion is "localized in nature and does not significantly limit access to the Portland Central City during the evening two-hour peak period. Projects should focus on safety and key bottlenecks."

Table 10.5 shows 1994 VMT and Table 10.6 shows projected 2020 VMT for the Central City. As noted earlier, the CBD includes River District, Downtown, and University District.

These two tables show there will be a 20 percent increase in VMT residential productions, a 44 percent increase in VMT work productions, and a 9 percent increase in VMT for all purposes of trip attractions between 1994 and 2020. While these are substantial increases, VMT per capita declines over the same period (by 34 percent, 21 percent, and 40 percent, respectively).

VMT and VMT per capita are useful tools to evaluate change over time. Where fundamental and large variations in jobs-to-housing ratios occur among subdistricts, however, comparing one subdistrict to another is somewhat misleading. VMT is still a useful tool in conjunction with other analysis techniques to describe transportation movement.

Table 10.5
Central City Vehicle Miles Traveled – 1994

District	VMT (Productions)[1]		VMT (Attractions)[2]
	Residential[3]	Work[4]	All Purposes
CBD	30,242	323,734	1,412,277
Lower Albina	1,400	8,632	35,871
Lloyd District	1,816	109,014	432,942
Central Eastside	29,113	90,264	403,973
N Macadam	1,271	14,741	53,788
Goose Hollow	19,0174	18,606	104,926
Total Central City	*82,800*	*564,990*	*2,443,777*

Source: Metro, 2000 RTP Round 3 Strategic Scenario
Note: Metro analysis boundaries are not identical to district boundaries.
[1] VMT (Productions) = AWD (average weekday) vehicle miles traveled for trips produced in a district, regardless of destination.
[2] VMT (Attractions) = AWD vehicle miles traveled for trips attracted to a district, regardless of origin.
[3] Residential VMT includes all home-based trip purposes and the residential component of the non-home, non-work purpose.
[4] Work VMT includes all non-home based trip purposes except the residential component of the non-home, non-work purpose.

Table 10.6
Central City Vehicle Miles Traveled - 2020

District	VMT (Productions)[1]		VMT (Attractions)[2]
	Residential[3]	Work[4]	All Purposes
CBD	40,927	451,379	1,377,915
Lower Albina	833	10,647	30,323
Lloyd District	5,434	145,048	466,324
Central Eastside	24,826	118,286	496,317
N Macadam	15,612	64,043	222,199
Goose Hollow	12,261	25,575	84,478
Total Central City	*99,893*	*814,979*	*2,677,556*

Source: Metro, 2000 RTP Round 3 Strategic Scenario
Note: Metro analysis boundaries are not identical to district boundaries.
[1] VMT (Productions) = AWD vehicle miles traveled for trips produced in a district, regardless of destination.
[2] VMT (Attractions) = AWD (average weekday) vehicle miles traveled for trips attracted to a district, regardless of origin.
[3] Residential VMT includes all home-based trip purposes and the residential component of the non-home, non-work purpose.
[4] Work VMT includes all non-home based trip purposes except the residential component of the non-home, non-work purpose.

Recent Studies and Plans

Central City Plan

The 1988 Central City Plan (adopted by City Council Ordinance No. 160606) updates and expands on the following plans for areas partly or entirely within the Central City boundary:

- Downtown Plan (1972, 1980)
- North of Burnside Plan (1981)
- Transit Station Areas Planning Program (1984)
- Northwest Triangle Plan (1985)
- Northwest District Policy Plan (1977)
- Corbett-Terwilliger-Lair Hill Policy Plan (1977)
- Macadam Corridor Land Use and Urban Design Study (1985)
- Willamette River Greenway Plan (1979, 1987)

The Central City Plan identifies transit corridors as the spine for future growth, with the most intense development focused along them. Access to the transportation system is intended to move goods and people to and from manufacturing and distribution centers. The internal transit loop reinforces commercial, retail, and housing uses along the MLK, Jr. Boulevard/Grand Avenue corridor. The light rail system is intended to reinforce the Central City's role as the region's transportation hub. Bicycles and walking are envisioned as

important components of the transportation system. The bridges are seen as multimodal facilities that link the east and the west halves of the Central City.

The later planning efforts summarized below have amended the Central City Plan.

River District
City Council's 1994 Resolution No. 35274 directed the Bureau of Planning to incorporate the River District vision (as proposed by the River District Steering Committee) into the Central City Plan. Central to the vision are a new community of residential neighborhoods and a reorientation of the district to the Willamette River. City Council adopted the River District Plan as part of the Central City Plan in July 1995 (Ordinance No. 168702). One transportation-related objective was added to the Central City Plan for the River District:

> Incorporate strategic public investments in infrastructure that will stimulate private sector redevelopment. The River District needs increased transit services, improved streets, and open space.

University District
The City of Portland, in partnership with Portland State University (PSU), proposed the creation of the University District, as called for in the Central City Plan. The University District Plan amended and updated parts of the 1988 Central City Plan, and was adopted by City Council in 1995 (Ordinance No. 168702). The policy envisions the University District to be a "vital, multicultural, and international crossroads with an environment which stimulates lifelong learning, collaboration between business and government and a rich cultural experience." Three transportation-related objectives were added to the Central City Plan for the University District.

> Create light rail transit (LRT) access to the District from throughout the region and the Downtown, recognizing the District as one of the region's most significant destinations.
>
> Improve pedestrian connections between the District and Goose Hollow and Lair Hill neighborhoods.
>
> Reflect the establishment of the District by creating a University District Policy Element in the Central City Transportation Management Plan (CCTMP). Until the new element is created, recognize that the CCTMP Downtown Element is applicable to the University District.

Goose Hollow
City Council adopted interim regulations for Goose Hollow in 1994 to ensure transit-oriented development. City Council adopted the Goose Hollow Station Community Plan on January 10, 1996 (Ordinance No. 169699) as an amendment to the Central City Plan. The plan was part of the planning for station communities within the westside light rail corridor. The plan's objectives include encouraging early development in the station area at appropriate densities, ensuring safe and pleasant bicycle and pedestrian environments, and increasing transit ridership. Transportation-related objectives added to the Central City Plan for Goose Hollow are:

Improve pedestrian and bicycle connections to light rail and throughout the neighborhood.

Emphasize linear corridor boulevards on SW 18th Avenue, Burnside, and Jefferson streets to provide active retail, plazas, and other urban amenities.

Create a local streetscape that places importance on the continuity of pedestrian pathways, buildings lines, street corners, and other important physical design qualities.

Downtown Community Association Residential Plan

City Council adopted the Downtown Community Association's (DCA) Residential Plan in 1996 (Ordinance No. 170347). The plan area boundary is W Burnside, the I-405 freeway, and the Willamette River. The plan area comprises seven residential subdistricts: O'Bryant Square, Park Blocks, University District, South Auditorium, Riverplace, City Center, and Skidmore/Yamhill. The 1990 population of the DCA was 8,305, projected to be 9,138 by 2010. The plan builds from the policies of the Central City Plan and the CCTMP. The new objectives state:

9.1 Celebrate the nature of Downtown Portland as a pedestrian and bicycle-friendly city where walking and bicycling are a pleasure.

9.2 Promote the use of walking, bicycling, carpooling, and transit by Downtowners for home-based work trips, shopping, and other travel both within the Downtown and to other regional centers and destinations.

9.3 Improve and maintain full access on streets, transit, and in public buildings for individuals with special needs.

9.4 Ensure the passage and accessibility of emergency vehicles within the Downtown.

9.5 Design and use space within Downtown's transportation corridors to promote street level activity and enhance the quality of the residential environment.

9A.1 Improve Downtown transit access, frequency, speed, connectivity, ridership, and user-friendliness.

9A.2 Support the construction of additional transportation options in the Downtown which improve service, safety, reliability, and utility.

North Macadam

City Council accepted the North Macadam Framework Plan August 11, 1999 (Resolution No. 35815) as guidance for developing the area as a "vibrant, mixed-use urban riverfront neighborhood." The Framework Plan describes an urban neighborhood designed to accommodate 8,500 to 10,000 jobs and 1,500 to 3,000 housing units during the next 20 years. These projections slightly exceed the CCTMP projections of 1,420 dwellings and 2 million square feet of commercial space. The transportation goals for North Macadam include:

Improve access and circulation options to, through, and within the district to accommodate projected development.

Promote a variety of transportation types such as streetcar, light rail, river taxi, and bus.

Develop a pedestrian and bicycle network of streets and accessways.

Create a parking strategy that considers timing, control of commuter trips, parking meters, and shared parking and that makes North Macadam competitive with comparable subdistricts.

Develop an efficient and convenient transit system.

Achieve at least a 30 percent mode split for non-SOV travel through transportation demand management (TDM), parking ratios, a transportation management association (TMA), and transit.

Develop east-west streets to connect the western edge to the river.

Develop a transportation system that reduces the traffic impacts on surrounding neighborhoods.

2040 Focus Areas

As identified in Metro's 2040 Growth Concept, the Central City is the major regional center, accessible to millions of people. The 1997 Regional Framework Plan notes:

> Today, about 20 percent of all employment in the region is in downtown Portland. Under the Growth Concept, downtown Portland would grow at about the same rate as the rest of the region and would remain the location of about 20 percent of regional employment. To do this, downtown Portland's 1990 density of 150 people per acre would increase to about 250 people per acre.

According to the Framework Plan, the percentage of travel in the Central City by other than car is three times higher than in the next most successful area.

The 2040 Growth Concept also identifies several segments of main streets within the Central City, including W and E Burnside, SE Hawthorne, SE Belmont, a small section of NE MLK, Jr. Boulevard, and NE Broadway/Weidler. These designations are subsumed by the Central City designation, but are useful for street design.

Themes, Issues and Constraints

Central City Plan

Since 1988, a number of projects have addressed many of the transportation themes and issues raised in the Central City Plan. Westside light rail has been built and is operational, with higher ridership than anticipated, particularly on weekends. Construction of the Greyhound Terminal has enhanced Union Station's role as a transportation hub. The transit mall has been extended north to Union Station. Several 'bike central' facilities have been established in conjunction with health club facilities. Parking strategies for each district (except North Macadam, which is underway) have been developed as part of the CCTMP. Parking permit programs have been established where on-street commuter parking has affected adjacent neighborhoods and Central City subdistricts.

Remaining issues identified in the Central City Plan include creating an inner-city transit loop (circulator) connecting the east and west sides, completing the light rail system, and improving access to bridges for all transportation modes. The Project Suggestions section, below, identifies additional actions from the Central City Transportation Management Plan.

The following themes guided development of the CCTMP:

- The vitality of the Central City depends on focusing a larger percentage of the region's growth in the Central City than would otherwise occur if existing trends continued.
- Transportation and parking management strategies need to be developed for each district of the Central City.
- Transit capacity and service need to be expanded, and the use of other alternative modes needs to increase to meet the needs of each district of the Central City.
- The aggressive development of housing in the Central City will contribute to an increase in pedestrian and other alternative modes.
- Regional air quality policies should be implemented to encourage trip reductions and a concentrated land use pattern served by transit, rather than focusing on restrictive air quality measures within the Central City districts.

The CCTMP Framework Policies summarize the specific policies and objectives of the CCTMP, as follows. (Chapter 2: Transportation Element of the Comprehensive Plan, of this document provides the complete text of the CCTMP goal, policies, and objectives.)

1. Minimize commuter travel by automobile in each of the Central City districts in order to ensure growth in employment.

2. Allocate sufficient parking to land uses that are economically essential to the Central City.

3. Manage the availability of parking in each Central City district, taking into consideration density, land use, congestion, and the level of transit service.

4. Establish mode split goals for transit and alternative modes by district, and develop strategies to achieve the goals.

5. Assure compliance with air quality standards by emphasizing regional solutions to air quality problems.

6. Support the development of regional strategies to implement trip reduction goals, and support adoption of a regional land use pattern that will support the expansion of the use of alternative modes.

7. Expand the use of transit in the Central City by supporting regional funding strategies needed for the expansion of transit service. These strategies should be adequate to meet the high-growth scenario and be consistent with the Tri-Met Strategic Plan.

8. Adopt policies for the Central City that will encourage transit-supportive development and bike and pedestrian mobility.

PGE Park (Civic Stadium)

A Comprehensive Transportation Management Plan (CTMP) was developed for PGE Park to guide the stadium operator and the City. The CTMP provides an overall transportation strategy to accommodate more and larger events at the renovated Civic Stadium, while minimizing impacts on the neighborhood. It was completed in May 2000 with the input of the affected neighborhoods. Existing parking opportunities are often exhausted in Goose Hollow and Northwest, even without events at PGE Park. Relatively small events at the stadium saturate parking in Goose Hollow, and larger events saturate parking north into the Northwest neighborhood.

The CTMP mitigation measures will shift event parking to Downtown, which will relieve parking pressures in the vicinity of the stadium and improve traffic and circulation during and after events. Strategies to reduce parking in the neighborhoods will include expanding the permit parking program and increasing enforcement, providing incentives to increase transit use, increasing the availability of MAX and shuttle buses, and directing educational efforts to patrons.

North Macadam

The primary development constraint in North Macadam is the lack of transportation access to the regional highway and transit systems. The area lacks a typical network of public rights-of-way and a grid of local streets. A street plan is needed to ensure that the desired urban form emerges: high-density development with access and mobility opportunities for pedestrians, transit patrons, and bicyclists. The North Macadam Framework Plan calls for frequent public connections to the river. The North Macadam District Street Plan, accepted by City Council in 1996, is currently being updated to reflect more recent planning efforts.

Project Suggestions (Partial List)

District Workshop/Community and Neighborhood Plans

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The final district workshop to solicit input on Central City transportation needs was held on October 17. The results are summarized below.

- **Transit.** Provide more frequent transit service; reinstate 'owl' service; expand weekend transit service.
- **Fareless Square.** Extend Fareless Square to the Lloyd District and other parts of the Central City.
- **Pedestrian.** Expand the pedestrian network to connect residents of the Central City to greenspaces and other neighborhoods and activity centers; install audible pedestrian signals at downtown intersections.
- **Bridges.** Improve bridgeheads and viaducts that provide pedestrian access, particularly the Morrison Bridge.
- **Bicycle.** Complete the bike network to and from the Central City for commuters; provide bike access to greenspaces and other recreational destinations.
- **Intersections.** Fix the intersection of SE 12th/Sandy/Burnside.

Central Eastside Transportation Study

Although this study was completed in 1990, several major projects from it have not been completed, including changes to the Grand Avenue bridgeheads to make them more pedestrian-friendly and accessible to transit.

Central City Transportation Management Plan

Some of the transportation-related projects identified in the action items section of each CCTMP policy are listed below. (The full text of action items is contained in the CCTMP document.)

- **Circulation and Access.** Support completion of I-5, Greeley to I-84.
- **Transit.** Increase transit hours span; consider bus 'circulator'; implement transit priority projects.
- **Pedestrian.** Complete Greenway Trail; improve access to and across bridges; improve access across I-5, I-84, and I-405.
- **Bicycle.** Implement the Bike Master Plan; provide bike priority at key intersections; add bike parking where needed.

The CCTMP identifies the following district strategies for the Central Eastside:

- **Pedestrian.** Connect the north side of the Ross Island Bridge to the west side of SE McLoughlin; improve crossings of Grand and MLK, Jr.; improve the 12th/Sandy/Burnside intersection.
- **Bicycle.** Connect SE Clinton to the district.
- **Circulation.** Evaluate modifying Sandy to eliminate excess pavement and improve circulation.

Goose Hollow Station Community Plan

The following transportation-related projects are included in the action charts of the Goose Hollow Station Community Plan:

- **Boulevard.** Jefferson street plan to reduce traffic speeds, provide parking, and widen sidewalks.
- **Parking.** Explore shared parking opportunities, more angled parking.
- **Pedestrian.** Improve connections (lighting, curb extensions, crossings, pavement materials) to light rail, PSU to student housing, across I-405.
- **Bicycle.** Improve connections between PSU and student housing; provide bike parking at Civic Stadium station.
- **Traffic and Circulation.** Calm traffic on local residential streets; conduct a corridor study for Burnside; improve right-of-way and traffic management between Civic Stadium station and the north side of Burnside.

Downtown Community Association Residential Plan

The action charts of the DCA Residential Plan include the following transportation-related projects:

- **Connections.** Provide additional transit to adjacent neighborhoods, employment centers, multimodal terminals, recreation.
- **Pedestrian.** Improve crossings and corners for the visually impaired; remove barriers.
- **Bicycle.** Provide bike lanes on designated streets.

Report and Recommendations of the Goose Hollow/Civic Stadium Planning Committee

The Goose Hollow/Civic Stadium report was prepared to identify issues relating to the redevelopment of Civic Stadium into PGE Park. The report was used in the development of the Comprehensive Transportation Management Plan (CTMP) for PGE Park. Some of the transportation-related issues are:

- **Transit.** Increase transit frequency and coverage; use shuttle buses.
- **Pedestrian.** Improve crossings of Burnside; widen sidewalks; remove obstructions; upgrade SW Taylor and Salmon between 18th and I-405; improve crossings of I-405.

- **Bicycle.** Provide bike lanes on designated streets; secure bicycle parking.
- **Traffic/Circulation.** Reconfigure streets surrounding Firemen's Memorial Park; evaluate street system changes as a part of redevelopment.

Pedestrian Master Plan

The 1998 Pedestrian Master Plan identifies a number of projects that are completed or partly completed within the Central City. (See the Pedestrian Master Plan for details of these projects.)

- **Crossings.** W Burnside from Park to 23rd; SE Powell at Milwaukie; E Burnside at 12th and Sandy
- **Bridges.** Broadway Bridge accessibility; Steel Bridge pedestrian access project (underway); Morrison Bridge accessibility project; Central City bridgeheads pedestrian access project; Ross Island bridge accessibility.
- **Greenstreets.** SW Park Blocks greenstreet
- **Connections.** NW I-405 bridges: Burnside, Couch, Everett, Glisan
- **Stairs.** SW Spiral Way right-of-way

Bicycle Master Plan

The 1996 Bicycle Master Plan identifies a number of bicycle improvements that are completely or partly within the Central City. (See the Bicycle Master Plan for a complete list of projects.)

- **Bike Lanes.** SW Main and Madison; SW Salmon and Taylor; SW 2nd; NW Everett and Glisan; NW 9th; MLK, Jr. Boulevard and Grand; NE 9th; SE Belmont
- **Bike Boulevards.** NE Couch, SW 1st
- **Multi-use Trail.** Willamette Greenway; I-84

University District Plan

The University District Plan includes projects and activities to enhance the transportation system. The transportation projects identified in the plan include:

- **Transit.** Extend the transit mall south through the district.
- **Connections.** Improve connection to Riverplace, the Willamette River Greenway Trail, and 40-Mile Loop via Montgomery Street.
- **Pedestrian.** Improve crossings on Broadway and 4th.

River District Plan

The River District Plan includes projects and activities to enhance the transportation system, including:

- **Pedestrian/Bicycle.** Complete the Willamette Greenway Trail.
- **Connections.** Improve crossings of the railroad.
- **Circulation.** Reconstruct the Lovejoy viaduct and 10th Avenue ramps.
- **Local Streets.** Construct 11th Avenue between Hoyt and Lovejoy and other streets.
- **Water Taxi.** Implement the river access transportation (RAT) project.

North Macadam Framework Plan

City Council accepted the North Macadam District Framework Plan in August 1999. The largely undeveloped area suffers from a number of problems, including poor transportation access and circulation, inadequate infrastructure, and soil contamination. The transportation improvements envisioned for the district include:

- **Pedestrian/Bicycle.** Make improvements on Sheridan and Corbett, overcrossings at I-5, and the Greenway Trail.
- **Circulation.** Reconfigure Bancroft/Hood/Macadam intersections; construct River Parkway; construct Moody/Bond; construct east-west streets (Arthur, Gibbs, Curry, Lowell).
- **Transit.** Continue streetcar through district; build transit hub.
- **River Taxi.** Investigate feasibility of river taxi system.

Non-TSP Project Issues

Past studies and plans have recommended numerous activities, programs, and other actions. A sample is listed below.

Central City

- Include traffic calming strategies in district transportation management programs.
- Use parking meters/parking control techniques to maintain livability of adjacent neighborhoods.
- Establish transportation management associations.
- Encourage incentives and discounts for employers to subsidize transit passes.
- Improve identification, signage, and lighting of the pedestrian network.
- Expand City program of installing bicycle racks.

Central City Subdistricts

DOWNTOWN
- Explore residential parking permits; support electric vehicles in parking structures.
- Provide short-term and long-term parking.
- Modify street corners to assist the visually impaired.
- Improve transit signing, shelters, and kiosks.

- Remove barriers to the mobility impaired.
- Add ornamental lighting to SW Park and SW 9th between SW Morrison and W Burnside (partially completed).
- Explore potential for water taxis, mini-shuttles, bicycle carriages.

UNIVERSITY DISTRICT
- Implement a comprehensive transportation management program.
- Modify some local streets to create amenities to support housing.

GOOSE HOLLOW
- Expand area covered by permit parking; expand hours; raise permit fees
- Provide shared parking arrangements and parking garages.

LLOYD DISTRICT
- Provide plazas and public spaces through development on superblocks.
- Reinforce transit/pedestrian spine on NE Holladay.
- Develop transit center in the office core.

CENTRAL EASTSIDE
- Provide parking structure in the MLK, Jr./Grand corridor.
- Close unused curb cuts to increase on-street parking.
- Increase number of transit facilities: shelters, improved sidewalks, benches, lighting.
- Improve pedestrian access at "No Pedestrian Crossing" locations.
- Improve safety and convenience for bicyclists on SE Ankeny and SE Clay.
- Develop a truck access plan that improves connections to the regional system.

LOWER ALBINA
- Improve pedestrian access to Downtown impeded by freeway, ramps, and railroads.
- Monitor Rose Garden traffic and parking mitigation plan.

NORTH MACADAM
- Improve pedestrian access to Downtown.
- Preserve the Willamette Shoreline corridor for future light rail.
- Establish a transportation management association.
- Implement the transportation demand management plan.
- Implement a transit service strategy.
- Investigate river taxi.

RIVER DISTRICT
- Ensure safe pedestrian access to bus and train terminals.
- Develop a pedestrian plan for north of Lovejoy, with connections to the Greenway and park blocks.

District Performance Measures

The CCTMP contains district-level transit share goals for commuter trips in 2010, as shown on Table 10.7.

Table 10.7
CCTMP Transit Mode Share Goals

District	Goal (%)
Downtown	60
North of Burnside	40
Lloyd-Coliseum	40
Northwest Triangle	20
North Macadam[1]	20
Goose Hollow	20
Central Eastside	15
Lower Albina	10

[1] The North Macadam Framework Plan establishes a non-SOV mode share goal of 30 percent, but includes rideshare, walk, and bicycle trips as part of that percentage.

The CCTMP contains a combined walk/bike goal of 10 percent for home-based work trip attractions to each district by 2010. The CCTMP also has a rideshare goal for average auto occupancy of 1.3 person per vehicle for home-based work trip attractions to all Central City districts by 2010.

The upcoming review of the CCTMP will update mode split and other transportation performance measures in the Central City, including establishing new targets for districts that have combined or split since the CCTMP was adopted.

NORTH DISTRICT

Introduction

The North District, also known as the North Portland peninsula, is located at the confluence of the Columbia and Willamette Rivers, which also form the district's north and west boundaries. The I-5 (Banfield) Freeway defines the east boundary and the Fremont Bridge the south boundary of this district.

Land Use

Land use within this area is primarily either single-family residential or industrial. The district also includes the St. Johns town center and the Lombard main street. In addition, the area includes Smith and Bybee Lakes, remnants of the wetlands and marshes that used to border the Columbia River, and the second-largest natural area in the City. The Portland International Raceway (West Delta Park) and Portland Speedway, which provide for competitive automotive events, are within the district.

The North District includes four of the primary focus areas that the 2040 Growth Concept identifies within the City of Portland: two industrial districts (Rivergate and Swan Island) and two intermodal facilities (Terminal 6 and the Albina Rail Yard). The Rivergate and Swan Island Industrial Districts are primarily owned and developed by the Port of Portland. The Port also owns and operates the Terminal 6 intermodal facility on the Columbia River. The Burlington Northern and Santa Fe Railroad operates the Albina Rail Yard Intermodal Facility, adjacent to the south of Swan Island. While Swan Island is approaching full development, substantial development opportunity is left in the Rivergate Industrial District.

The proximity of rail, highway, air, and river access makes the North District uniquely important to the distribution aspect of the City's economy. The emphasis on the movement of goods and products also makes trucking a major part of the District's transportation concerns and needs.

Population and employment for the North District (as reflected in the regional transportation model) are:

Year	Population	Employment
1994	45,099	35,829
2020	53,735	50,658

Transportation

The east-west street system in the North District comprises a number of major arterials, including Marine Drive, Columbia Boulevard, Lombard, and Going. The north-south street system comprises I-5, Interstate, Portland Road, and Greeley. The main access points into the district are I-5, Interstate, and the St. Johns Bridge. The St. Johns Bridge and Lombard are part of the federal highway system (US 30 Bypass).

Lombard (west of MLK, Jr. Boulevard) carries approximately 22,000 total vehicles per day, with a p.m. peak hour volume of approximately 1,500 vehicles. During the peak truck travel hour (1:30 p.m. to 2:30 p.m.), trucks constitute approximately 14 percent of the total vehicle volume. Columbia Boulevard carries approximately 28,000 vehicles per day through North Portland, with a p.m. peak hour volume of 1,700. The percentage of truck traffic on Columbia is between 14 and 22 percent, compared with City averages of 8 to 10 percent of total vehicles. Marine Drive carries approximately 10,000 vehicles per day, with a higher-than-average percentage of truck trips.

Residents have long had concerns about truck traffic in the North District, especially near major industrial areas such as Swan Island and the Rivergate Industrial District and near I-5. Many of the non-local trucks that travel between I-5 and US 30 (St. Helens Highway) now regularly use Fessenden Street and other residential and retail/commercial streets as truck routes. The 1992 Transportation Element identified the need for a study to evaluate North Portland truck routes and mitigation for truck traffic in St. Johns and other North Portland neighborhoods.

Light rail is under construction in the Interstate corridor between the Rose Quarter transit center and the Exposition Center near the Columbia River. Light rail will substantially improve access in the North District and change travel patterns. Residents are concerned about potential traffic infiltration once light rail opens in 2004.

North Portland is served by a number of bus lines, many of which use St. Johns as a hub. One bus line serves the Rivergate area, and one regular line and a shuttle service connect the Swan Island area via Going Street. The number 5 line is the primary north-south route, while Lines 72 and 75 provide cross-town service. Lines 16 and 17 connect the North District with northwest Portland.

Most streets in the North District are paved and have sidewalks. A new off-street path was recently opened along the railroad cut, and new trails have been constructed in the Bybee-Smith Lakes area.

Recent Studies and Plans

Several studies have been completed or are underway to address the needs of truck movement and the needs of residents to have livable neighborhoods. The study results are summarized below and described in more detail in Chapter 12: Area Studies.

- I-5 Transportation and Trade Partnership (ODOT, PDOT, Metro, Portland Development Commission [PDC], Multnomah and Clark Counties, City of Portland, City of Vancouver, Port of Portland)
- Columbia Corridor Transportation Study (City of Portland)
- St. Johns Truck Strategy (City of Portland, Port of Portland)
- North-South Light Rail (Tri-Met, PDC, City of Portland)
- West Hayden Island Marine Terminal Development
- St. Johns/Lombard Plan

I-5 Transportation and Trade Partnership

The I-5 corridor provides access to many of the region's important industrial sites and port facilities and is a link to jobs throughout Portland and Vancouver. Because of the lack of multimodal options and increasing congestion, traffic delays are becoming more frequent and longer. Following public input and discussion, a task force is expected to adopt the Final Strategic Plan Recommendations for the I-5 Corridor in June 2002 and send it to the Oregon and Washington transportation commissions, Metro, and the southwest Washington metropolitan planning organizations for review. Strategies under discussion are increased I-5 capacity, potential high-occupancy vehicle (HOV) lanes, light rail, increased capacity over the Columbia River for all modes, and spot improvements at key interchanges.

Columbia Corridor Transportation Study

The area of this 1999 study extends between N Portland Road and NE 185th. The study's purpose was to address the concerns of residents living east of I-5 and of pedestrian and bicycle advocates. The identified problems were auto and truck speeding, volumes, vibration, cut-through traffic, and conflicts between modes. The study identifies a number of improvements, primarily between I-5 and 185th. The only recommendation that affects the North District is to consider a full interchange at I-5 and NE Columbia Boulevard (an addition of a northbound on-ramp) or improvement to the location of existing ramps.

St. Johns Truck Strategy

There had been no designated truck streets between Rivergate and Columbia Boulevard and the St. Johns Bridge since 1992, at the request of citizens who testified on the Transportation Element update. The purpose of the 2001 St. Johns Truck Strategy was to look at ways to reduce the amount of truck traffic travelling on neighborhood streets. The goal was to identify ways to eliminate or reduce conflicts between non-local truck movement and the residential and retail/commercial areas in St. Johns. The study also looked at transportation system improvements for truck travel to commercial or industrial sites, the freeway system, and the St. Johns Bridge.

Recommended transportation improvements include a number of traffic calming projects to enhance pedestrian and bicycle safety:

- Lombard from Pier Park to St. Louis
- Fessenden from Columbia Way to St. Louis
- St. Louis from Fessenden to Lombard
- Pedestrian and bicycle safety changes on Columbia Boulevard from Portland Road to Rivergate
- Other measures to create an environment that helps protect the neighborhood streets from incursion by non-local truck traffic

Intersection changes are recommended to improve truck movement and pedestrian and bicycle safety:

- Redesign and reconstruct the Lombard/St. Louis/Ivanhoe intersection.
- Redesign and reconstruct the Ivanhoe/Philadelphia intersection.
- Redesign and reconstruct the Columbia Boulevard/Portland/Columbia Way intersection.
- Redesign and reconstruct the street segment of Burgard and Lombard from Rivergate entrance to Terminal Road.

South-North Light Rail

Metro and Tri-Met began studies in 1984 to evaluate transportation alternatives that would address rapid population growth and travel demand in the region. The Washington and Portland metropolitan transportation committees adopted the south-north locally preferred strategy.

After a local funding ballot measure for south-north light rail was defeated in 1998, a group of local business and community leaders asked Tri-Met and Metro to investigate the development of a new north corridor light rail alignment. In 1999, Metro amended the preferred north alignment to an Interstate Avenue alignment.

The north corridor area is growing less rapidly than other areas of the region. Development of light rail in this corridor will increase developable land located within one-quarter mile of the new light rail stations by 127 acres and within one-half mile of the stations by 484.5 acres. Light rail will leverage job opportunities and new housing along the corridor.

Construction of the Interstate Avenue alignment is underway. Changes have been made in the Rose Quarter, and new tracks are being laid along N Interstate to the Expo Center near the Columbia River. Approximately 600 park-and-ride spaces will be provided at the two northernmost stations: Delta Park/Portland International Raceway and Expo Center.

West Hayden Island Marine Terminal Development

The West Hayden Island Development Plan calls for a transition of the West Hayden Island area to marine terminal facilities and an intermodal railyard. In accordance with the plan, a transportation analysis was completed in 1999 to identify specific traffic impacts associated with development of the bulk terminal and the container terminal/intermodal railyard. The analysis showed that the addition of bulk terminal traffic would have no adverse traffic impacts. The addition of a container terminal(s) and intermodal rail facilities would adversely affect traffic operation on Hayden Island and at the intersection of I-5 with Marine Drive. A bridge linking West Hayden Island to Marine Drive is proposed in conjunction with development of the marine terminal facilities and intermodal railyard. Development of West Hayden Island is not occurring immediately because of cost and other issues.

St. Johns/Lombard Plan

The St. Johns/Lombard Plan is now underway to implement the town center and main street designations of the 2040 Growth Concept. The plan will address Comprehensive Plan and zoning changes and other land use changes, along with transportation issues for bicyclists, pedestrians, transit users, and motorists. It will address the needs of alternative mode users through the design of street cross-sections and intersections and by identifying

locations for crossing opportunities. The plan will be coordinated with other City and regional planning efforts (recently completed or underway) that affect the study area, including the I-5 Trade and Partnership project, Willamette Greenway Plan update, Portsmouth Neighborhood Plan, North Interstate Urban Renewal Plan, and St. Johns Truck Strategy.

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit input on North District transportation needs was held on October 1. The most frequently mentioned concerns were:

- **Speeding.** Many participants were concerned about finding solutions to speeding on local neighborhood streets.
- **Trucks.** Because of the proximity of industrial uses to residential areas, issues included trucks cutting through neighborhoods and the need for different truck routes.
- **Bicycle and Pedestrian Safety.** It is a challenge to get around the district by bicycle or walking. Other concerns for cyclists and pedestrians were safe access to recreational areas, greenspaces, and places of employment.
- **Transit Service.** Neighbors want increased frequency and additional transit routes to serve the district.
- **I-5 Connections.** The area needs improved connections to the freeway from Lombard, Columbia Boulevard, and Marine Drive/MLK, Jr. Boulevard.

Transit Choices for Livability

Tri-Met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on the City's transit needs. Suggested North Portland transit service improvements included:

- **Columbia Corridor.** New connections between North Portland and jobs in the corridor.
- **Swan Island.** Service to the high-density employment district, tailored to meet the needs of employees.
- **Northwest.** New connection between Westside MAX and the Northwest industrial area, with a link to North and Northeast Portland.

Albina Community Plan

The Albina Community Plan, adopted by City Council in October 1993, covers part of the North District: the Arbor Lodge, Kenton, and Overlook neighborhoods. Arbor Lodge and Kenton have neighborhood plans that were developed as part of the Albina Community Plan. The community plan emphasizes stabilizing and revitalizing residential neighborhoods;

reshaping existing commercial strips into nodes; improving the pedestrian environment, particularly along MLK, Jr. Boulevard; planning for light rail; and identifying family service, education, and employment needs.

Transportation-related policies identified the following issues for neighborhoods west of I-5:

- Emphasize light rail as the major transportation investment.
- Reduce the environmental impacts of I-5.
- Provide for higher-density housing opportunities adjacent to the light rail line.

The two neighborhood plans emphasize the following transportation policy issues:

Arbor Lodge. Reduce the use of the automobile and encourage the use of alternatives; pave unimproved streets and alleys and construct sidewalks where they are most needed; ensure that public transportation is accessible to neighborhood residents.

Kenton. Improve access to Kenton by providing transportation choices while reducing noise, pollution and safety hazards; protect neighborhood livability and safety by discouraging speeding; ensure that public transit is convenient, secure, and safe.

Project Suggestions

District Workshops

The attendees of the 1998 workshops submitted the following suggestions:

- **Connections.** Additional crossings of the railroad cut; additional access points to the Willamette River, N Kenton to PIR, Columbia Slough, Delta Park, and Columbia South Shore.
- **Crosswalks.** New locations in Kenton; N Columbia and path from N Peninsular and N Denver.
- **Bicycle/Pedestrian Improvements.** Portland Boulevard between N Willamette and Greeley; Killingsworth between Denver and Greeley; Knowles, Farragut, Omaha Buffalo; I-5 to Greenwich and Prescott to Columbia; Columbia.
- **Viaduct Improvements.** Denver viaduct.
- **Pedestrian District.** Improved pedestrian/bicycle connections between the town center and Pier Park, Columbia Slough, and Smith and Bybee Lakes.
- **Greenway Improvements.** Additional pedestrian and bicycle routes.
- **Signing.** Sign installation for bike routes, pedestrian routes, and the 40-Mile Loop.
- **Street Design.** N Denver.

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for North Portland:

- **Walkways and Crossings.** N Columbia Boulevard walkway and crossings between Swift Court and Portland Road; N Columbia Boulevard walkway and crossings between Argyle Way and Albina.
- **Walkways and Transit Stop Improvements.** N Greeley between Going and Interstate.
- **Crossings.** N Lombard at Interstate.
- **Pedestrian Districts.** St. Johns; Kenton.
- **Pedestrian Plans.** Swan Island.
- **Bridge Access.** St. Johns Bridge accessibility improvements.

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects in the North District that have been completed. Projects not yet completed include:

- **Bicycle Lanes.** N Lombard; N Columbia; N Lagoon/Channel.
- **Bicycle Boulevards.** N Woolsey; N Peninsular.
- **Multi-use Trails.** Columbia Slough trail.

Albina Community Plan

The Albina Community Plan and the individual neighborhood plans identify a large number of transportation improvements. Most of the Albina Community Plan's transportation action items are general, rather than specific. PDOT reviewed the suggestions and included them in the TSP as major transportation improvements if they met the criteria for 'significant' projects. Specific major transportation projects in the Albina Community Plan for the area west of I-5 include:

- Create noise buffers along I-5 to mitigate the impacts of freeway traffic noise (being installed).
- Synchronize traffic lights along major thoroughfares.
- Establish direct bus connections between Northwest and inner-North Portland. (Line No. 16 now in operation.)

The Arbor Lodge neighborhood plan contains the following project suggestions:

- Develop a traffic management plan for N Willamette Boulevard.
- Develop recreational and scenic routes, such as a hiking and bicycle trail system next to the Willamette River.
- Investigate alternative modes of travel, such as a monorail alignment connecting North Portland to Rivergate.

The Kenton neighborhood plan contains the following project suggestions:

- Consider traffic calming on N Denver.
- Provide bike lanes on Denver that connect to other bike facilities.
- Study how completing the traffic cloverleaf at I-5 and Columbia affects truck traffic.
- Provide additional pedestrian crosswalks.

Other workshops and neighborhood planning efforts in the North District have generated many ideas in addition to the suggested projects that are considered 'significant' for TSP purposes. Chapter 2: Transportation Element of the Comprehensive Plan, of the TSP includes ideas that are policy-level concerns under the North District objectives. More general ideas are referred to the appropriate PDOT staff for further review. Appendix E lists many of these smaller project ideas.

NORTHEAST DISTRICT

Introduction

The Northeast District is bounded by the Columbia River on the north, I-5 on the west, I-205 on the east, and I-84 on the south. The Lloyd Center area and Lower Albina in the southwest corner are part of the Central City rather than part of the Northeast District.

Land Use

South of Columbia Boulevard, the neighborhoods in this district are primarily residential, with commercial areas located along arterials. North of Columbia Boulevard, the land use is industrial, except between NE 33rd Avenue and I-205, where Portland International Airport and airport-related activities are located.

East Delta Park, Portland Meadows, at least five golf courses, and a number of parks provide recreational opportunities. The eastside MAX light rail line is located in the I-84 right-of-way at the south edge of the district. The airport light rail line extends northward from the Gateway station area, along I-205, then northwesterly into the Northeast District and on to the Cascade Station area and the airport.

This district includes a major portion of the Columbia South Shore Industrial District. Portland International Airport, owned and operated by the Port of Portland, is located in the Columbia South Shore Industrial District between NE 33rd and NE 82nd. The opportunity for new industrial, employment, commercial, and entertainment uses has been enhanced by the approval of the Portland International Center and a plan district for Cascade Station. The airport and surrounding industrial and employment uses are major attractors and generators of vehicle trips, with access largely dependent on the freeways.

The Hollywood town center and Sandy main street are in the southern part of the district. Other 2040 main streets are located on segments of MLK, Jr. Boulevard, N/NE Killingsworth, N/NE Lombard, NE Fremont, NE Broadway/Weidler, NE Cully Boulevard, and 82nd Avenue. Parts of the eastside MAX 42nd, 60th, and 82nd transit centers are in the Northeast District, as are the Airport MAX stations in Parkrose, Cascade Station, and the airport.

Population and employment (as reflected in the regional transportation model) for the Northeast District are:

Year	Population	Employment
1994	106,548	60,051
2020	121,572	90,394

Transportation

The Columbia Corridor Transportation Study (1999) provides a detailed picture of many of the major arterials in the north part of the district. These arterials are NE Columbia

Boulevard, NE Lombard, NE Marine Drive, NE MLK, Jr. Boulevard, NE 33rd Drive, and NE 82nd Avenue.

A large percentage of truck-oriented land uses are located directly adjacent to NE Columbia Boulevard. Depending on location, Columbia Boulevard carries between 28,000 vehicles per day (west end) to 20,000 vehicles per day (east end), with a p.m. peak hour of 1,700 and 1,250 vehicles, respectively. Truck volumes make up between 14 and 22 percent of the total motor vehicle traffic on the street during the truck peak hour (2:30 p.m. – 3:30 p.m.).

NE Lombard comprises segments with different street names. From I-5 to 60th, the street is N/NE Lombard; from 60th to Cully, it is N Portland Highway; and from Cully to I-205, it is N Killingsworth. ODOT owns and maintains the entire length, which serves as the US 30 Bypass. NE Lombard operates at good levels of service during peak periods with sufficient roadway capacity to handle the traffic volumes and local access. Volumes range from 22,000 vehicles per day (west end) to 24,500 vehicles per day (east end), with p.m. peak hour volumes of 1,500 and 2,500 vehicles, respectively. Truck volumes range from approximately 14 percent (west end) to 7 percent (east end) of total vehicle volumes.

NE Marine Drive traffic volumes are approximately 10,000 total vehicles per day over its entire length, with peak hour volumes varying between 700 and 1,200 vehicle (east end) and 2,500 vehicles (west end).

MLK, Jr. Boulevard and 82nd are state highways built before I-5 and I-205, respectively. The 2040 Growth Concept designates segments of both as main streets. A plan for MLK, Jr. Boulevard between NE Broadway and NE Columbia was adopted to transition the street from its highway function and design to a main street. Traffic volumes range from 40,600 vehicles per day (south end) to 19,000 vehicles (north end). Over 90 percent of the trips are local rather than through-trips.

Transit service crosses the district with a number of lines, although the Columbia Corridor is poorly served with east-west service. MAX light rail lines run along the southern and western edges of the district, with numerous transit stations served by feeder bus lines.

Most of the residential areas in the district have pedestrian facilities. The exception is the Cully neighborhood, which has many undeveloped streets. Bicycle facilities are present on several streets; many more are planned, but not yet developed.

Recent Studies and Plans

Many plans have been completed or are underway for the Northeast District. Some of the plans are intended to address truck access to and within industrial areas; others are to improve access to the airport; and two are to implement the 2040 Growth Concept for town centers and main streets.

Martin Luther King, Jr. Boulevard Transportation Project

Martin Luther King, Jr. Boulevard is classified as a Major City Traffic Street and a state highway. It no longer functions as a state highway, however, and traffic is primarily local rather than regional. A study was initiated in 1997 to transition the street from its highway status to a main street. The study's goal was to transform the street to respond to the desired

land use characteristics. Four different cross-sections were developed to address safe pedestrian movement, on-street parking, traffic calming, and improved appearance.

Hollywood and Sandy Plan

City Council adopted the Hollywood and Sandy Plan in April 2000. The plan's intent was to transition Sandy Boulevard between NE 12th and NE 54th Avenues from a district highway to a main street and to reinforce and enhance the Hollywood town center and station area. The plan resulted in a number of Comprehensive Plan and zoning changes, along with other regulations to reinforce the land use concepts; a transportation concept for the Sandy main street; and a series of intersection designs intended to focus activity at key nodes along Sandy and the primary north-south and east-west pedestrian routes in Hollywood. An Oregon Transportation Investment Act project has recently been approved for Sandy Boulevard to implement the transportation concept between NE 13th and NE 47th.

Columbia Corridor Transportation Study

The area for this 1999 study extends between N Portland Road and NE 185th. The study's purpose was to address concerns of residents living east of I-5 and of pedestrian and bicycle advocates. The problems were identified as auto and truck speeding, volumes, vibration, cut-through traffic, and conflicts between modes. The study identifies a number of improvements, primarily between I-5 and 185th.

Airport Light Rail and Portland International Center

City Council adopted the Cascade Station/Portland International Center plan district in 1999 (Ordinance No. 173131) to support the light rail extension to Portland International Airport. The purpose of the plan district is to encourage the development of a commercially viable mix of transit-supportive and pedestrian-sensitive office, hotel, entertainment, retail, and industrial employment centers, while protecting the area's significant environmental and cultural features. The plan district is located between I-205 and NE 82nd Avenue and between NE Airport Way and the Columbia Slough.

The plan district contains two light rail stations and is intended to allow a mix of uses and activities that complement and serve ongoing airport operations and related airport service uses. Development guidelines and bicycle/pedestrian connections are included in recognition of the plan district's proximity to the Columbia Slough and Columbia Slough Trail.

I-5 Transportation and Trade Partnership

The I-5 corridor provides access to many of the region's important industrial sites and port facilities and is a link to jobs throughout Portland and Vancouver. Because of a lack of multimodal options and increasing congestion, traffic delays are becoming more frequent and longer. Following public input and discussion, a task force is expected to adopt the Final Strategic Plan Recommendations for the I-5 Corridor in June 2002 and send it to the Oregon and Washington transportation commissions, Metro, and the southwest Washington metropolitan planning organizations for review. Strategies under discussion are some increases in I-5 capacity, potential HOV lanes, light rail, increased capacity over the Columbia River for all modes, and spot improvements at key interchanges.

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit input on Northeast District transportation needs was held on October 7. The most frequently mentioned concerns were:

- **Congestion.** There is a need to address traffic congestion, especially in the Hollywood area, where increased traffic causes access problems and safety concerns.
- **Transit Service.** Transit service needs include increased frequency of service, better coordination of transfers, and more east-west routes in the district. Some small groups mentioned unique ideas such as a streetcar line on MLK/Grand and free citywide transit.
- **Bicycle Routes.** More east-west bike routes are needed for the area, including bike commuter routes to Downtown. One suggestion was that bike-only routes (no autos) would create a safer commute.
- **Pedestrian Issues.** The pedestrian environment around commercial areas could benefit from amenities such as street trees and furniture. Completion of the district's sidewalk system, especially in residential areas, was frequently mentioned.
- **Speeding.** It is important to reduce speeding on local streets through enforcement and/or traffic calming measures.
- **Funding.** A new way to fund local improvements and creative financing were discussed as ways to address the shortfall in general transportation revenue.

Transit Choices for Livability

Tri-Met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on City transit needs. Suggestions for Northeast District transit service improvements included:

- Commuter express transit service on I-84 between Troutdale and Portland
- New service from Gateway west along Columbia Boulevard
- New service along Airport Way between Gresham and the airport

Albina Community Plan

The Albina Community Plan, adopted by City Council in October 1993, covers part of the Northeast District. The plan includes the Boise, Concordia, Eliot, Humboldt, Irvington, King, Piedmont, Sabin, and Woodlawn neighborhoods. It emphasizes stabilizing and revitalizing residential neighborhoods; reshaping existing commercial strips into nodes; improving the pedestrian environment, particularly along MLK, Jr. Boulevard; planning for light rail; and identifying family service, education, and employment needs.

The plan's transportation-related policies identify the following issues for neighborhoods east of I-5:

- Emphasize light rail as the major transportation investment. (The plan recommends an Interstate/I-5 corridor with alternative alignments, pending the outcome of the environmental impact statement for light rail.)
- Reinforce the role of MLK, Jr. Boulevard as a commercial and higher-density residential corridor.
- Reduce the environmental impacts of I-5.
- Support alternatives to the automobile.
- Create and develop new pedestrian districts.

The neighborhood plans included in the Albina Community Plan within the Northeast District emphasize the following transportation policy issues:

Boise. Ensure that the neighborhood is well served by public transportation and the streets are safe for pedestrians.

Concordia. Create a safe environment in which to walk, cycle, ride public transit, and drive.

Eliot. Create an increasingly convenient place drawing on many transportation modes, including, auto, truck, pedestrian, bicycle, light rail transit, bus, train, boat, and helicopter.

Humboldt. Promote the efficient use of the transportation system while reducing traffic and environmental impacts.

Irvington. Decrease traffic and traffic impacts on neighborhood streets; create a safe, pedestrian-friendly environment; encourage the use of bicycles and mass transit; and support light rail.

King. Create a local transportation system for tourists and shoppers that links the neighborhood with destinations in the Central City and the Columbia Corridor.

Piedmont. Create a safe and pleasant experience for pedestrians, cyclists, motorists, and transit riders by improving traffic safety and maintaining circulation patterns.

Sabin. Improve access to public transportation and make alternatives to the automobile safer and more pleasant.

Woodlawn. Enhance the livability of the neighborhood by improving its housing, commercial areas, streets, and park.

Other Neighborhood Plans

Cully Neighborhood Plan
City Council adopted the Cully Neighborhood Plan in December 1991 (Ordinance No. 164922). The plan's transportation-related issues are:

- Encourage regional traffic to use major arterials, especially airport-related traffic.
- Improve unimproved streets, including sidewalks and bicycle lanes on arterials.
- Minimize the financial impact of street improvements on property owners.

Bridgeton Neighborhood Plan
City Council adopted the Bridgeton Neighborhood Plan in November 1997 (Ordinance No. 171239 and Resolution No. 35619). The plan's transportation-related issues are:

- Changes to Bridgeton Road to add sidewalks and handle increased traffic are seen as desirable by some and not by others.
- Connections west from Bridgeton road to create a local street network could create additional traffic on Bridgeton.
- Marine Drive is used by many modes, but its function should primarily be as a scenic and recreational route and as a Neighborhood Collector.

Hollywood/Sandy Plan
A number of transportation-related issues were identified during the development of the Hollywood and Sandy Plan. These include:

- Improve access and safety along and to the Sandy and Broadway main street, especially for pedestrians.
- Use transportation improvements as a catalyst to the area town center development.
- Increase the supply of on-street parking.
- Improve the transit center to make it more convenient, safe, and comfortable.
- Improve traffic circulation within the town center.
- Improve transit travel times.

Project Suggestions

District Workshop

Attendees of the 1998 Northeast District workshop made the following project suggestions:

- **Intersections.** Reduce accidents at NE 82nd and Halsey; improve the five-way intersection at NE Prescott and Cully.

- **Bridge.** Provide a bridge on or near NE 13th from Columbia Boulevard to the industrial sanctuary.
- **Street Improvements.** Fully improve all arterials; sidewalks in the Sabin and Cully neighborhoods; and sidewalks and bike lanes on NE 92nd.
- **Sidewalks.** Improve Killingsworth; make ADA improvements on Alberta and in Irvington and Sabin.
- **Pedestrian Safety at Intersections.** Increase pedestrian safety at Knott/MLK, Jr. Boulevard; NE 13th/Knott; NE 16th/Brazee; NE 21st/Tillamook.
- **Trails.** Improve access between the Piedmont neighborhood and the Columbia Slough Trail; access from the Sullivan's Gulch Trail at NE 33rd to the Columbia Slough Trail.
- **Street Design.** Improve the pedestrian environment on NE Broadway and MLK, Jr. Boulevard.

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Northeast District:

- **Walkways and Crossings.** Cully between Killingsworth and Prescott; 57th and Cully between Fremont and Prescott; Killingsworth between 42nd and Cully; Prescott between 47th and Cully; 92nd between Halsey and Fremont; 60th between Killingsworth and Going/Cully; 72nd between Prescott and Killingworth
- **Pedestrian Districts.** Hollywood, Killingworth, Eliot, Boise, Woodlawn
- **Pedestrian Safety.** Prescott and Cully intersection
- **Streetscape Improvements.** Alberta between MLK, Jr. Boulevard and 33rd; Fremont between 42nd and 52nd; Killingsworth between Willams and 33rd
- **Connections.** Between Bridgeton and Delta Park
- **Greenstreet.** Bridgeton, Ainsworth
- **Pedestrian Access to Transit.** NE Sandy between 47th and 67th

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects in the Northeast District that have been completed. Projects not yet completed include:

- **Bicycle Boulevards.** NE 72nd; NE 82nd between Columbia and Airport Way; NE 28th; NE Alameda
- **Bicycle Lanes.** NE Cully between Prescott and Columbia; NE Ainsworth; NE Prescott
- **Multi-use Trails.** Columbia Slough Trail; Sullivan's Gulch Trail (I-84)

Albina Community Plan

The Albina Community Plan and individual neighborhood plans identify a large number of transportation improvements. Most of the Albina Community Plan's transportation action items are general, rather than specific. PDOT reviewed the suggestions and included them in the TSP as major transportation improvement if they met the criteria for 'significant' projects. Specific major transportation projects in the Albina Community Plan for the area east of I-5 include:

- Create noise buffers along I-5 to mitigate the impacts of freeway traffic noise (being installed).
- Construct a bridge and road connection, including pedestrian and bicycle facilities, form Columbia Boulevard across the slough to the industrial sanctuary, possibly on the NE 13th alignment.
- Improve east-west bus connections, including bus stop improvements.
- Install pedestrian signals on streets with high traffic volumes.

Not all Albina neighborhood plans suggested specific transportation projects. Those that did included the following projects:

Boise
- Modify traffic calming to replace diverters with traffic circles and speed bumps.
- Provide light rail stops to serve the neighborhood.

Concordia
- Upgrade unimproved streets: NE Wygant, NE Emerson, NE Jessup, NE Going, NE Roselawn, NE Sumner.
- Calm traffic on NE 27th and NE 30th.
- Improve traffic flow and circulation on NE Alberta.
- Improve bike routes.
- Provide intersection improvements and transit facilities at NE 33rd and Prescott.

Eliot
- Establish a water taxi stop in lower Albina.
- Add bicycle lanes to designated routes.

Humboldt
- Synchronize traffic signals along arterials.
- Add left-turn signals at MLK, Jr. Boulevard and Killingsworth.
- Realign the Albina/Skidmore intersection.

Irvington
- Create a 'pass-through' lane at the traffic diverter at NE 16th and Tillamook.
- Sign bicycle routes.

King
- Provide pedestrian-scale lighting along pedestrian corridors, especially along Alberta and MLK, Jr. Boulevard.

- Provide street trees along MLK, Jr. Boulevard.

Piedmont
- Improve the intersection of Vancouver and Portland Boulevard to allow through-traffic to merge safely.
- Add pedestrian/bicycle paths along designated routes.
- Calm traffic on Ainsworth, Dekum, Portland Boulevard, and Vancouver.

Sabin
- Improve school crossings at NE 18th and Fremont and at NE 18th and Prescott.
- Add ornamental/historical lighting standards at 15th and Fremont.

Other Neighborhood Plans

Cully Neighborhood Plan
The Cully Neighborhood Plan contains numerous transportation projects. Significant projects include:

- Support light rail in the I-205 corridor.
- Bring arterials up to full City standards.
- Complete sidewalks on the following arterials: 72nd, Cully, Columbia, 42nd, 82nd, 60th, 47th, Prescott, Killingsworth.
- Add bike lanes to arterials.
- Improve Killingsworth/Columbia between the 82nd underpass and I-205 to increase capacity.
- Improve the Cully /60th/Prescott intersection to improve traffic flow, considering realignment, signalization, or other measures.
- Improve local streets through local improvement districts (LIDs) or other means.
- Modify the north end of the 42nd/Columbia overpass to allow safe bicycle passage.

Bridgeton Neighborhood Plan
The Bridgeton Neighborhood Plan identifies many projects for the neighborhood and its vicinity. In addition, the plan identified the need for a transportation network concept that was subsequently developed and incorporated into the plan. (See Chapter 11, Master Street Plans, for more detail.) Some of the key improvements are:

MARINE DRIVE BETWEEN I-5 AND NE 13TH
- Widen Marine Drive between Gantenbein and Bridgeton to include left-turn lanes in the eastbound direction
- Construct wider pathways on both sides of Marine Drive
- Eliminate through truck traffic
- Improve pedestrian crossing opportunities

BRIDGETON ROAD AND MARINE DRIVE INTERSECTIONS
- Reconfigure the intersections to create a 'T' or other design

BRIDGETON ROAD

- Construct sidewalks on the south side and elsewhere where needed for safety reasons

Hollywood and Sandy Plan

The Hollywood and Sandy Plan identified many projects that were developed through the transportation concept development for Sandy Boulevard and the Hollywood town center. (See Chapter 12: Area Studies, of the TSP Volume I document for more detail.) Some of the key improvements are:

- Implement intelligent transportation systems (ITS) along Sandy to improve traffic flow.
- Add turn movements at 33rd and Sandy.
- Improve intersections, including curb extensions, turn movements, or improved crossings at 18th/Sandy; 20th/Sandy; 22nd/Sandy/Glisan; and 28th/Sandy.
- Support NE 24th as a north-south bicycle connection between Ankeny and Glisan.
- Add signals to aid pedestrian crossing at 14th, 31st, and 35th.
- Eliminate the 'jug handle' intersection in Hollywood.
- Improve intersections at 37th/Sandy; 45th/Sandy; 47th/Sandy; 39th/Halsey; and 42st/Halsey.
- Add pedestrian improvements on 42nd.
- Implement the NE/SE 50s Bikeway Project.

FAR NORTHEAST DISTRICT

Introduction

The Far Northeast District is bounded on the west by I-205 and it stretches east to the City limits. The Columbia River is the northern boundary, and East Burnside Street and MAX form the southern boundary.

Land Use

South of Sandy Boulevard, the district consists of residential neighborhoods, with commercial areas located along arterials. The commercial areas include the Gateway regional center. The Columbia South Shore industrial district, north of Sandy, has mostly industrial and some employment uses. Recent construction of and improvements to NE Airport Way have provided sites and infrastructure for new industrial and employment uses.

Sandy Boulevard divides the district into two distinct parts. The emphasis on the movement of goods and products in the northern half makes trucking a major part of the identified transportation concerns and needs. Commuter traffic has significant impacts on the southern half.

Region 2040 Growth Concept design types are represented by the NE Sandy main street between 102nd and 122nd, the 122nd main street between approximately Oregon and Morrison, and the NE Halsey/Weidler couplet. (Main street boundaries have not yet been adopted in most parts of the City; the boundaries given here are based on street design designations developed as part of the TSP.) The Columbia Corridor Industrial District is a 2040 industrial/employment area.

Projected population and employment growth between 1994 and 2020 (as reflected in the regional transportation model) for the Northeast District are:

Year	Population	Employment
1994	44,531	24,280
2020	55,811	34,101

Transportation

The Far Northeast District is bounded by two major freeways: I-205 North and I-84. Interstate 205 will experience increasing congestion over the next 20 years. Planned ramp improvements will not completely eliminate congestion during the evening two-hour peak period. Other transportation improvement identified in the RTP, specifically the addition of auxiliary lanes on I-205 from I-84 to Airport Way, would reduce congestion to an acceptable level. Interstate 84 will also experience increasing congestion during the evening two-hour peak period west of the Gateway regional center, but not east of Gateway. Light rail ridership levels are expected to remain high, with more frequent service planned in the corridor.

The northern part of the Gateway regional center is in the Far Northeast District. Much of the existing and future congestion in the vicinity of the regional center results from regional

traffic passing through it to reach the freeway system. Most of the travel on NE 102nd is local traffic, a result of an inadequate grid system. The RTP identifies the Gateway area as an 'area of special concern.' The TSP includes an action plan, based on the Opportunity Gateway plan, to address transportation issues over the next 20 years. (The motor vehicle modal plan in Chapter 5: Modal Plans and Management Plans, provides more detail.)

Employment will continue to increase over the next 20 years in the portion of the Columbia Corridor that lies within the Far Northeast District. This part of the district is focused on industrial, warehousing, and distribution businesses that are heavily dependent on truck traffic, either through shipping and receiving or by providing truck-oriented services. Truck traffic uses Airport Way and the freeway system to reach destinations in the Columbia Corridor, but some truck traffic uses Marine Drive as alternative access. Transit service is inadequate and difficult to provide because of dispersed uses on large sites.

Outside of the freeway system and the roads serving the Columbia Corridor, major arterials are NE Sandy, NE Halsey, NE 102nd, and 122nd. A transportation study approved by the City and ODOT in 1997 addressed the Sandy Boulevard main street between 102nd and 122nd. The study recommendations resulted in a recently completed project that supports the desired main street character through pedestrian, bicycle, transit, and parking improvements, while accommodating traffic demand.

Light rail serves the western and southern parts of the Far Northeast District. The eastside MAX line travels through the Gateway regional center, with stops at the Gateway transit center and 102nd, and at transit stations at 122nd, 148th, and 162nd. A light rail extension was recently extended to the airport from the Gateway transit center. The Parkrose park-and-ride was reconfigured, and a transit station was built between the park-and-ride lot and I-205. Ridership on Airport MAX is approximately 2,500 to 3,000 per day.

Recent Studies and Plans

Several recent studies and plans encompass parts of the Far Northeast District. Some address truck access to and within industrial areas, while others address improved access to the airport or support the 2040 Growth Concept.

Columbia Corridor Transportation Study

The 1999 Columbia Corridor Transportation Study area extends between N Portland Road and NE 185th. The study's purpose was to address concerns of residents living east of I-5 and of pedestrian and bicycle advocates. The identified problems were auto and truck speeding, volumes, vibration, cut-through traffic, and conflicts between modes. The study identified a number of improvements, primarily between I-5 and 185th.

Airport Light Rail and Portland International Center

City Council adopted the Cascade Station/Portland International Center plan district in 1999 (Ordinance No. 173131) to support the light rail extension to Portland International Airport. The purpose of the plan district is to encourage the development of a commercially viable mix of transit-supportive and pedestrian-sensitive office, hotel, entertainment, retail and industrial employment centers, while protecting the area's significant environmental and

cultural features. The plan district is located between I-205 and NE 82nd Avenue and between NE Airport Way and the Columbia Slough.

The plan district contains two light rail stations and is intended to allow a mix of uses and activities that complement and serve ongoing airport operations and related airport service uses. Development guidelines and bicycle/pedestrian connections are included in recognition of the plan district's proximity to the Columbia Slough and Columbia Slough Trail.

Sandy Boulevard-Parkrose Improvement Plan

The Sandy Boulevard-Parkrose Improvement Plan started as a study of the potential impacts of removing on-street parking in the Parkrose business district section of Sandy Boulevard to accommodate a proposed center left-turn lane between NE 102nd and NE 112th Avenues. The study found that removal of on-street parking would adversely affect existing storefront businesses; replacement with off-street parking would adequately address the on-street parking loss; pedestrian and bicycle circulation and access are inconvenient and unsafe; and auto access and circulation adversely affect the area's economic vitality.

City Council and ODOT approved the improvement plan in 1997 and implemented it over the next several years. The recommended alternative preserves on-street parking in the core area of the business district; allows for a center turn lane to improve access, circulation, and safety; provides for bicycle lanes and improved pedestrian facilities; and creates a much-improved streetscape, including small medians with trees, street trees, and curb extensions. The resulting improvements greatly enhance the main street character of Sandy Boulevard through the Parkrose business district, while smoothing traffic flow.

The plan also identifies additional changes to support the business district and surrounding neighborhood, including access management along Sandy, local improvement districts to construct unimproved streets, underground utilities, additional parking opportunities, and transit improvements. Since the project was completed, the No. 12 bus has been rerouted to serve Sandy Boulevard through Parkrose.

Opportunity Gateway Concept Plan and Redevelopment Strategy

City Council adopted the Opportunity Gateway Concept Plan by resolution in February 2000. The purpose of the study, which covers the Gateway regional center, is to support the center's development over the next 20 years. Gateway has been the subject of several studies over past years, culminating in its designation as an urban renewal district. The concept plan and redevelopment strategy outline the steps and projects needed to achieve Gateway's regional center status. (Chapter 12: Area Studies, of the TSP provides additional detail.)

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit

input on Far Northeast District transportation needs was held on October 8. The most frequently mentioned concerns were:

- **Pedestrian Safety.** Crossing improvements are needed in the area near the San Rafael shopping center in order to reach the area safely. Other areas that need pedestrian safety improvements are on 148th, Sandy Boulevard, 162nd, and areas adjacent to neighborhood schools.
- **Better Truck Signage.** Effective truck routes and signage are needed to direct big trucks out of the residential areas of the district. Problems also exist around 82nd Avenue and the area around 92nd/93rd and Glisan.
- **Sidewalks.** Completing the network of sidewalks that lead to activity centers in the district is a high priority, especially on Prescott, 122nd, Glisan, and Marine Drive, as well as on local streets.
- **Traffic Calming.** Effective solutions to cut-through traffic on local streets are needed. Drivers frequently cut through to avoid left turns on major arterials.
- **Circulation.** A traffic study is needed to examine circulation in the district and determine if different routes would be appropriate.
- **Bicycles.** The bicycle network needs to be completed, including the Tillamook bikeway east to 92nd.
- **Resource Allocation.** Spending transportation dollars efficiently was expressed in the following way: "Build sidewalks where pedestrians are first, and no sidewalks where there are not pedestrians."

Transit Choices for Livability

Tri-met sponsored a series of workshops and charrettes in 1997 to solicit public input on the City's transit needs. The number of suggestions reflects the relatively poor transit service in the district. Suggested Far Northeast District transit improvements included:

- **Airport Way Businesses.** Connect Gresham/Rockwood to the Portland Airport with service along Airport Way.
- **Parkrose.** Provide service in the Columbia Corridor area between Parkrose and Gresham/Rockwood along Sandy Boulevard, Fairview, and Wood Village.
- **148th/162nd Neighborhoods.** Provide north-south connections between neighborhood areas, MAX, and Airport Way.
- **Gateway/Clackamas Town Center.** Provide rapid bus service in the I-205 corridor, with a potential extension to Portland Airport in advance of MAX.
- **Troutdale-Portland Express.** Provide commuter express service on I-84 between Troutdale, Fairview, Wood Village, and Portland.
- **Existing Tri-Met Lines.** Improve the frequency and span of service on line No. 23 – San Raphael.

Outer Southeast Community Plan

The Outer Southeast Community Plan, adopted by City Council in March 1996, covers the Hazelwood neighborhood (whose northern boundary is NE Halsey) in the Far Northeast District. The community plan's transportation policy and objectives include:

- Ensure that the streets form a network that efficiently allows for travel.
- Reduce congestion and pollution caused by automobile travel.
- Create land use patterns that support transit, bike, and pedestrian travel.

Specific transportation policies for the Hazelwood area are:

- Provide sidewalks in the MAX light rail corridor, and separate them from traffic by street trees and on-street parking.
- Improve the pedestrian orientation of buildings and streets around light rail stations.
- Establish through-connections at approximately 400-foot intervals from east to west and north to south as the opportunity arises.
- Strive for a 200-foot by 400-foot street grid in Gateway, with sidewalks, street trees, and on-street parking.
- Create a sidewalk environment in Gateway that is safe, convenient, and attractive.

Hazelwood Neighborhood Plan

The Hazelwood Neighborhood Plan was adopted in 1993 to address issues specific to that neighborhood. About half of the neighborhood lies in the Far Northeast District and half in the Far Southeast District, with Burnside dividing the two. Transportation issues and policies relevant to the north half of Hazelwood are:

- Improve access within the neighborhood and between commercial, recreational, employment, and transit sites.
- Improve access by mass transit and alternative modes of transportation, including adding bus service on streets designated for transit by the City (148th and 162nd).
- Place a high priority on upgrading streets to City standards, including adding curb ramps where missing.
- Support a comprehensive bicycle program for recreational and commuting purposes.

Other Neighborhood Plans

Wilkes Community and Rockwood Corridor Plan

The Wilkes and Rockwood neighborhoods are bordered by NE Sandy Boulevard on the north, SE Stark on the south, NE/SE 148th on the west and (generally) NE/SE 162nd on the east. City Council adopted the Wilkes Community and Rockwood Corridor Plan on October 22, 1987. While somewhat out of date, the plan addresses many continuing neighborhood issues, including:

- Encourage mixed-use development in the light rail corridor.
- Encourage the efficient use of the transportation network.
- Mitigate the adverse traffic impacts on the community's residential livability and business climate.
- Promote development of pedestrian, bicycle, and transit amenities.
- Locate denser or more intense land uses to take advantage of public transit or to have direct access to arterials.

Cully-Parkrose Community Plan
The Cully Neighborhood Plan (Northeast District) supercedes the Cully portion of the Cully-Parkrose Community Plan. The Parkrose portion of the plan covers the area in the Far Northeast District east of I-205, north of NE Halsey, west of 148th, and north to Sandy, plus the area of the Columbia Corridor that stretches between 122nd and I-205 and north to the Columbia River. City Council adopted the plan on August 27, 1986. The plan focuses on locating more intense land uses adjacent to I-205 at Gateway or providing them with access to arterials to avoid routing traffic through the neighborhood.

Project Suggestions

District Workshop

Attendees of the 1998 Far Northeast District workshop made the following project suggestions:

- **Pedestrian Crossing Improvements.** Columbia Slough and 138th
- **Sidewalks and Pedestrian Amenities.** Station communities; 82nd; Killingsworth to Columbia Boulevard; San Rafael between 102nd and 122nd; 122nd between Sandy and Prescott; Prescott between 92nd and 102nd
- **Safety Improvements.** 148th between Glisan and Airport Way; 185th between Airport Way and Marine Drive
- **Street Improvements.** 119th between Holladay and Halsey; Fremont between 148th and 162nd
- **Pedestrian Access.** Morris to Brazee/129th to 131st; Sandy to Fremont/116th to 122nd; Sandy to Beech/147th/148th to 141st; Halsey to San Rafael/118th to 132nd in vicinity of San Rafael shopping center
- **Traffic Calming.** 147th between I-84 and Sandy; Fremont to Prescott/92nd to 102nd
- **Signalization/Intersection Improvements.** 148th and Sandy

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Far Northeast District:

- **Pedestrian Enhancements.** Woodland Park between 111th and 122nd/Sacramento from 111th to 117th, and 111th from San Rafael to Sacramento; Parkrose (Prescott between 92nd and 122nd and 105th between Sandy and Skidmore)
- **Sidewalks and Crossing Improvements.** 122nd between 122nd and 162nd; 102nd between Brazee and Sandy; 148th between Glisan and Airport Way; NE Halsey between 122nd and 162nd; Shaver between 116th and 122nd
- **Pedestrian Districts.** Gateway; Ventura Park (122nd light rail station)

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects in the Far Northeast District that have been completed. Projects not yet completed include:

- **Bicycle Boulevards/Bicycle Lanes.** San Rafael between Gateway and 148th
- **Bicycle Boulevards.** 162nd between Halsey and Sandy; Glisan; Sandy east of 122nd
- **Bicycle Lanes.** Prescott; 102nd
- **Multi-use Paths.** Columbia Slough Trail; I-84 between I-205 and 122nd

Opportunity Gateway Concept Plan and Redevelopment Strategy

The plan identifies the following key transportation improvements:

- Improve 102nd as a boulevard.
- Improve 99th to carry local traffic and create a spine for the district.
- Add local street connections.
- Improve free access points on major east-west arterials to create a friendlier environment for pedestrians, transit users, and local traffic.

Outer Southeast Community Plan

The Outer Southeast Community Plan does not recommend any transportation projects for the area north of Burnside. The Hazelwood Neighborhood Plan recommends the following transportation projects:

- Develop designated pedestrian and bicycle routes in the vicinity of Glendover Golf Course and Gateway.
- Eliminate pedestrian barriers within activity centers.
- Provide sidewalks where they are missing on NE Glisan and Halsey.

SOUTHEAST DISTRICT

Introduction

The Southeast District is bounded by two freeways (I-84 to the north and I-205 to the east), the Willamette River to the west (except at SE 12th along the district's boundary with the Central Eastside), and Clackamas County to the south. The district covers 19 neighborhoods, as well as portions of two additional neighborhoods: Ardenwald, Brentwood-Darlington, Brooklyn, Buckman, Center, Creston-Kenilworth, Eastmoreland, Kerns, Hosford-Abernathy, Foster-Powell, Laurelhurst, Lents, Mount Tabor, Mount Scott, Montavilla, Powellhurst-Gilbert, Reed, Richmond, South Tabor, Sunnyside, and Woodstock. The Southeast District contains the highest population of the eight Portland transportation districts.

Land Uses

Southeast is one of the oldest residential areas of Portland. With the opening of the Morrison Bridge in the late 1880s, Portland's early growth jumped across the Willamette River and started to spread east on relatively flat land. New streetcar lines that traveled over the various new bridges linking the eastside to the west became the corridors of residential and commercial growth. These corridors, such as Hawthorne Boulevard, Belmont Street, Division Street, and Woodstock Boulevard, still largely function as the main streets for many Southeast neighborhoods, providing a mix of commercial and residential uses. The residential development surrounding these corridors comprises relatively dense, older single-family houses and apartment buildings. In the past decade, new infill development has included mixed-use projects such as the Belmont Dairy and rowhouses. Most new development is oriented to the main street and the pedestrian.

Some neighborhoods in the Southeast District, such as Lents and Brentwood-Darlington, have lower density and more auto-oriented development than the inner southeast neighborhoods.

Projected population and employment growth between 1994 and 2020 (as reflected in the regional transportation model) for the Southeast District are:

Year	Population	Employment
1994	147,204	61,538
2020	160,223	71,793

2040 Focus Areas

Town Center
Lents was already an independent town when the streetcar reached it from Portland, and Lents Junction functioned as a regional center of commerce. The Outer Southeast Community Plan and Lents Neighborhood Plan (adopted in 1992) identified and planned for the Lents town center. The town center lies partly in the far southeast part of the Southeast district and partly in the Far Southeast District, divided by the I-205 freeway. The Lents town center urban renewal district was formed in 1998. The Lents area has experienced slight increases in growth, although the area is generally built out with single-family homes.

The Lents Neighborhood Plan identifies unsafe pedestrian crossings, the need for pedestrian improvements throughout the Lents pedestrian district, an expansion of the pedestrian district to include the Boys and Girls Club, traffic safety needs, and better pedestrian and bicycle routes. (See section on Project Suggestions for details).

Main Streets
The 2040 Growth Concept designates parts of the following streets as main streets. Taken together, these main streets act as a town center for inner southeast Portland:

- E Burnside Street
- SE Belmont Street
- SE 50th Avenue
- SE Division Street
- SE Foster Road
- SE Woodstock Boulevard
- SE Milwaukie Avenue
- SE Tacoma Street
- SE 82nd Avenue

Many of these areas have received multimodal transportation improvements in recent years, including, Belmont, Hawthorne, Woodstock, Milwaukie, and 82nd. A recently completed transportation plan for the Tacoma main street in the Sellwood neighborhood identifies transportation improvements to the main street function. (See Project Suggestions later in this section.)

Industrial Areas and Intermodal Facilities
Brooklyn Yards is the major freight-oriented area in the Southeast District. In addition to that rail yard, a number of large and small industrial and employment firms are located in the district, including Fred Meyer headquarters and Tri-Met offices and operations facilities.

Transportation

The most distinctive feature of the Southeast District's transportation system is its extensive street grid network. This provides excellent connectivity for all modes of travel within the district. Closely spaced collector streets provide good east-west access both through the district and between adjacent districts. Most of these streets are former streetcar lines that extended from Downtown. The north-south arterial network is more limited, with only 39th and 82nd Avenues extending from one end of the district to the other. No Regional Trafficways run directly through the district; however, access to the regional system is good because three Regional Trafficways run along the edges of the district: I-84 to the north, I-205 to the east, and McLoughlin Boulevard (Highway 99E) along the western edge. The exception is southbound access to the I-5 freeway.

Most of the arterial street system operates at acceptable levels of service during the peak hours, in part because of the compact spacing of east-west arterials. However, the volume of regional traffic from east of I-205 that cuts through the district as the regional freeway system becomes increasingly congested is a growing concern.

Over the life of the TSP, growth in Clackamas County is expected to significantly increase traffic on SE Foster. Powell Boulevard is also expected to carry significant traffic increases in the future.

The Sellwood Bridge is a major bottleneck because of its heavy use by Washington and Clackamas County commuters. The 1925 bridge is also nearing the end of its life span. The South Willamette River Crossing Study (May 1999) was intended to find a location for a new bridge or recommend that the existing bridge be rebuilt and/or expanded. The study evaluated a number of options, but did not recommend a bridge alternative. The study recommendations were to:

1. Preserve the existing bridge or rebuild it as a two-lane facility.

2. Mitigate traffic growth on Tacoma, Highway 99E in Milwaukie, and State Street in Lake Oswego.

3. Increase transit service and improve transit, bicycle, and pedestrian facilities to support alternatives to driving.

4. Increase motor vehicle capacity on appropriate regional trafficways, such as McLoughlin Boulevard, Highway 224, and I-205.

A study now underway will identify appropriate transit service increases in the 'South Corridor' to support alternatives to driving, consistent with the recommendations of the South Willamette River Crossing Study.

Southeast Portland is well served by transit, relative to other parts of the City. Most of the east-west arterials have transit service with connections to Downtown. Many of these transit lines have among the highest levels of daily ridership within the entire regional transit system, partly because of the district's residential density and compact grid system. North-south service is available on 11th/12th, 39th, and 82nd Avenues. There is access to the MAX light rail system at the northern edge of the district, with stations at 39th, 60th, and 82nd Avenues.

Pedestrian mobility in the Southeast District is also good, relative to other areas of the City and region. This is because a high percentage of streets are improved with sidewalks, and good street connectivity exists at both the local and arterial system level. Areas of concern for pedestrian access are related to crossing McLoughlin Boulevard, Powell Boulevard, and 82nd Avenue, and access to the Willamette River.

Much of the bicycle network identified in the Bicycle Master Plan within the district is complete. A number of projects have improved bicycle travel, including bicycle boulevards on Ankeny Street, Salmon Street, and Clinton Street. Completion of the Springwater Corridor to the Willamette Greenway Trail will provide a major new bicycle connection to Downtown.

Recent Studies and Plans

Tacoma Main Street Plan

City Council approved the Tacoma Main Street Plan in January 2002. The project's termini are the Sellwood Bridge on the west and McLoughlin Boulevard on the east. The plan's purpose is to develop transportation strategies to further Tacoma's role as a main street. Tacoma presents significant transportation challenges because of the more than 30,000 vehicles that travel on it to and from the Sellwood Bridge. The final design includes one travel lane in each direction, full-time on-street parking, gateways at each end of the study area, curb extensions, and streetscape design guidelines. The plan recommends a two-phase approach to improve the street's multimodal function and mitigate for traffic impacts on adjacent streets. Phase I (for immediate implementation) includes lane striping, parking sign removal and replacement, signal timing modifications, and speed bumps on Spokane and Umatilla. Phase II includes all remaining design elements, including curb extensions and medians along Tacoma and a bike boulevard project for Spokane and Umatilla. (Chapter 12: Area Studies, provides a more detailed description.)

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit input on Southeast District transportation needs was held on September 30. The most frequently mentioned concerns were:

- **Traffic Concerns.** Improve enforcement of traffic laws, especially speed limits in neighborhoods. Provide better intersection signing and signalization.
- **Commuter Traffic.** SE Tacoma should be a main street, but widening the Sellwood Bridge would change Tacoma to a regional traffic corridor.
- **Pedestrians.** Provide pedestrian crossings and more curb ramps. Complete sidewalks where there are gaps.
- **Bicycles.** Provide more connections for both recreational riding and commuters. Provide more bicycle racks in commercial areas.
- **Parking.** Provide on-street parking and loading zones in commercial areas.
- **Traffic Calming.** Calm traffic near schools and along collectors.
- **Street Design.** Provide special street designs for pedestrian and bicycle routes, pedestrian districts, and around parks.
- **Transit.** Improve bus service on major routes. Put streetcars on main streets.
- **Trucks.** Designate truck routes to control truck traffic.

Transit Choices for Livability

Tri-Met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on the City's transit needs. Suggested Southeast District transit service improvements included:

- New rapid bus service along Division Street between Downtown and Gresham
- Improved service along SE 11th and 12th
- New local transit service in the Johnson Creek area to serve neighborhoods and businesses
- New local transit service to improve mobility options and circulation in the Lents area

Outer Southeast Community Plan

The Outer Southeast Community Plan, adopted by City Council in 1996, includes the following Southeast District neighborhoods: Lents, Foster-Powell, South Tabor, Mt. Scott-Arleta, and Montavilla. The Brentwood-Darlington neighborhood is included within the Outer Southeast Community Plan boundary, but has an adopted neighborhood plan from 1992. For the portion of the study area within the Southeast District, the community plan emphasizes the need to keep through-traffic on arterials. Subarea issues are more diverse:

- **Traditional Urban Neighborhoods (west of 82nd).** Encourage main street development along Foster, Stark, and Glisan.
- **82nd Avenue/I-205 Corridor.** Place higher-density development along transit streets.
- **Lents Town Center.** Provide coordinated pedestrian, bicycle, automobile, and transit infrastructure to support economic and residential development.

Individual neighborhood plans for areas west of I-205 identify the following transportation issues:

- **Brentwood-Darlington.** Many streets need to be improved, but traffic impacts on residential streets must be minimized.
- **Foster-Powell.** Speeding and traffic volumes affect pedestrian and bicyclist safety.
- **Lents.** Access to and through Lents needs to be improved for a variety of modes.
- **Montavilla.** Accessibility of the neighborhood needs to be improved by expanding transportation choices.
- **Mt. Scott-Arleta.** Transit and traffic need to move safely and smoothly, while encouraging pedestrian and bicycle movement and access for the physically challenged.
- **South Tabor.** Mobility and accessibility need to be maintained by reducing the impact of autos and encouraging alternative forms of transportation.
- **Outer Southeast Business.** High-capacity transit along the I-205 corridor needs to be supported.

Sellwood-Moreland Neighborhood Plan

City Council adopted the Sellwood-Moreland Neighborhood Plan in 1998. The plan identifies many transportation-related issues, including connections to the river and completion of the Greenway Trail; crossing opportunities along McLoughlin Boulevard; traffic and parking management in commercial areas to support businesses; cut-through traffic; and a poor pedestrian environment resulting from inadequate sidewalk width and crossing opportunities. The plan notes that the major transportation infrastructure challenges are replacing the Sellwood Bridge and building light rail in the McLoughlin corridor. Residents identified improving Tacoma Street as the number one neighborhood need because of the street's regional role in carrying traffic, the lack of on-street parking, narrow sidewalks, and the lack of pedestrian crossing opportunities.

Other Neighborhood Plans

The City has adopted neighborhood plans for many Southeast District neighborhoods in addition to the Sellwood-Moreland Plan. Transportation-related issues for each plan are summarized below.

Brooklyn Neighborhood Plan (1992)
Support an energy-efficient, safe, and pedestrian- and bicycle-friendly system and improvements that promote pedestrian and bicycle movement with connection to the river.

Buckman Neighborhood Plan (1991)
Maintain mobility through alternative forms of transportation, and reduce the impact of auto and truck use in the neighborhood.

Creston Kenilworth Neighborhood Plan (1998)
Reduce reliance on the private automobile, and improve access by encouraging walking, bicycling, and riding public transit.

HAND (Hosford-Abernethy Neighborhood Development) Neighborhood Action Plan (1988)
Reduce impacts of traffic, trucks, and parking in residential areas.

Kerns Neighborhood Action Plan (1987)
Encourage efficient use of the transportation network, while minimizing traffic impacts.

Richmond Neighborhood Plan (1994)
Increase accessibility to travel destinations, and increase transportation options while reducing negative auto impacts.

Woodstock Neighborhood Plan (1995)
Seek transportation improvements that enhance accessibility and livability, improve street connectivity, and reinforce the Woodstock main street.

Project Suggestions

The following selected project suggestions were used to develop the TSP and the transportation system improvements identified in Chapter 3 of the TSP. Not all project suggestions met the TSP criteria for 'significant' projects. The individual plans cited below contain the complete text of their transportation project suggestions.

District Workshop

Attendees of the 1998 Southeast District workshop made the following project suggestions:

- **Intersection Improvements.** SE Hawthorne at 20th; SE 12th/Burnside/Sandy; SE 39th at Belmont; SE Milwaukie at Powell.
- **Viaduct Improvements.** Bybee at railroad viaduct; Reedway at railroad bridge.
- **Transit.** Improve bus stops along Foster from 52nd to 72nd; improve pedestrian/bicycle access to light rail stations.
- **Pedestrian.** Improve crosswalks at SE 39th and Powell; SE 8th and Powell; SE Division and 67th; Foster at 96th. Provide pedestrian improvements at 28th between Burnside and Belmont; add sidewalks on 82nd where missing; crossing and sidewalks on McLoughlin between Powell and Holgate
- **Bicycle.** Provide bicycle facilities on arterials crossing I-205 (Halsey, Glisan, Stark-Washington, Division, Powell, Foster-Woodstock.

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Southeast District:

- **Pedestrian Overpass.** SE Lafayette from 18th to 20th
- **Pedestrian District.** Lents improvements (crossings, sidewalks, curb ramps, curb extensions); Montavilla improvements
- **Main Streets.** E Burnside between 28th and 33rd; SE 13th between Malden and Tacoma; SE Milwaukie from Yukon to Tacoma
- **Safety.** SE Foster at Powell
- **Streetscape.** SE Division from Grand to 136th; SE Hawthorne from 12th to 55th
- **Access to Transit.** 60th and 82nd light rail stations; SE Powell from the Ross Island Bridge to 39th; SE 82nd from Duke to Clatsop sidewalk
- **Pedestrian Crossings.** SE Powell at Milwaukie; SE Powell at 26th; SE 12th/Sandy/Burnside; SE Foster at Powell
- **Green Streets.** NE/SE 70s combined pedestrian greenway and bike boulevard; Creston-Kenilworth connections to parks
- **Paths.** SE 36th right-of-way from Francis to 36th Place

The complete list of pedestrian projects is contained in Appendix E of Volume III of the TSP.

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects in the Southeast District that have been completed. Projects not yet completed include:

- **Bicycle Lanes.** SE Holgate from 42nd to 136th; SE Milwaukie from Odeon to Center
- **Bicycle Boulevards.** SE Umatilla from 7th to the Tacoma overcrossing; SE 70s from Killingsworth to Clatsop
- **Paths.** Greenway connection between Willamette Greenway Trail and Springwater Corridor

Outer Southeast Community Plan

The Southeast Community Plan and identify a large number of transportation improvements. PDOT reviewed the suggestions and included them in the TSP as transportation system improvements if they met the criteria for 'significant' projects. Project suggestions from the Outer Southeast Community Plan include:

- Evaluate truck access and conflicts on SE Foster near I-205 and the Lents town center.
- Improve safety for pedestrians and bicyclists traveling along SE Powell east of I-205.
- Include a high-capacity transit station in Lents as part of future high-capacity transit improvements.

Individual neighborhood plans for areas west of I-205 suggest the following projects:

- **Foster-Powell.** Improve pedestrian crossings on SE Powell, particularly at SE 80th.
- **Lents.** Add pedestrian crossings along SE Foster, especially at SE 72nd, at 92nd, and between 92nd and I-205.
- **Montavilla.** Improve designated bikeways, including Burnside, SE 72nd, and SE 76th.
- **Mt. Scott-Arleta.** Improve pedestrian safety along SE Foster Road, SE 82nd Avenue, and SE Woodstock Boulevard.
- **South Tabor.** Improve pedestrian crossings on SE Powell between SE 72nd and 82nd Avenues, particularly at bus stops.
- **Outer Southeast Business.** Improve the SE Foster intersection with SE 82nd and deign of the street between 82nd and 92nd.

Neighborhood Plans

Each adopted neighborhood plan has a series of actions that implement the neighborhood vision:

- **Brentwood-Darlington Neighborhood Plan.** Complete sidewalks on Flavel, Duke, and major north-south streets, including, SE 52nd, 60th, 72nd, and 82nd.
- **Brooklyn Neighborhood Plan.** Install pedestrian and bicycle crossings on all four legs of the Milwaukie/Powell intersection.
- **Buckman Neighborhood Plan.** Improve the SE 12th/Burnside/Sandy intersection.
- **Creston-Kenilworth Neighborhood Plan.** Reconstruct SE Holgate between 39th and 52nd to improve pavement, drainage, curb ramps, pedestrian crossings, and sidewalks.
- **Hosford-Abernethy Neighborhood Action Plan.** Improve the SE 26th/Powell and SE Milwaukie/12th intersections for pedestrians and vehicles.
- **Kerns Neighborhood Action Plan.** Improve the streetscape of Sandy Boulevard, and place utilities underground.
- **Richmond Neighborhood Plan.** Improve the pedestrian environment on Hawthorne between 30th and 50th with wider sidewalks, better crossings, and street trees.
- **Sellwood-Moreland Neighborhood Plan.** Retrofit overpasses at Milwaukie and Bybee to better accommodate pedestrians and bicyclists.
- **Woodstock Neighborhood Plan.** Bring local streets up to City standards where needed to provide safe access to community destinations.

Lents Town Center Urban Renewal Plan

- **Foster Road.** Improvements include intersection improvements, traffic calming, signal improvements, crossing improvements, and bicycle lane striping.
- **SE 82nd Avenue.** Improvements include intersection signals, curb extensions, traffic calming, crossing improvements, and sidewalks.
- **SE 92nd Avenue.** Improvements include road surfacing, storm water drainage, street lights, street trees, curbs and curb extensions, traffic calming, signal improvements, crossing improvements, sidewalks, and bicycle lane striping.
- **Areawide.** Improvements include traffic calming, bringing unimproved streets up to urban standards, street trees, and curb extensions.

Non-TSP Project Improvements

In addition to suggestions for significant projects that are incorporated into the TSP, many ideas have been generated to address transportation issues in the Southeast District. A selection of these transportation-related ideas from the district workshop is provided below. The City can address many of these ideas through ongoing activities rather than as capital projects.

- Provide bicycle access from the Sellwood Bridge to Oaks Bottom and Sellwood park.
- Add landscaping, signing, and transit and pedestrian facilities along SE Powell between the Ross Island Bridge and SE Milwaukie.

- Improve intersections at locations such as SE 26th and Holgate; SE 39th and Belmont; SE 39th and Powell; and SE 8th and Powell.
- Add pedestrian crossings at Creston and Mt. Scott Parks, and at SE Division and 64th and 67th.
- Add a four-way stop at SE 76th and Center.
- Improve the SE Powell railroad underpass to improve transit, pedestrian, and bicycle facilities.
- Calm traffic on Belmont between 60th and 82nd; Division between 42nd and 43rd; Harrison between 39th and 43rd; and Mill between 80th and 90th.
- Develop a truck routing plan in the West Clinton area.
- Enforce truck parking regulations.

Other ideas, including expanding transit options with streetcar or light rail service, have been included in new or revised Southeast District objectives. (See Chapter 2, Transportation Element, Policy 6.37 for complete text of Southeast District objectives.)

FAR SOUTHEAST DISTRICT

Introduction

The Far Southeast District is located east of the I-205 freeway and south of E Burnside Street to the City's east and south limits. The area's terrain is primarily characterized by relatively flat land that transitions into hilly terrain to the south. The main topographic features include Powell and Kelly Buttes and Johnson Creek. The district is one of the newest parts of the City, since much of the area has been annexed into the City since the early 1980s. The district includes all of the Pleasant Valley, Powellhurst-Gilbert, Pleasant Valley, Centennial, and Mill Park neighborhoods, and portions of the Hazelwood, Glenfair, and Lents neighborhoods.

Land Use

Most development in the district is relatively new, transitioning from more rural to more urban since World War II. The predominant land use is low-density, single-family residential on relatively large lots. A significant amount of infill development has occurred in recent years as many of the large single-family lots have gone through minor subdivisions. Commercial development is generally low density, stretched out along the five main arterials that run through the district: Division Street, Powell Boulevard, Foster Road, Stark Street, and 122nd Avenue. The Gateway regional center and Lents town center border the district at its western edge. The Lents town center is partly in the Southeast District.

2040 Focus Areas

The Gateway regional center is centered near the confluence of I-205 and I-84 at the far northwest corner of the district. Gateway is the major transit center outside of the Central City and is served by light rail transit between Downtown, Gresham, and the airport. The Lents town center sits at the southwest corner of the district, at the intersection of I-205 and Foster Road. Both Gateway and Lents have recently established urban renewal districts to facilitate needed development and infrastructure improvements as they transition from older suburban-style development to urban, mixed-use areas.

Station Communities

The MAX station communities at 102nd, 122nd, 148th, and 162nd are located along the northern boundary of the Far Southeast District. These station communities are within the larger Gateway Plan District that also encompasses the Gateway regional center.

Main Streets

Two designated main streets run through the interior of the district: Division Street from I-205 to 162nd Avenue, and 122nd Avenue from Burnside to Holgate.

Industrial Areas and Intermodal Facilities

The only two industrial areas within the Far Southeast District are the area immediately east and south of the Lents town center, and an area south of Powell and immediately east of I-205. Projected population and employment growth between 1994 and 2020 (as reflected in the regional transportation model) for the Southeast District are:

Year	Population	Employment
1994	61,961	20,271
2020	105,998	36,743

Transportation

The general grid pattern of inner Southeast Portland extends east into the Far Southeast District. Unlike the area west of I-205, however, the Far Southeast District is characterized by a much larger block pattern and greater spacing between arterials. Each of the four main east-west arterials – Stark Street, Division Street, Foster Road, and Powell Boulevard—connects to I-205 on the western edge and the Gresham area to the east. Only one main arterial – 122nd Avenue – extends the entire north-south length of the district. This pattern tends to concentrate traffic on the main links, resulting in wide street cross-sections, such as Foster Road and Division Street west of 122nd Avenue.

The southern section of the district south of Foster Road is a major traffic capacity concern. As a result of growth in the Pleasant Valley and Happy Valley areas, traffic is being funneled onto Foster Road, which has limited potential for expanding traffic capacity because of topographic and environmental constraints. The barrier created by Powell Butte restricts north-south connections east of 136th Avenue. At the local street network level, major concerns are the lack of good street connectivity and streets that do not meet City design standards for sidewalks and storm drainage.

While light rail service runs along the northern edge of the district, the network of bus routes is not as dense and frequent as in other districts. Other factors that make it difficult for transit to serve the district efficiently include the relatively low density of development, poor street connectivity, and the lack of sidewalks for pedestrian access.

The general lack of sidewalks and the poor street connectivity also make pedestrian access and circulation within the district difficult. Safe crossings at the major arterials are another basic pedestrian concern. Signalized intersections with protected pedestrian phases are infrequent along many of the arterials. Crossings at unsignalized intersections are difficult because of the wide streets and heavy traffic volumes.

The Springwater Corridor runs east-west through the southern part of the district and is the main feature of the bicycle network. The corridor will eventually provide access directly into the Central City. Recent bicycle projects on 122nd Avenue, 148th Avenue, and Division Street have improved bicycle access. Access to and within the emerging Gateway regional center is a major remaining problem.

Recent Studies and Plans

Opportunity Gateway Concept Plan and Redevelopment Strategy

City Council adopted the Opportunity Gateway Concept Plan by resolution in February 2000. The purpose of the study is to support the development of the Gateway regional center over the next 20 years. Gateway has been the subject of several studies over past years,

culminating in its designation as an urban renewal district. The concept plan and redevelopment strategy outline steps and projects to achieve Gateway's regional center status. (Chapter 12: Area Studies, of the TSP provides more detail.)

Lents Town Center Business District Transportation Plan

The Lents Town Center Business District Transportation Plan is the result of an extensive analysis of transportation alternatives to support the revitalization of the Lents business district. City Council adopted the plan by resolution in January 2000. The plan focuses on the core business area around SE 92nd, Foster, and Woodstock, which is the heart of the Lents town center. The main objective is to revitalize this core with a transportation improvement plan. The plan recommends a number of projects, including widening sidewalks, striping bike lanes on 92nd, providing more on-street parking, and installing new traffic signals at the intersections of Woodstock and Foster with 90th and 91st. (Chapter 12: Area Studies, of the TSP provides a more detailed description of the plan.)

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit input on Far Southeast District transportation needs was held on October 3. The following issues were discussed:

- **Intersection Improvements.** Far Southeast and areas east and south of Portland have been growing rapidly, and intersection and capacity improvements are needed. Improvements to Foster Road between 120th and the City limits, and intersection improvements at Foster and Jenne Road and at Foster and 174th, were most frequently mentioned.
- **Signal Timing on Powell.** Travel through the district could be improved with changes to signal timing on this major arterial.
- **Bicycles.** Improved access to the Springwater Corridor from the district is needed. Improved bike lanes and markings are needed on Holgate, Woodstock, and 122nd.
- **Improvements to I-205.** Participants raised concerns about the on- and off-ramps at I-205 and Division and Powell. Turn-movement restrictions result in out-of-direction travel.
- **Connections to Transit.** Several people talked about the need to travel north and south within the district by bus. Additional feeder bus service into the Gateway transit center was seen as desirable.

Transit Choices for Livability

Tri-Met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on City transit needs. Suggested Far Southeast transit service improvements included:

- **Division.** New rapid bus service between downtown and Gresham

- **148th/162nd.** New north-south connections between residential areas, MAX, and the airport
- **Market/Main, Powell.** Improved transit service on existing lines.
- **I-205.** Rapid bus service, with a potential extension to the airport

Outer Southeast Community Plan

The Outer Southeast Community Plan, adopted by City Council in 1996, includes the Lents, Hazelwood, Glenfair, Mill Park, Centennial, Powellhurst-Gilbert, and Pleasant Valley neighborhoods in the Far Southeast District. For the part of the study area within the Far Southeast District, the community plan emphasizes the need to keep through-traffic on arterials. Subarea issues are more diverse:

- **Gateway/Mall 205.** Create 200-foot by 400-foot blocks.
- **MAX LRT Corridor.** Establish through-connections at approximately 400-foot intervals.
- **Lents Town Center.** Provide coordinated pedestrian, bicycle, automobile, and transit infrastructure to support economic and residential development.
- **Suburban Neighborhoods.** Improve connections to transit and shopping.
- **Mixed Eras (developing at different times) Neighborhoods.** Promote new streets that form a network that accommodates an efficient development pattern, multimodal capability, and multiple routes for emergency vehicles.
- **Mt. Scott/Johnson Creek.** Improve public access to the Springwater Corridor.

Individual neighborhood plans for areas west of I-205 identify the following transportation issues:

- **Lents.** Improve access to and through Lents for a variety of modes.
- **Hazelwood.** Improve accessibility with expanded paths, trails, and streets that link recreational, commercial, and residential areas.
- **Mill Park.** Discourage reliance on the automobile, and encourage the use of alternatives such as public transit.
- **Centennial.** Upgrade the transportation system to City standards, and encourage alternatives to the automobile.
- **Powellhurst-Gilbert.** Increase the availability of transit; promote local street improvements; and establish a convenient system for bicycling.
- **Pleasant Valley.** Promote an efficient transportation system, while reducing traffic and environmental impacts on residential areas.
- **Outer Southeast Business.** Support high-capacity transit along the I-205 corridor.

Project Suggestions

District Workshop

Attendees of the 1998 Far Southeast District workshop suggested the following projects:

- **Pedestrian Enhancements.** Along the MAX line
- **Pedestrian/Bicycle Access.** To Cherry Park; 117th between Stark and Division; to Lincoln Park (132nd to 138th/Mill to Lincoln); to Mill Park (119th to 122nd); to Powellhurst Park (135th to 138th/Main to Clay); to Mall 205 (96th to 102nd/Stark to Main); to David Douglas High School (130th to 135th/Salmon to Mill)
- **Sidewalks, Curbs, Ramps.** 148th between Burnside and Powell; 162nd between Stark and Powell; 104th between Powell and Harold; 103rd between Harold and Foster; 111th between Powell and Holgate
- **Pedestrian Crossing.** 122nd and Market
- **Traffic Calming.** 136th (Powell to City limits); 104th (Powell to Holgate); 122nd (Powell to Holgate); Holgate (92nd and 122nd)

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Far Southeast District:

- **Pedestrian Improvements.** Mill Park (Market from 96th to 112th, 101st from Market to Division, 117th from Stark to Division); Powellhurst/Gilbert (Harold from 102nd to 128th, 122nd from Bush to Harold, 111th from Holgate to Howard, 110th from Harold to Foster)
- **Sidewalks and Crossings.** Powell (69th to 174th); Holgate (104th to 122nd); Foster (103rd to Foster Place); Division between 136th and 174th
- **Walkway/Sidewalk.** 112th between Foster and Mt. Scott; Mt Scott between 92nd and 112th; 174th between Main and Powell

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects in the Far Southeast District that have been completed. Projects not yet completed include:

- **Bicycle Boulevards.** Mill/Main between 130th and the City limits; 135th between Glisan and Division
- **Bicycle Lanes.** 103rd/Cherry Blossom/112th/111th; 136th between Division and the City limits; Holgate between I-205 and 136th; 162nd between Halsey and Powell; 174th between Halsey and Powell; Halsey between 106th and the City limits

Outer Southeast Community Plan

The Outer Southeast Community Plan and individual neighborhood plans identify a large number of transportation improvements. PDOT reviewed the suggestions and included them

in the TSP as transportation system improvements if they met the criteria for 'significant' projects. Project suggestions from the Outer Southeast Community Plan include:

- Evaluate truck access and conflicts on SE Foster near I-205 and the Lents town center.
- Improve safety for pedestrians and bicyclists traveling along SE Powell east of I-205.
- Include a high-capacity transit station in Lents as part of future high-capacity transit improvements.

Individual neighborhood plans for areas west of I-205 suggest the following projects:

- **Centennial.** Provide sidewalks and curbs on Division, Stark, Powell, 148th, and 162nd.
- **Hazelwood.** Develop pedestrian and bicycle facilities on routes to Gateway, Mall 205, Cherry Park, Mill Park, Lincoln Park, North Powellhurst Park, and David Douglas High School.
- **Lents.** Add pedestrian crossings along SE Foster, especially at SE 72nd, at 92nd, and between 92nd and I-205.
- **Mill Park.** Provide sidewalks along 117th and Cherry Blossom; a signalized pedestrian crosswalk at 122nd and Madison or Main; and an elevated crossing at 122nd and Morrison.
- **Pleasant Valley.** Improve safety at Foster/Jenne Road and Foster/163rd, including for pedestrians and bicyclists.
- **Powellhurst-Gilbert.** Develop mass transit on I-205 and sidewalks along Foster.
- **Outer Southeast Business.** Improve the SE Foster intersection with SE 82nd and the design of the street between 82nd and 92nd.

Lents Town Center Urban Renewal Plan

- **Foster Road.** Provide intersection improvements, traffic calming, signal improvements, crossing improvements, and bicycle lane striping.
- **SE 82nd Avenue.** Provide intersection signals, curb extensions, traffic calming, crossing improvements, and sidewalks.
- **SE 92nd Avenue.** Provide road surfacing, storm water drainage, street lights, street trees, curbs and curb extensions, traffic calming, signal improvements, crossing improvements, sidewalks, and bicycle lane striping.
- **Areawide.** Provide traffic calming, improvement of unimproved streets up to urban standards, street trees, and curb extensions.

Opportunity Gateway Concept Plan and Redevelopment Strategy

The plan identifies the following key transportation improvements:

- Improve 102nd as a boulevard.
- Improve 99th to carry local traffic and create a spine for the district.

- Add local street connections.
- Improve free access points on major east-west arterials to create a friendlier environment for pedestrians, transit users, and local traffic.

NORTHWEST DISTRICT

Introduction

The Northwest District is bounded by the Sunset Highway on the south, the urban service boundary on the west, the Willamette River on the north, and the Central City on the east at the I-405 freeway. The Northwest District encompasses all of the Forest Park, Linnton, Northwest Heights, Northwest Industrial, Sylvan Highlands, Arlington Heights, and Northwest neighborhoods and the far-western portion of the Goose Hollow neighborhood.

Land Uses

The Northwest District has an enormous diversity of land uses. It contains a large industrial district, primarily north of NW Vaughn and stretching along the Willamette River to the north. The inner-city portion of the district is characterized by the highest-density housing in the city, vibrant main streets, and a mix of housing, institutions, and commercial activity. The district transitions from mixed-use to primarily single-family residential in the west hills. This includes Linnton, once a separate town based on the lumber industry, and Forest Heights, one of the largest housing developments in Portland. It also includes Forest Park, the largest urban forest inside a city in the United States, and Washington Park, which contains the zoo, Forestry Center, and Hoyt Arboretum.

2040 Areas

Main Streets

The 2040 Growth Concept designates four main streets in the Northwest District: NW 23rd, NW 21st, NW Thurman, and West Burnside. Together, these main streets function as a town center, providing a wide variety of everyday and specialty goods and attracting residents and tourists from throughout the region. The main streets are well served by transit, but also attract many visitors in cars, leading to severe congestion on weekends.

Industrial Area and Intermodal Facilities

The Northwest industrial area comprises over 80 firms, employing almost 8,000 people, engaged in manufacturing, production, processing, and equipment repair and installation. The Northwest Industrial Neighborhood Association developed a plan in 1999 that identifies the area's transportation needs, including maintaining and upgrading the transportation system and limiting the impacts of non-industrial traffic. The association submitted the plan to the City for adoption, with action anticipated in 2003. The intermodal facilities, including the rail switching yards and truck access to I-405 and shipping terminals, are essential to the health of the district's industries. Employees need transit options to reduce the need for employee parking and retain roadway capacity for trucks.

Residential Neighborhoods

Linnton and other low-density residential areas are poorly served by transit and have few options other than driving to reach shopping areas. Linnton residents participated in an ODOT-sponsored corridor planning effort for Highway 30. The Hillside area has peak-hour service, and Linnton has 30-minute service throughout the day and 30-minute to 1-hour service on Saturday. Some residents would like that transit service improved. Commuter traffic traveling at relatively high speeds has negative impacts on both neighborhoods. The

Forest Heights neighborhood is not served by public transit, but a private transit service provides some service to the Central City and Washington County.

Projected population and employment growth between 1994 and 2020 (as reflected in the regional transportation model) for the Northwest District are:

Year	Population	Employment
1994	18,782	39,061
2020	26,522	46,543

Transportation

The Northwest District experiences high levels of peak-hour commuter traffic coming in and through the district via Highway 30 (St. Helen's Road), Burnside, and Cornell Road. Traffic volumes and speeds have led to the installation of traffic calming devices on several streets, including Cornell and NW 25th. Because commuters were parking on primarily residential streets with inadequate off-street parking, a residential area parking permit program has been instituted. The current program boundaries are from NW 16th to the east side of 18th and from the north side of Burnside to the south side of Northrup. On-street and off-street parking strategies are being refined for a larger part of the neighborhood and may include pay parking stations, shared parking, and parking demand management.

The Northwest District is bounded by regional freeways with numerous access points and by one major highway – (US 26), and is traversed by Highway 30 (St. Helens Road). The Fremont Bridge provides a direct link to North Portland, while NW Lovejoy connects to the Broadway Bridge.

Multiple cross-town and radial transit lines serve the district. A MAX light rail station is located at SW 18th and Morrison, one block south of the district. The No. 15, 18, and 20 bus lines stop at or near the light rail station, but pedestrian connections across Burnside are difficult. The No. 17 bus serves the eastern portion of Northwest, connecting to the southeast through the Central City. The No. 77 bus serves cross-town travel, connecting to Sauvie Island and St. Johns as well as to the east side as far as Gateway. The Portland Streetcar began serving the Northwest District on Lovejoy (eastbound) and Northrup (westbound) September 2001. The streetcar travels on NW 23rd between Lovejoy and Northrup, connecting the main street and Good Samaritan Hospital to the River District, Downtown, and Portland State University.

The Northwest Pedestrian District encompasses the highest-density area of the district, characterized by a tight grid of streets, a complete sidewalk system, excellent transit service, and a wide mix of uses. Portions of two streets within the district – NW 21st Avenue and NW 23rd Avenue – were retrofitted with curb extensions several years ago. The Pedestrian Master Plan for the pedestrian district identifies additional improvements.

Bike lanes have been added to several streets in Northwest, including, St. Helen's Highway, NW 18th and 19th, and NW Vaughn. Bike boulevards have been created on NW Raleigh and Overton.

Recent Studies and Plans

Highway 30 Corridor Plan

The Oregon Department of Transportation developed the Highway Corridor Plan in 1999 with the participation of the City of Portland. The City-adopted resolution in support of the plan's recommendations (Resolution No. 35837) on October 27, 1999. The plan's purpose is to manage travel growth in the corridor, while identifying needed improvements that strengthen the role of alternative modes of transportation, improve facility operations, and manage demand through appropriate land use, rather than rely on substantial capacity increases or new facilities. The plan recommends a number of improvements to Highway 30 to reduce conflicts and provide safe pedestrian and bicycle facilities. Northwest Transition Zoning Project

Northwest Transition Zoning Project

Two areas of the Northwest District were rezoned from IG1 (General Industrial) to EXd (Central Employment) as part of the Northwest Transition Zoning Project (adopted by City Council Ordinance No. 175877 on August 21, 2001). The purpose of the rezoning project was to transition these predominantly industrial areas into areas of mixed-use development. In addition to the rezoning, a plan district was created to ensure appropriate design and ground-floor activity along the Portland Streetcar alignment. Property owned by the CNF corporation south of Thurman, north of Pettygrove, and generally between NW 20th and NW 23rd was rezoned and covered by a master plan requirement.

Guild's Lake Industrial Sanctuary Plan

City Council adopted the Guild's Lake Industrial Sanctuary Plan by Ordinance No. 176092 on November 21, 2001. The plan is based on the Northwest Industrial Association's (NINA) desire to protect the industrial sanctuary (north of NW Vaughn) from commercial and residential land use and development patterns that could diminish the sanctuary's role as an industrial district. An adopted plan district will further restrict office and retail uses.

Northwest District Policy Plan (Update)

The Northwest District Association (NWDA) neighborhood association worked on an update of its 1977 Northwest District Policy Plan for several years. The NWDA board adopted the updated policy plan in 1999 and submitted it to the City for review (as the Northwest Area Plan) in 2000. The Northwest Area Plan is tentatively scheduled for adoption in 2003. It will contain Comprehensive Plan amendments, zoning, regulations, and a list of recommended actions. As a part of the NW Area Plan, a small part of the River District is also being studied for rezoning.

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit

input on Northwest District transportation needs was held on October 6. Identified issues included:

- **Traffic Calming.** People raised concerns about traffic speed and volume on local and collector streets in Northwest.
- **Commuter Traffic.** Arterials, such as Burnside and Cornell, carry large peak-hour traffic volumes, creating livability and safety concerns.
- **Bicycles.** More bike lanes are needed on arterials, and more bicycle parking is needed to serve the district.
- **Parking.** The lack of residential and commuter parking needs to be addressed.
- **Connections to Transit.** Improved bus or pedestrian connections are needed to light rail.
- **Pedestrians.** Increased pedestrian access and safety are needed, especially across Burnside. Wider sidewalks are needed to make the pedestrian environment easier to navigate, especially along busy shopping streets.

Transit Choices for Livability

Tri-Met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on City transit needs. Suggested Northwest transit service improvements included:

- A new connection between Civic Stadium (PGE Park) and the Northwest industrial area, with a link to North and Northeast Portland
- Streetcar service between Good Samaritan Hospital and Portland State University
- All-night service on high-performing bus routes such as the number 15

PGE Park (Civic Stadium)

A portion of Goose Hollow lies within the Northwest district. Goose Hollow is undergoing radical changes, with the opening of light rail in 1998 and the renovation and expansion of Civic Stadium (now PGE Park) in 2000. Even relatively small events at the stadium saturate parking in Goose Hollow, and larger events saturate parking north into areas of Northwest (Comprehensive Transportation Management Plan, 2000). The stadium renovation is expected to result in more frequent and larger events than in the past. Higher attendance levels will increase parking and traffic impacts on the area. PGE Park has a transportation management plan to address parking issues, and PDOT is developing a parking plan for Northwest Portland to address potential impacts from large events.

Project Suggestions (Partial List)

District Workshop

Attendees of the 1998 Northwest District workshop suggested the following projects:

- **Traffic Calming.** NW Cornell; NW Macleay; SW Jefferson

- **Pedestrian.** Burnside/18th/Morrison; Burnside; Lovejoy/Northrup; 21st/23rd; NW Upshur; access to St. John's Bridge
- **Bicycle.** Germantown Road; connect from Cornell to 28th/Thurman; connect St. Helen's bike lanes to neighborhood; access to St. John's Bridge
- **Safety.** Thurman/28th; Burnside/Park; Burnside/Barnes
- **Circulation.** Decouple Marshall/Lovejoy; recreate grid between Savier/Thurman and 16th/21st; 14th to two-way
- **Parking.** 21st/23rd; Westover/Johnson; Jefferson
- **Transit.** Express from Burnside/23rd; expand fareless square; serve Forest Heights; service from Civic Stadium to NW industrial

Highway 30 Corridor Plan

The Highway 30 Corridor Plan's recommendations for the portion of the corridor within the City's boundaries are:

- **St. Helen's Road (US 30).** Wider sidewalks; median; curb extensions in Linnton; feasibility of pedestrian overpass
- **Circulation.** Signal at 112th; realignment of Saltzman/57th at Balboa; center-turn lane from Willbridge to Front; Front to 60-foot right-of-way
- **Transit.** Express peak-hour service; Sunday bus service; vanpool service
- **Pedestrian/Bicycle.** Completion of bike lanes; access to St. John's Bridge; sidewalks on bridge

Guild's Lake Industrial Sanctuary Plan

The Guild's Lake Industrial Sanctuary Plan includes the following transportation projects as actions. Many of the plan's other transportation actions are not projects; some are discussed at the end of the Northwest District needs assessment.

- Improve pedestrian access to transit stops, and improve transit stops to be ADA compliant.
- Add and improve turn and acceleration/deceleration lanes and signalization on US Highway 30 where needed to facilitate truck access.
- Realign the intersection of NW Saltzman and NW Balboa at St. Helens Road to correct offset intersections.
- Construct sidewalks and bicycle lanes where missing along NW St. Helens Road.
- Construct a pedestrian trail along the east side of NW Bridge Avenue between both intersections with St. Helens Road.
- Improve and enhance the multimodal character of NW Vaughn from NW 23rd to 27th through design, operations, and signing.

Northwest District Policy Plan

The NWDA board of directors adopted the updated Northwest District Policy Plan on November 1, 1999. The plan contains the following actions relating to transportation projects. When the plan is adopted by the City as the Northwest Area Plan, it will incorporate these actions as appropriate.

- **Pedestrian.** More safe crossings, especially across Burnside and other major arterials; better access to transit, especially to the light rail station; better connections to adjacent neighborhoods; sidewalks widened to pedestrian standards
- **Bicycle.** More safe routes through the neighborhood; more bicycle parking
- **Parking.** Commuter parking in the neighborhood; parking enforcement; shared parking
- **Traffic.** Traffic calming; moving non-local traffic from local streets to appropriate arterials; enforcement; decoupling Everett and Glisan
- **Transit.** Extension of fareless square to Northwest; more shelters

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Northwest District:

- **Stairs.** Thurman/Gordon to Aspen; Vista Ridge Stairs (Vista to Mill St. Terrace); SW Spiral Way right-of-way
- **Sidewalks.** Overcrossing at Burnside/Wildwood; Burnside (Tichner to Skyline); Burnside (Park to 23rd)
- **Pedestrian District.** Northwest District upgrades and amenities
- **Bridges.** I-405 at Burnside, Couch, Everett, Glisan, Salmon, Columbia, and Jefferson

Bicycle Master Plan

The Bicycle Master Plan contains a number of Northwest District projects that have been completed. Projects not yet completed include:

- **Bicycle Lanes.** Front, Skyline, Cornell, Thompson, Burnside, Washington Park

Non-TSP Project Issues

In addition to suggestions for significant projects that are incorporated into the TSP, many ideas have been generated to address transportation issues in the Northwest District. A summary of these ideas is provided below.

- Calm traffic on local streets (for example, NW 19th; 22nd; 24th at Flanders, Lovejoy, and Raleigh; 25th at Thurman and Upshur; Hoyt from 20th to 23rd.
- Evaluate loading restrictions and reduce hours allowed.
- Restrict commuter parking – consider meters, parking permits, etc.

- Reduce speeding on Burnside.
- Enforce parking restrictions at intersections to improve visibility.
- Trim vegetation along slopes.
- Place a four-way stop at 22nd and Marshall.
- Add stop bars and stop signs.
- Place street names on both sides of street signs.
- Add bike parking at schools.

Other ideas describe concepts that are being considered for district or citywide policies. These include supporting access to alternative modes of travel to the automobile; supporting driver education; improving the efficiency of on- and off-street parking; adding bike lanes near schools; and supporting employer subsidies and incentives for transit use. Other suggestions related to changes to street classification maps, and were considered for inclusion in the TSP.

SOUTHWEST DISTRICT

Introduction

The Southwest District is located south of Highway 26 and west of the Willamette River, excluding the areas within the Central City. Its westernmost and southernmost boundaries are defined by the City limits. Southwest is the second smallest transportation district in the City (after Northwest).

Southwest Portland is defined by its topography. Council Crest, the highest point in the City, is located in Southwest. Southwest has numerous environmental attributes, including vistas, forests, slopes, and riparian habitats. These attributes can complicate the district's transportation system. Environmental protection zones, narrow and steep streets, sharp turning radii, and severe construction/maintenance challenges are indicative of the district's transportation system.

As one result of these topographical constraints, the Southwest district has relatively low residential density. Commercial districts are concentrated along corridors and along the riverfront. Portland started annexing areas in Southwest Portland in the 1950s and 1960s and continued to do so over time. The incremental and piecemeal annexation contributed to the development of residential areas with substandard streets, which include streets without drainage, sidewalks, curbs, standard widths, or paved surfaces.

Land Uses

The Southwest District's environmental attributes make it an attractive area to live in. A majority of the land use is low-density residential. Except for Oregon Health Sciences University (OHSU) employment on Marquam Hill, jobs are few compared to the district's population. Higher-density residential development is anticipated along the Beaverton-Hillsdale Highway.

The Southwest Community Plan developed a number of policies and objectives that will affect land uses and transportation in the area. The plan is not adopted, and action items related to zoning are not in effect.

Regional attractors include the Portland Community College Sylvan Campus and the OHSU health complex, which includes Doernbecher Children's Hospital, University Hospital, and Veterans' Affairs Medical Center in the Homestead area

2040 Focus Areas

Main Streets
The Southwest District contains two pairs of intersecting 2040 Growth Concept main streets: Multnomah/Capital Highway in Multnomah Village and Garden Home/Olsen Road. The Multnomah Village main streets function like a town center, providing a variety of everyday and specialty goods.

Town Centers
The Southwest District contains three 2040 Growth Concept town centers: Hillsdale, Raleigh Hills, (which is primarily residential), and West Portland. These town centers provide a wide variety of everyday and specialty goods and attract residents from throughout the region. The town centers are served by transit; because additional service is needed, however, many visitors arrive in cars. This results in congested streets, an above-average number of surface parking lots, and an unfriendly pedestrian environment.

Special Area
The 2040 Growth Concept designates Marquam Hill, home to OHSU and other related medical facilities, as a special area.

Projected population and employment growth between 1994 and 2020 (as reflected in the regional transportation model) for the Northwest District are:

Year	Population	Employment
1994	69,914	39,334
2020	72,742	44,836

Transportation

Compared with other districts, Southwest has relatively few major transportation corridors, mainly because the hills act as a natural east-west barrier. The consistent grid pattern prevalent in the rest of the City, including the Central City, is rare in the rest of the Southwest district. Southwest's primary transportation corridors are the I-5 freeway, Barbur Boulevard, Beaverton-Hillsdale Highway, Macadam Avenue, and Sunset Highway (US 26). Barbur Boulevard parallels I-5 along a southwest-northwest axis, while Beaverton-Hillsdale Highway and US 26 have an east-west orientation. Macadam Avenue is the primary link connecting Clackamas and Washington Counties, and runs north-south parallel to the Willamette River. US 26 and I-5 serve primarily commuter traffic to Clackamas and Washington Counties, while Barbur Boulevard, Macadam Avenue, and Beaverton-Hillsdale Highway serve significant local and commuter traffic. Southwest experiences significant commuter traffic for a number of reasons: lack of employment opportunities in the district, proximity to residential growth areas along the western and southern borders, and rapid employment growth in the Downtown and Northeast Districts.

There are a number of congested and unsafe intersections in Southwest. They include the intersections of Multnomah Boulevard/Garden Home Road; Beaverton-Hillsdale Highway / Scholls Ferry Road; Barbur/Terwilliger Boulevards; Capitol Highway/Bertha Boulevard/Beaverton-Hillsdale Highway; and Barbur Boulevard/Capitol Highway.

Transit service in Southwest is concentrated on Barbur Boulevard, Beaverton-Hillsdale Highway, Capitol Highway, Scholls Ferry, and Macadam Avenue. The main lines serving the area to the Downtown include the No. 1, 5 and 12. The Barbur transit center, located at Barber/I-5 /Bertha, serves as a major transfer point, including for riders on SMART Transit from Wilsonville. The westside MAX line also provides high-capacity transit service, with a station at the zoo.

Recent Plans and Studies

The West Portland Town Center Transportation Plan

The West Portland town center is at the crossroads of three major roadways: SW Barbur Boulevard, SW Capitol Highway, and I-5. The West Portland Town Center Transportation Plan was completed in 1997 (but not adopted) to identify ways to improve transportation connections for vehicles and pedestrians. The plan recommends a number of major changes to the I-5 connections with Barbur to reduce the impact of regional through-traffic, and new local street connections to improve access across I-5 north and south of Capitol Highway. A future I-5/Barbur refinement plan will further refine the study's recommendations and will look at both land use and transportation strategies in the entire I-5/Barbur corridor. (Chapter 4: Refinement Plans and Studies, and Chapter 12: Area Studies, of the TSP provide further details.)

Southwest Community Plan

The Southwest Community Plan was adopted in two phases. City Council adopted the vision, policies, and objectives by Ordinance No. 174667 on July 13, 2000. City Council adopted the Comprehensive Plan and zoning maps, along with 2040 Growth Concept design type boundaries, on November 21, 2001 (Ordinance No. 176090). Appendix C of the TSP contains the complete text of the transportation policies and objectives. A Barbur/I-5 corridor was removed from the Southwest Community Plan for further study. Chapter 4: Refinement Plans and Studies, describes the scope of that proposed study.

South Portland Circulation Study

City Council accepted the South Portland Circulation Study on August 1, 2001 (Resolution No. 34014). (This is the second study with this name. City Council tabled a previous study, which was completed in 1978.)

The study area centers on the west end of the Ross Island Bridge and Naito Parkway between I-405 and Barbur Boulevard. The primary objective was to evaluate the possibility of removing non-local traffic that currently uses local streets in the northern part of the Corbett-Terwilliger-Lair Hill neighborhood and to reunite the west and east portions of the neighborhood with a complete grid of streets. The study recommends a number of changes to the street system, including:

- Rebuild the western Ross Island bridge ramps.
- Change Naito Parkway from a four-lane to a two-lane cross section, with cross street intersections, pedestrian and transit improvements, bike lanes, and street trees.
- Reconfigure the Naito Parkway/Kelly Way intersection from a grade-separated to an at-grade intersection.

(Chapter 12: Area Studies, provides a more detailed description of the study and its recommendations.)

Themes, Issues, and Constraints

District Workshop Results

The TSP process included public workshops in each of the eight transportation districts in fall 1998 to discuss transportation issues and community needs. The workshop to solicit input on Southwest District transportation needs was held on October 13. Some of the issues raised include:

- **Connections to Transit/Transit Improvements.** Inadequate transit service is provided for intra- and inter-district travel, especially north-south transit service.
- **Circulation and Connectivity.** There is a lack of circulation and connectivity, especially between Macadam Avenue and the Ross Island Bridge and along the Barbur Boulevard Corridor.
- **Intersection Improvements.** Intersection improvements are needed to improve safety and increase efficiency.
- **Freight Traffic.** There are concerns about trucks using local and neighborhood collector streets, especially Taylors Ferry Road, Vermont Street, Shattuck Road, and Broadway Drive.
- **Pedestrian.** There are concerns about the lack of sidewalks on local and arterial streets, as well as safe pedestrian access to elementary schools.
- **Bicycle.** There is a lack of safe bicycle lanes on major traffic streets.
- **Traffic Calming.** Traffic speeds and volume on local and collector streets merit traffic calming.
- **Sellwood Bridge/Commuter Traffic.** There are concerns about the inadequacy of the Sellwood Bridge and the bottleneck created where bridge traffic intersects with Macadam Avenue, and with the number of commuters from Clackamas County that cross the bridge to Washington County.

Transit Choices for Livability

Tri-met sponsored a series of workshops and charrettes in 1997 and 1998 to solicit public input on City transit needs. Suggested Southwest District transit improvements included:

- Provide service in SW Portland in the area of 35th, Stephenson, and Boones Ferry.
- Improve connections to underserved areas via Beaverton-Hillsdale Highway or Washington Square.
- Improve existing lines: Greeley and Vermont, Taylors Ferry, Garden Home, Raleigh Hills.

Project Suggestions (Partial List)

District Workshop

Attendees of the 1998 workshop suggested the following projects for the Southwest District:

Connections to Transit/Transit Improvements

- Improve transit service along Barbur Boulevard and I-5, including using the corridor to extend light rail service to Tualatin/Tigard.
- Expand the number of buses serving Barbur Boulevard to the equivalent cost level of a light rail addition.
- Provide water taxis.
- Increase north-south transit connectivity along Vermont Street, 45th Avenue, Oleson Road, Capitol Highway, Dosch Road, Shattuck Road, and service to westside MAX.
- Use shuttle buses for intradistrict transit service.
- Increase weekend and evening transit service.

Circulation and Connectivity

- Study and improve circulation and connectivity between Macadam Avenue and the Ross Island Bridge and along the Barbur Boulevard Corridor, including land uses and the I-5 freeway.

Intersection Improvements

- Improve intersections at Garden Home/Multnomah Boulevard; Capitol Highway / Bertha/Beaverton-Hillsdale Highway; Sunset Boulevard/Capitol Highway; Macadam Avenue/Tacoma Street (terminus of the Sellwood Bridge); Taylors Ferry Road/62nd and 26th Avenues; Terwilliger/Barbur Boulevard; and Capitol Highway/Vermont Street.

Freight

- Restrict truck traffic to arterials or truck routes through signage or other traffic control means.
- Add a freight-climbing lane to I-5 (southbound I-5, south of the Ross Island Bridge).

Pedestrian/Bicycle

- Provide safer crossings along Barbur Boulevard; Multnomah Boulevard; Vermont Street; Hillsdale Town Center; Beaverton-Hillsdale Highway (especially crossings); crossings over I-5; 30th Avenue; Garden Home Road; 45th Avenue; 19th Avenue; and Macadam Avenue.

Traffic Calming

- Calm traffic in the Burlingame and Hillsdale retail districts.
- Make traffic calming improvements in West Portland and Maplewood and along Humphrey and Hewett.

Sellwood Bridge/Commuter Traffic

- Widen the Sellwood Bridge; replace it with a new bridge; build additional bridges between Clackamas and Multnomah Counties.

- Provide more park-and-ride lots.

Pedestrian Master Plan

The Pedestrian Master Plan identifies the following projects for the Southwest District:

- **Pathway.** Path along I-5 from SW 5th to Custer
- **Connections.** SW connections to schools, parks, shopping, employment, and transit
- **Pedestrian Overpass.** Near Markham School
- **Walkways and Crossings.** SW 35th between Luradel and Dickenson; SW Capitol between 35th and Miles; between Beaverton-Hillsdale Highway and 31st; Multnomah viaduct and Taylors Ferry; Terwilliger to Sunset
- **Walkways.** SW 35th from Stephenson to Dickenson; Stephenson from 27th to 35th; SW Vermont between Shattuck and 30th
- **Path and Bridge.** Over Stevens Creek to connect SW Nevada Court to Capitol Hill Road and Bertha Boulevard at Chestnut
- **Path and Stairs.** Between SW Nevada Street to Barbur; SW Woods to SW Sam Jackson Park Road; SW Cable to SW Jackson
- **Stairs.** SW 19th right-of-way from Troy to Moss; end of SW Harrison Street at SW 16th; SW 16th from SW Hall to SW Upper Hall; SW 14th right-of-way from SW College to Cardinell
- **Pedestrian District.** Multnomah

Appendix E of the TSP contains the complete list of pedestrian projects.

Bicycle Master Plan

The Bicycle Master Plan contains a number of projects that have been completed in the Southwest District. Projects not yet completed include:

- **Bicycle Lanes.** SW Vermont west of 30th; SW Shuttuck; SW Garden Home; SW Pomona; SW Hamilton; SW Sunset; SW Stephenson; Corbett
- **Bicycle Boulevards.** SW Vermont east of Capitol; SW 1st
- **Multi-use Paths.** Willamette Greenway where missing

Non-TSP Project Issues

In addition to suggestions for significant projects that are incorporated into the TSP, many ideas have been generated to address transportation issues in the Southwest District. These have been referred to other programs within PDOT or noted in the TSP and include:

- Cover the I-5 freeway.

- Relieve congestion on Taylors Ferry Road (between Macadam Avenue and Terwilliger Boulevard).
- Reduce the Beaverton-Hillsdale Highway speed limit to 45 mph.
- Enforce speed limits on Fairmont Boulevard and calm traffic.
- Replace the signal at Broadway Drive and Hoffman Avenue.
- Install a stop sign at the intersection of 62 nd Avenue and Taylors Ferry Road.
- Fix the low spot where water collects near the intersection of Capitol Highway and Pomona Street.
- Provide better street lighting at the intersection of Barbur Boulevard and Capitol Highway.
- Build a bridge across the Woods Creek Ravine at Multnomah.
- Improve road drainage throughout Southwest.
- Provide more bus shelters, especially along Barbur Boulevard.