

Chapter 3: Forecasting Future Growth and Travel

Overview

This chapter discusses forecasts for growth in land use types and densities that are key factors for predicting future travel demand and transportation needs to meet the demand. Land use and demographics gives a base to start from when predicting travel demand and then other factors in transportation technology are layered on top. Portland State University’s Population Forecast for the region noted that Oregon’s population is predicted to grow, but will be slower than past years. Oregon’s population has largely grown due to migration in recent years as deaths outweigh births. Employment growth is also expected to slow as it is tied to population growth.

Since the 2013 TSP there has been considerable changes in transportation technology that has influenced how people travel. These trends suggest more transportation choices and flexibility beyond single vehicle ownership will make our transportation system more efficient and accessible.

- Ride hailing companies have transformed how people hire rides like taxis, making the service much easier to use.
- Electric scooters and bicycles provided through mobile apps have become popular for short trips and connections to transit.
- Private electric scooters and bicycles are growing in popularity, making it easier to take trips and recreate with these modes.
- Working from home has greatly increased because of home internet speeds, reducing daily commutes and transit rides into the Portland downtown area.

Standards

For capital improvement purposes, the most important measures of a facility’s condition are several of those criteria used for project priority setting including safety, pavement condition, and congestion. Metro’s Regional Transportation Plan (RTP) has established regional safety and congestion targets. The TSP’s system plans, policies, action measures and projects support working towards achieving the targets.

- **Safety:** Per Table 2.3 of the RTP, the regional safety target is to, “By 2035, reduce the number of pedestrian, bicyclist and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2005.”
- **Pavement condition:** Gresham prioritizes maintenance improvements with the pavement management system, which inventories pavement and establishes optimal maintenance schedules as discussed above. The City of Gresham has adopted a PCI benchmark of 75.
- **Congestion:** Per Table 3.08-2 of the RTP, deficiency thresholds and operating standards are:

Location	Standard	Standard
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	Mid-Day One-Hour Peak (V/C)	PM 2-Hour Peak (V/C)	
		1 st Hour	2 nd Hour
Central City Regional Centers Town Centers Main Streets Station Communities	.99	1.1	.99
Corridors Industrial Areas Intermodal Facilities Employment Areas Inner Neighborhoods Outer Neighborhoods	.90	.99	.99

Intersection Performance

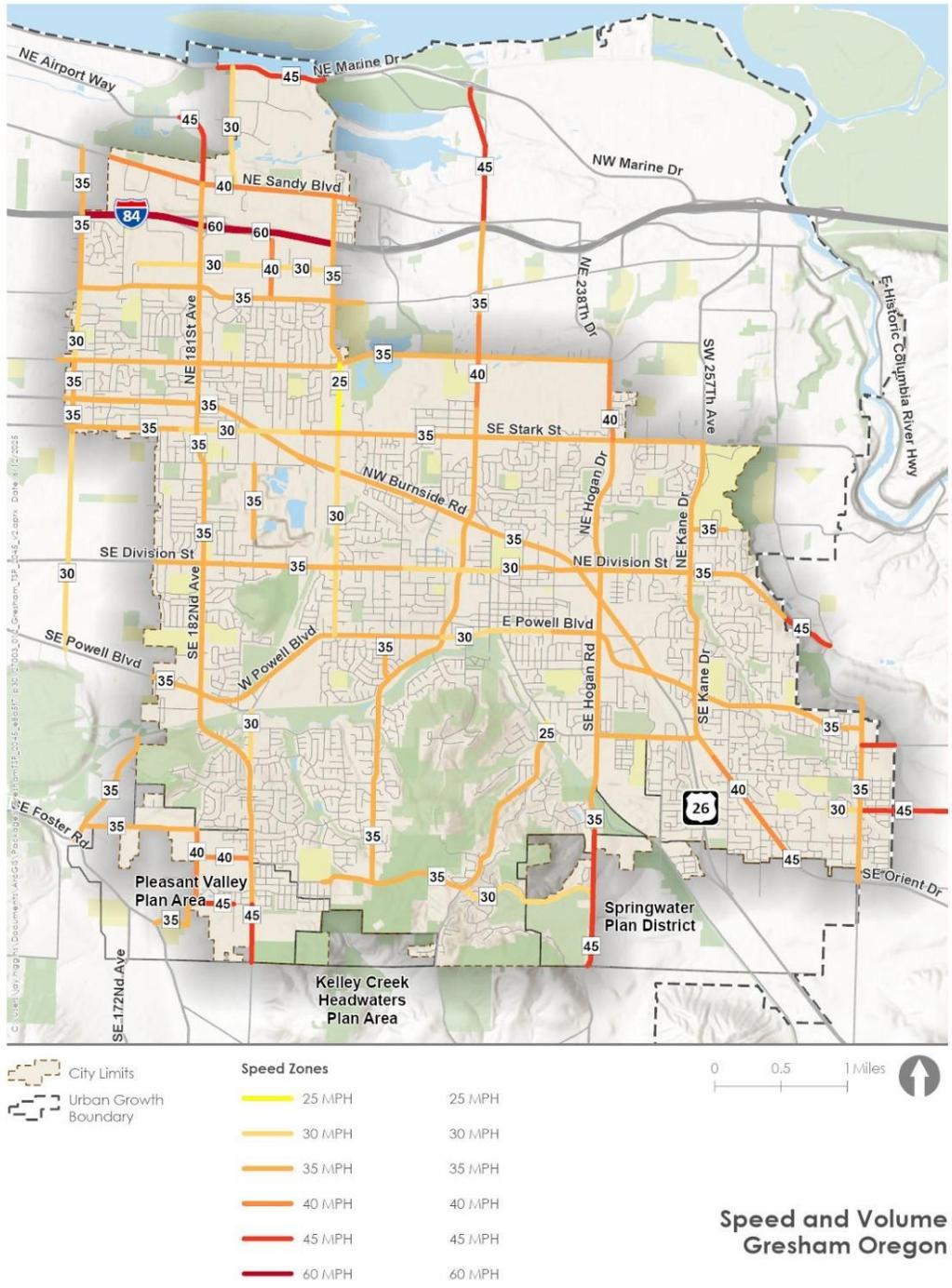
Gresham periodically evaluates and monitors intersection performance as a measure for the level of congestion motorists experience. Intersection traffic operation is represented as a volume to capacity (V/C) ratio which is a measure of the amount of traffic an intersection is experiencing in relation to the amount of traffic the intersection was designed to handle.

Speed Zones

Speed zones on Gresham’s arterial and collector streets are shown in Map 13. Typical posted speeds are 30, 35 and 40 miles per hour on arterial streets. Speeds are lowered as arterial streets cross Gresham’s centers and business areas, and are higher in less dense areas at the eastern edge of the City.

Vehicle Volumes

The City collected Average Daily Traffic volumes (ADT) at various locations throughout the city in 2019. The data was utilized to refine the City’s System Development Charge methodology and is used for ongoing monitoring. Map 13 displays the average daily vehicle count data.



Map 1. Vehicle speed and volume

Forecast

To evaluate the Metro region’s transportation system needs, including Gresham, Metro maintains a travel forecasting computer model called “Metroscope”. The model is based on existing and planned land uses and population densities, and where those land uses will happen. Projected land use types, locations, and densities for Gresham, Pleasant Valley and Springwater are based on the city’s Comprehensive Plan.

Projected Land Use Growth

The number of households and employment in Gresham, Pleasant Valley, and Springwater have been calculated and assigned to TAZs to determine the volume of auto trips that would be generated in year 2035 and how their travel would be distributed. Gresham is estimating a 10% growth in households by 2035 and an 18% growth by 2045. Employment is

Land Use	2020	2035	2045
Households	42,442	46,533	50,211
Employment total	40,465	46,959	55,636

In the previous Transportation System Plan, Gresham was projected to experience an 87% increase in employment by 2035. The Pleasant Valley and Springwater Plan Areas were planned for significant job growth and large areas zoned for employment and industrial zoning. Neither of these areas has developed with an employment focus. Pleasant Valley continues to develop only in the single-family housing zones and has just gone through a re-zone process to convert a large amount of the employment zoning to housing as this is better aligned with the current market. The Springwater area has not developed as a major industrial area or as a new employment area with offices and research as was envisioned 20 years ago. A study is underway to evaluate next steps in helping the Springwater Plan Area develop.

Motor Vehicle Travel Volumes

Based upon the household and employment projections, 2035 motor vehicle volumes are projected and shown in Map 20.

Trip Distribution

The distribution of internal, external and through trips is evaluated in Table 21. Through trips can impact the volume on Gresham’s streets and hence impact the needed improvements to streets and intersections. Trips that originate and end outside of Gresham are difficult to influence. Gresham works with regional partners to support transit enhancements and travel options for trips that pass through Gresham. The trip distribution percentages are expected to remain fairly consistent between 2035 and 2045 (Table 21).

- Internal trips are trips that start and end within the study area;
- External trips are trips that either start in the study area and end outside the study area, or start outside the study area and end within the study area; and

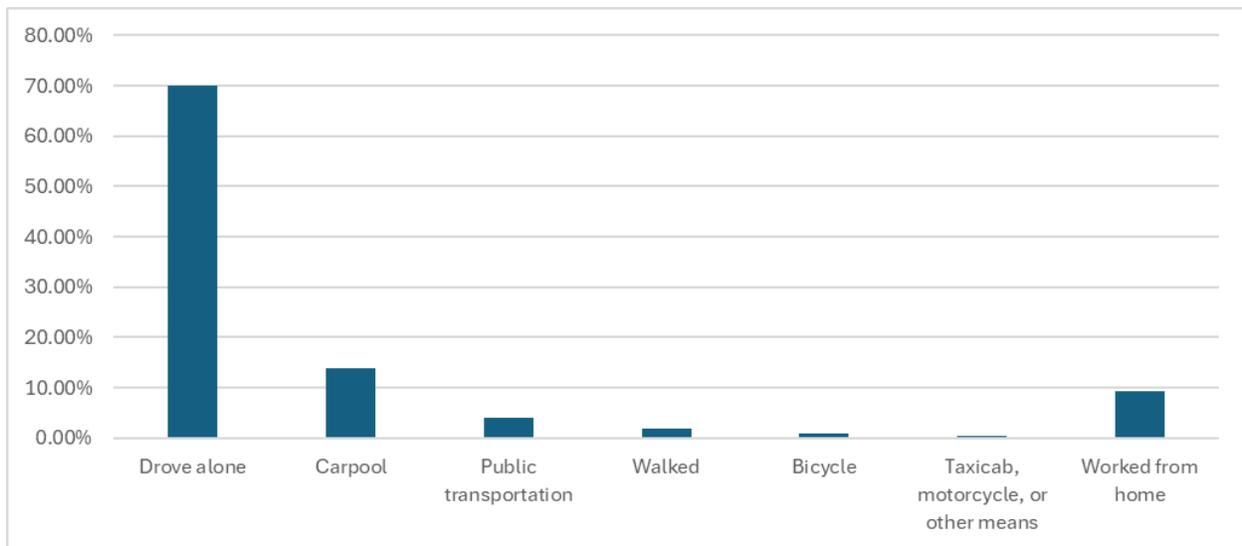
- Through trips are trips that pass through the study area without having an origin or a destination in the study area.

Trip Type	2010	2035	Growth	2010 Share	2035 Share	Change
Internal (within Gresham)	8,312	12,735	4,424	22%	22%	0%
External (from/to Gresham)	22,609	33,954	11,345	59%	57%	-2%
Through* (via Gresham)	7,271	12,420	5,149	19%	21%	2%

*Excludes through trips on I-84.

Mode Share

Mode share indicates how many trips in 2035 will be made by high and single occupant vehicles, pedestrians, bicyclists and transit riders. The goal set by the Regional Transportation Plan is a tripling of transit, bicycle, and pedestrian mode shares from the 2010 base year. The 2023 RTP identified small progress in mode shift and the need for larger changes for the region to meet its 2045 goal. For Gresham in 2045, the greatest number of trips will be made by single occupant vehicles and carpool vehicles. Pedestrians, bicyclists and transit riders will make up XX% of trips, which is an increase of XX over the current year.



Future Intersection Traffic Operations

Gresham evaluates future intersection traffic operation with 20 year traffic volume forecasts developed by Metro as described above. The intersection traffic operation is represented as a volume to capacity (V/C) ratio, which is a measure of the amount of traffic on a given intersection in relation to the amount of traffic the intersection was designed to handle. It represents the level of traffic congestion experienced at the intersection as described in Table 22 below.

V/C Ratio	Congestion level
V/C <= 0.8	No/Low congestion
V/C > 0.8 and <= 0.90	Moderate congestion
V/C > 0.90 and <= 1.0	High congestion

V/C > 1.0	Severe congestion
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Regional policy states that intersection traffic operating standards should be a V/C ratio of 0.99 in Metro Regional and Town Centers and a V/C ratio of 0.90 outside of Centers. Gresham monitors existing and future intersection operation to ensure these standards are met.

Table 23 shows the twelve intersections with the most expected delay in the year 2045 with two possible outcomes at each intersection; an unimproved and an improved V/C ratio.

The intersections on this list that fail to meet City standards are added to the City's System Development Charges (SDC) list and further evaluated to determine improvements necessary to bring them to standard. The improvements were fine-tuned through simulations using SimTraffic modeling software to ensure acceptable operation.

SDC Intersection #	Intersection	2020 V/C	2045 V/C - No Build	2045 V/C - Improved
13	Burnside & Hogan	0.87	1.11	0.84
37	Stark & Hogan	0.94	1.15	0.90
38	Stark & Kane	0.80	1.11	0.90
48	Division & Kane	0.67	0.96	0.80
56	Powell & Hogan	0.81	1.26	0.96
100/104	Stark & 223rd	0.88	0.91	0.84
27	Glisan & 202nd	0.69	1.06	0.84
28	Stark & 162nd	0.70	0.95	0.90
31	Stark & 181st	0.74	1.04	1.00
33	Stark & 202nd	0.67	1	0.90
52	Powell & Eastman	0.70	1.07	0.97
65	Highland & Pleasant View	0.63	0.93	0.71