TRANSPORTATION and LAND USE ALTERNATIVES

13

INTRODUCTION

As part of its Region 2040 planning process, Metro considered four alternative transportation and land use scenarios. The recommended alternative was adopted and acknowledged in the 1995 Regional Urban Growth Goals and Objectives (RUGGOs) as the 2040 Growth Concept. A detailed transportation system was developed and modeled for each alternative, including the adopted 2040 Growth Concept.

The Regional Transportation Plan (RTP) then identified a number of scenarios, reflecting various funding levels, to implement the adopted 2040 Growth Concept. Portland's Transportation System Plan (TSP) is based on the 2040 Growth Concept and the RTP analysis.

REGION 2040 ALTERNATIVES

Metro analyzed a status quo 'base case' scenario and three growth concepts for their impacts on land consumption, travel times and distances, and the effects of increased density on air quality, open space, and different types of urban forms.

Base Case

The Base Case assumed that development would occur in land use patterns similar to those occurring in the region from 1985 to 1990. Using five-year increments of growth, it assumed that the urban growth boundary (UGB) would move outward. When streets became congested, roads were assumed to be widened up to five lanes for arterials and six lanes for freeways. The construction of three new freeways was assumed: the Sunrise Corridor, Westside Bypass, and Mt. Hood Parkway. This scenario represented the most new road construction of the four alternatives.

Because the Base Case had the greatest expansion of the UGB, auto travel increased, resulting in a five percent jump in vehicle miles traveled (VMT) over 1990 levels, in part because of the dispersed population and large amount of new road construction. The non-auto share of regional travel--including bicycle, pedestrian, and transit--was the lowest of all the alternatives.

Concept A

Concept A was based on 'growing out' and adding land for residential development to the UGB. It assumed that existing neighborhoods would not experience significant change and new neighborhoods would be added both inside and outside the current UGB. The road system for Concept A included the same three freeways as the Base Case, but had slightly fewer lane miles of other road improvements. Concept A also assumed a radial, high-capacity transit system would be centered in the Downtown, with service 'spokes' to the south, north, east, west, and northwest and two to the southeast.

Concept A expanded the transit and highway systems, had the highest congestion, highest air pollution, second-lowest transit ridership, most dispersed population, and highest cost for water service. Total VMT more than doubled over 1990 levels. VMT per capita remained about the same.

Concept B

Concept B was based on 'growing up' rather than out, by increasing densities within the current UGB. It had the fewest roadway improvements, with less than a five percent increase in lane miles over the 1990 level. Transit hours of service were seven percent more than for Concept A. Although Concept B had the highest level of transit, bicycle, and pedestrian travel of the alternatives, it also had the second-highest level of congestion.

Concept C

Concept C combined aspects of both A and B, but accommodated about one-third of the growth in neighboring 'satellite' cities. It assumed that about two-thirds of the residents of these satellite cities also worked in them. The UGB was assumed to increase by 23,500 acres, much less than Base Case and Concept A, but much more than Concept B. Some satellite cities would require major investments to provide adequate connections to the center of the region, while others already had major highway connections. Concept C assumed a radial high-capacity transit system and light rail routes on Highway 217 and I-205. It relied on 'green' corridors to limit access to and minimize urban development pressure on resource lands.

Concept C had less need for transportation improvements in the metropolitan region, resulting in a reduction in VMT within the UGB but an increase outside. It had the lowest levels of traffic congestion and the second-highest levels of transit, bicycle, and pedestrian travel.

2040 GROWTH CONCEPT (RECOMMENDED ALTERNATIVE)

The Recommended Alternative is a combination of Concepts A, B, and C. As discussed in the RTP, its approach to urban form contains the following elements:

- Expanding the UGB to a modest extent
- Using land more wisely through infill and redevelopment, emphasizing higher-density and mixed-use development in key centers and corridors
- Focusing jobs and shopping closer to where people live
- Expanding transportation choices
- Protecting prime farmland, rural reserves, open spaces, and other environmentally sensitive lands

The Recommended Alternative is more compact than any alternative except Concept B and has the lowest VMT of any alternative except Concept C (which exported one-third of the growth to neighboring cities). It has less congestion than any alternative except Concept C

(again because of Concept C's exported traffic) and the least cost for providing roads inside the UGB.

The Recommended Alternative was adopted and acknowledged in the 1995 Regional Urban Growth Goals and Objectives as the 2040 Growth Concept.

Transportation Analysis

The RTP analyzed the expected land use and employment patterns for the year 2020, based on implementation of the 2040 Growth Concept.

By 2020, the Portland metropolitan region (including Clark County) is predicted to have approximately 2.3 million residents, a 51 percent increase from 1994. Employment in the region is expected to grow by 70 percent during the same period, bringing the number of jobs in 2020 to 1.6 million.

Metro divided the region into seven subareas for the analysis. The incorporated portions of Portland fall into five subareas. The bulk of the City is in the Portland Central City and Neighborhoods subarea. Other parts of the City fall within the West Columbia Corridor, East Multnomah County, Urban Clackamas County, and Pleasant Valley and Damascus.

Table 13.1 shows the 2020 population and employment forecast for RTP subareas. (Chapter 10: Needs Assessment, provides additional detail about Portland's share of this population and employment growth.)

Table 13.1
2020 Population and Employment Forecast by RTP Subarea

	Population			Employment		
Combined RTP Subarea	**1994**	**2020**	**Increase**	**1994**	**2020**	**Increase**
Multnomah County						
Portland Central City & Neighborhoods	376,495	428,309	+14%	334,882	449,548	+34%
West Columbia Corridor	9,465	18,899	+100%	51,010	98,497	+93%
East Multnomah County	188,734	258,694	+37%	68,195	107,610	+58%
Subtotal	*574,694*	*705,902*	*+23%*	*454,087*	*655,655*	*+44%*
Clackamas County						
Urban Clackamas County	133,322	207,615	+56%	77,691	143,500	+85%
Damascus/ Pleasant Valley	13,425	125,397	+834%	3,908	33,084	+746%
Subtotal	*146,747*	*333,012*	*+127%*	*81,599*	*176,584*	*+116%*
Washington County[1]						
North Washington County	229,807	368,064	+60%	134,090	293,477	+119%
South Washington County	195,111	264,722	+36%	122,156	202,873	+66%
Subtotal	*424,918*	*632,836*	*+49%*	*256,246*	*496,350*	*+94%*
Clark County, Washington	282,437	480,387	+70%	123,759	228,523	+85%
Areas outside UGB[2]	123,868	196,806	+59%	31,956	53,844	+68%
Total (four-county region)	*1,552,664*	*2,348,943*	*+51%*	*947,647*	*1,610,956*	*+70%*

Source: Metro

[1] This subarea includes areas of Clackamas County west of the Willamette River.

[2] These figures include growth in small cities and rural residential land uses that fall within the 1,260 transportation analysis zones used for RTP modeling. In addition, some of the growth expected for outside the UGB is part of the expected expansion of the current UGB.

Regional population and employment growth will result in increased travel demand for people and freight. The RTP looked at four transportation alternatives for implementing the adopted 2040 Growth Concept: a 2020 no-build system, a financially constrained system, a preferred system, and a priority system. These alternatives are summarized below. The RTP provides additional description and findings.

2020 No-Build Transportation System

If no new transportation projects are constructed, the proportion of the region's arterial streets experiencing congestion is predicted to increase from 6 percent in 1994 to almost 25 percent in 2020.

2020 Financially Constrained Transportation System

The 2020 Financially Constrained Transportation System assumes funding levels based on existing and proposed resources that can reasonably be expected to be available during the 20-year RTP period. This system plan is required by federal transportation planning regulations and constitutes the federally recognized plan. It focuses the limited revenue in key 2040 design type areas throughout the region, including the Central City, industrial areas and intermodal facilities, and regional and town centers.

This system represents a major shortfall in revenue, compared to the needs identified in the preferred system. It would result in significant congestion in the evening peak period on most principal arterial routes, including I-84 west of I-205, portions of the Sunset Highway, I-5, and I-205. Significant traffic would spill over from I-84 into the Gateway regional center, including onto parallel arterials (Halsey, Glisan, Burnside, Stark, and Division). Arterial routes such as Foster Road would become very congested because of the lack of parallel streets and inadequate transit service.

2020 Preferred Transportation System

The 2020 Preferred Transportation System was developed to meet regional performance measures, implement the 2040 Growth Concept, and respond to all regional transportation needs. Based on predicted population and employment growth, more than 800 projects would be needed to build a complete transportation system. Full implementation of this system would require new unspecified revenue sources at the local, regional, state, or federal level. While some congestion is predicted to remain on the regional transportation system during peak periods, the preferred system would meet the overall travel needs of the region.

Under this system, Portland would continue to experience congestion in several corridors. I-5 north from the Marquam Bridge to the Columbia River would continue to be congested during the evening peak period despite several major transportation improvements. The I-5 Trade Corridor Study is addressing the need for improved freight movement in that corridor. Northbound I-205 from Airport Way to Vancouver would exceed standards during the evening peak. Other corridors with predicted future congestion are targeted for significant transit improvements.

2020 Priority Transportation System

The 2020 Priority Transportation System responds to the highest-priority needs, given current transportation funding constraints, but also assumes a major increase over existing resources. It includes 650 priority projects, which would be adequate to serve most of the region's transportation needs during the next 20 years. (The RTP describes the full set of transportation projects.) Many needs would remain unmet, however, particularly in developing areas near the urban fringe. The priority projects target key bottlenecks and focus on supporting the most important 2040 land use components, including the Central

City, industrial areas and intermodal facilities, regional centers, town centers, and major transit corridors.

Analysis of the 2020 Priority Transportation System
The 2020 Priority Transportation System is intended to meet the Transportation Planning Rule (TPR) definition of an 'adequate' system. Although it does not meet all of the region's identified transportation needs, it adequately addresses overall needs for the next 20 years, given current funding limitations. By carefully phasing in needed improvements and using system management and demand management strategies, the priority system outperforms the preferred system in a number of measures, including less growth in VMT per capita, less single-occupant vehicle travel, and shorter average vehicle trips. While there will be a slight increase in delays over the preferred system, the priority system results in adequate mobility and access for freight movement in the region.

LOCAL LAND USE AND TRANSPORTATION ANALYSIS

Portland's Comprehensive Plan was adopted October 16, 1980 (effective date January 1, 1981). Since 1981, the Comprehensive Plan has been amended numerous times through legislative efforts. Since the 1995 adoption of the Region 2040 Growth Concept, the Comprehensive Plan has been legislatively amended with adoption of the following plans:

- Outer Southeast Community Plan (encompassing 10 neighborhoods and one business area), including subsequent transportation analysis for Gateway and Lents town centers
- Woodstock Neighborhood Plan
- Downtown Community Association Residential Plan
- Bridgeton Neighborhood Plan
- Hillsdale Town Center Plan
- Sellwood-Moreland Plan
- Hollywood and Sandy Plan
- Southwest Community Plan
- Guild's Lake Industrial Sanctuary Plan

These plans considered land use and transportation alternatives (where appropriate) and are consistent with the Region 2040 Growth Concept. Chapter 10: Needs Assessment, and Chapter 12: Area Studies, in this document contain brief summaries of these plans and the recommended transportation improvements.

Planning is currently underway for several other areas of the City: St. Johns town center, N Lombard main street, and the Northwest District neighborhood, which includes several main streets.