CHAPTER 3. 2030 FORECAST ASSUMPTIONS AND METHODOLOGY

The previous chapter summarized existing transportation conditions (2010) focused on vehicle, pedestrian, and bicycle modes. The following three chapters of this document describe the operations of the transportation system under 2030 conditions. Future traffic operation conditions were analyzed using the quantitative methods described in the existing conditions document. Using the results of the 2030 operation analyses, recommendations to improve the transportation system in the City were developed.

This chapter describes the assumed changes in land use patterns and the transportation network changes that are expected between now and 2030. The process to update the travel model is also described.

The next chapter describes the projected traffic LOS results for the study intersections across the City. Analysis periods include the AM and PM peak hours, as well as weekday midday, and Saturday peak hours in the Southcenter area. The purpose of the Chapter 4 analysis is to identify traffic deficiencies that would occur between now and 2030, without additional roadway improvements. Pedestrian and bicycle LOS analysis was not prepared in 2030 since, unlike auto LOS, pedestrian and bicycle LOS are not based on their demands. Therefore, if no physical changes are anticipated between now and 2030, the pedestrian and bicycle LOS will approximately be the same as the existing conditions.

The last chapter provides a list of recommended projects designed to improve pedestrian, bicycle, and auto LOS. The recommended projects are prioritized based on the LOS improvement needs, funding availability, potential for grant funding opportunities, and the City's land use goals.

LAND USE ASSUMPTIONS

Land use forecasts for 2030 are provided by the Puget Sound Regional Council (PSRC) and are based on regional population and employment growth forecasts. **Table 15** summarizes the citywide forecasts for total households and employment and compares the 2030 forecasts to the 2010 land use estimates that were used to calibrate the travel model. **Figures 24** and **25** summarize the growth in households and employment in each Traffic Analysis Zone (TAZ) within the City.

TABLE 15 – 2010 AND 2030 LAND USE SUMMARY FOR CITY OF TUKWILA

	2010	2030	Percent Growth
Total Households	7,440	12,300	65%
Employment (workers)	47,540	75,210	58%

Source: City of Tukwila, 2011.

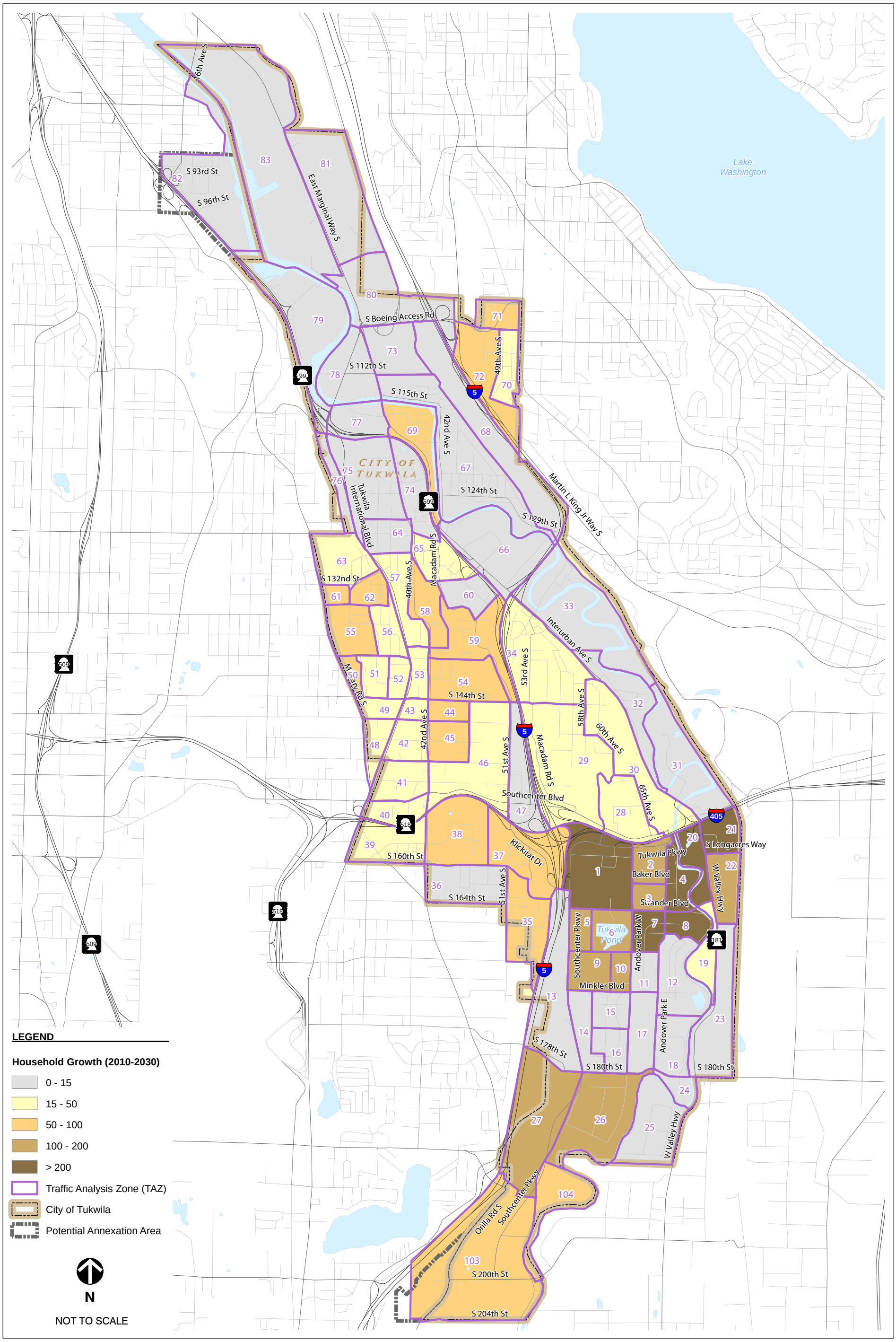
As described in the existing conditions document, the Tukwila travel demand forecasting model has a finer land use zone system (TAZs) than the PSRC travel model. This additional level of detail allows the travel demand forecasting model to produce more accurate results; however, an additional step is required to develop the fine-grained land use forecasts.

As shown in the table above, households and employment in Tukwila are expected to grow by 65 and 58 percent, respectively, over the next 20 years. This estimate is based on the PSRC growth forecasts for the regional model TAZs within the City. In order to accommodate the City's higher resolution TAZ system, Tukwila staff allocated the PSRC growth to each TAZ in the city based on the availability of vacant and redevelopable lands. As shown in **Figures 24** and **25**, substantial development is expected in

the Tukwila South area, between S 180th and S 200th Streets. In that area, approximately 400 new households and 13,000 new jobs are expected to be added by 2030. Other major growth areas include:

- Southcenter – 1,400 new households and 4,200 new jobs
- North West Valley Highway Corridor – 1,400 new households and 300 new jobs
- Boeing Field Area – 1,800 new jobs

Growth in the areas outside of city limits are based on the data from the PSRC 2030 land use forecasts.



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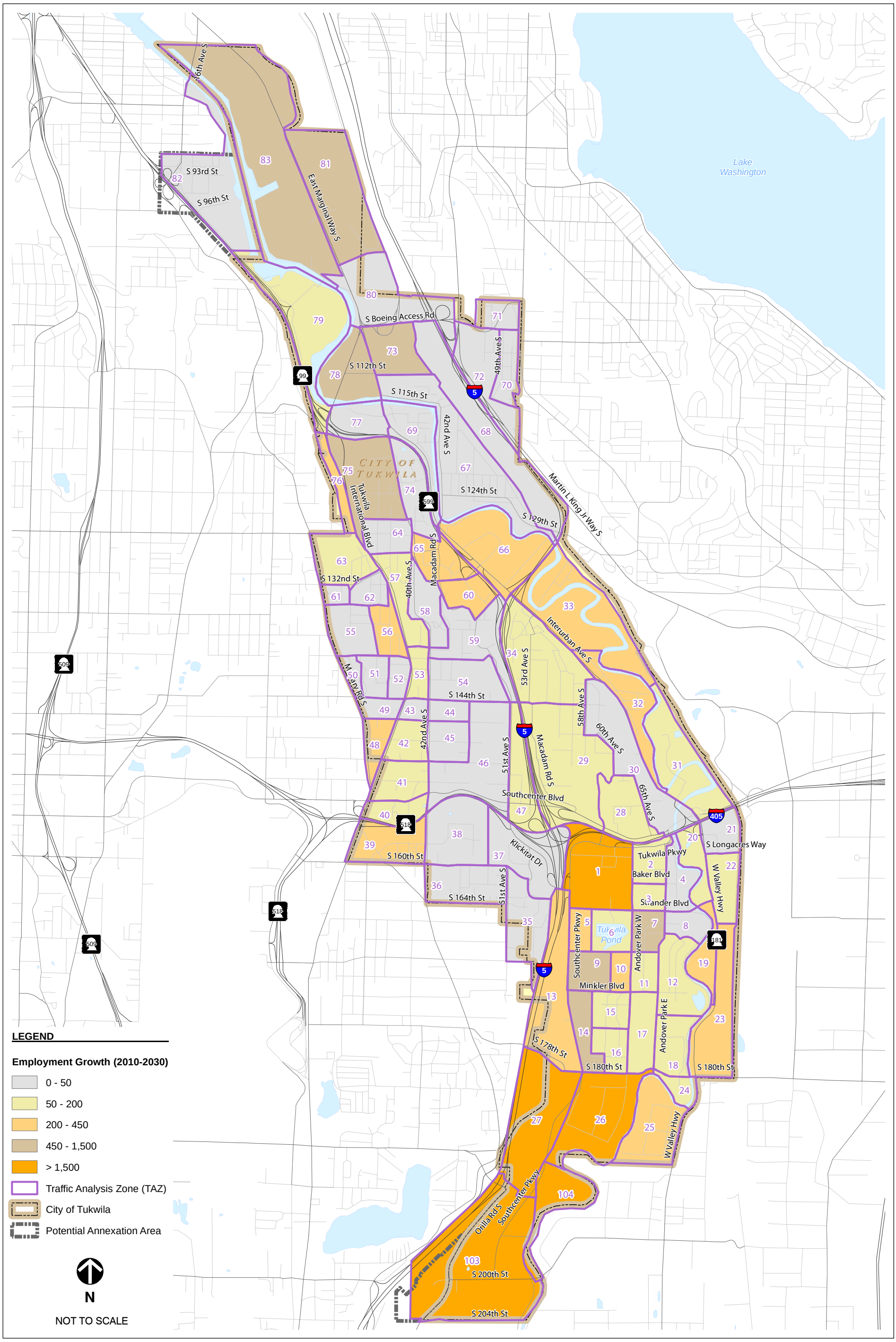
CITY OF TUKWILA -
2010 - 2030 HOUSEHOLD GROWTH
FIGURE 24



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CITY OF TUKWILA -
2010 - 2030 EMPLOYMENT GROWTH
FIGURE 25

TRANSPORTATION NETWORK ASSUMPTIONS

Based on information from the Tukwila Public Works department, the following roadway projects were included in the 2030 transportation network.

- The extension of Strander Boulevard from W Valley Highway to Oakesdale Avenue in Renton
- Signalization of the S 144th Street / 42nd Avenue S intersection
- Signalization of the 133rd S Street / SR 599 Ramp intersection
- Reconfiguration of the Klickitat Drive / Southcenter Parkway intersection and realignment of Southcenter Parkway from the I-5 northbound off-ramp to Strander Boulevard
- Widening of Southcenter Parkway from S 180th Street to S 200th Street
- Restriping of Baker Boulevard to include a three-lane cross-section with bicycle lanes

In addition to roadway improvements, the 2030 model incorporates significant changes to transit both in Tukwila and in the region as a whole. Under 2030 conditions, it is assumed that Link Light Rail will extend from the University District in Seattle to S 200th Street in SeaTac.

2030 MODEL REVIEW

In the existing conditions section, the Tukwila travel model's performance was evaluated and validated by comparing traffic counts to the travel model's estimate of traffic flow across screenlines. These same screenlines were also used to evaluate the performance of the 2030 model by verifying whether the level of growth in traffic across the screenlines is consistent with growth in land use and historical growth in traffic.

As shown in **Table 16** and **Table 17**, growth in traffic across the screenlines is fairly modest despite a substantial amount of new development in Tukwila South and moderate development in the Southcenter area. Most of the growth in traffic is focused on the Southcenter Area, including north/south corridors of Southcenter Parkway, Andover Park East and Andover Park West, which reflects the development pattern described above. Historic trends have shown low levels of traffic growth over the last ten years despite significant expansions of retail development in the Southcenter area. However, the Tukwila South development is an order of magnitude larger than other recent developments in Tukwila. Therefore, the traffic growth projected in the Southcenter area would mostly contributed by the Tukwila South development. **Figures 26** and **27** shows the screenline map and **Figure 28** shows the location of the study intersections.

TABLE 16 – PM PEAK HOUR TRAFFIC GROWTH AT SOUTHCENTER SCREENLINES

Screenline ID	Screenline Location	2010 Traffic Counts		2030 Model Volumes		Percent Total Growth		Percent Annual Growth	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
1	East-West, North of Strander Boulevard	3,771	3,871	5,082	5,515	34.7%	42.4%	1.5%	1.8%
2	East-West, North of Minkler Boulevard	3,492	3,550	4,398	4,075	25.9%	14.8%	1.2%	0.7%
3	East-West, North of S 180th Street	2,743	3,244	3,639	4,027	32.7%	24.1%	1.4%	1.1%
4	North-South, West of Andover Park W	3,001	3,257	3,411	4,043	13.7%	24.1%	0.6%	1.1%
5	North-South, West of Andover Park E	2,768	2,924	3,018	3,556	9.0%	21.6%	0.4%	1.0%
6	North-South, West of W Valley Highway	2,700	2,251	3,139	2,921	16.2%	30.0%	0.8%	1.3%
Total		18,475	19,097	22,686	24,138	22.8%	26.4%	1.0%	1.2%
		IN	OUT	IN	OUT	IN	OUT	IN	OUT
7	Southcenter Mall Cordon[1]	2,573	2,089	2,820	2,480	9.6%	18.2%	0.5%	0.9%

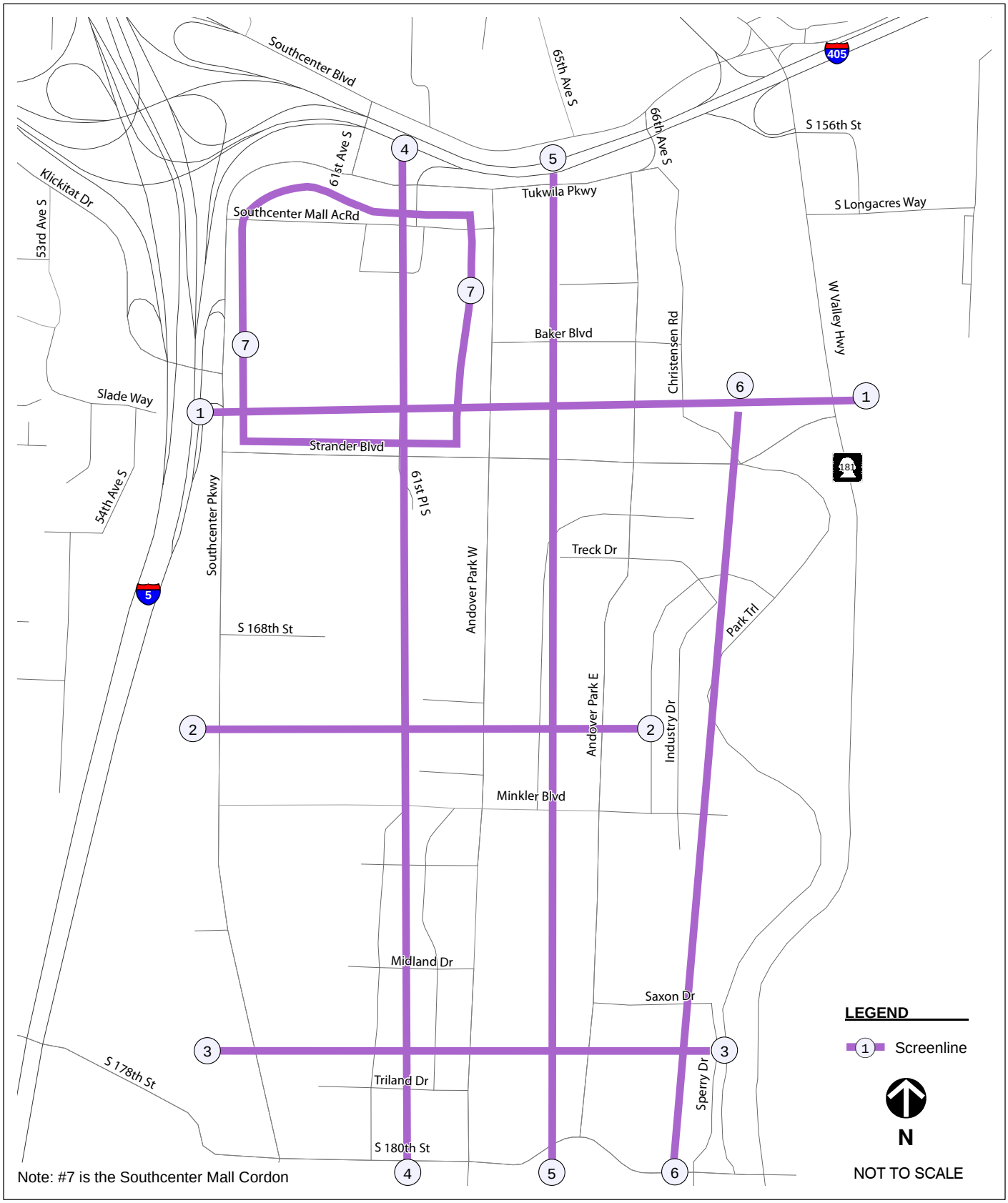
[1] See the definition of a cordon on page

Source: City of Tukwila travel model and counts, Fehr & Peers 2011.

TABLE 17 – PM PEAK HOUR TRAFFIC GROWTH PROJECTED AT CITYWIDE SCREENLINES

Screenline ID	Screenline Location	2010 Traffic Counts		2030 Model Volumes		Percent Total Growth		Percent Annual Growth	
		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
8	North-South, East of Southcenter	9,777	8,621	11,156	10,082	12.4%	14.5%	0.7%	0.8%
9	North-South, West of SR-99	1,520	1,323	1,564	1,377	2.8%	3.9%	0.1%	0.2%
10	East-West, North End of City	7,437	11,895	8,413	13,086	11.6%	9.1%	0.6%	0.5%
11	East-West, North of SR-599 / I-5 Junction	8,858	12,661	9,982	14,200	11.3%	10.8%	0.6%	0.6%
12	North-South, West of I-5	4,708	4,333	4,963	5,175	5.1%	16.3%	0.3%	0.9%
Total		32,300	38,833	36,078	43,920	10.5%	11.6%	0.6%	0.6%

Source: City of Tukwila travel model and counts, Fehr & Peers 2011.



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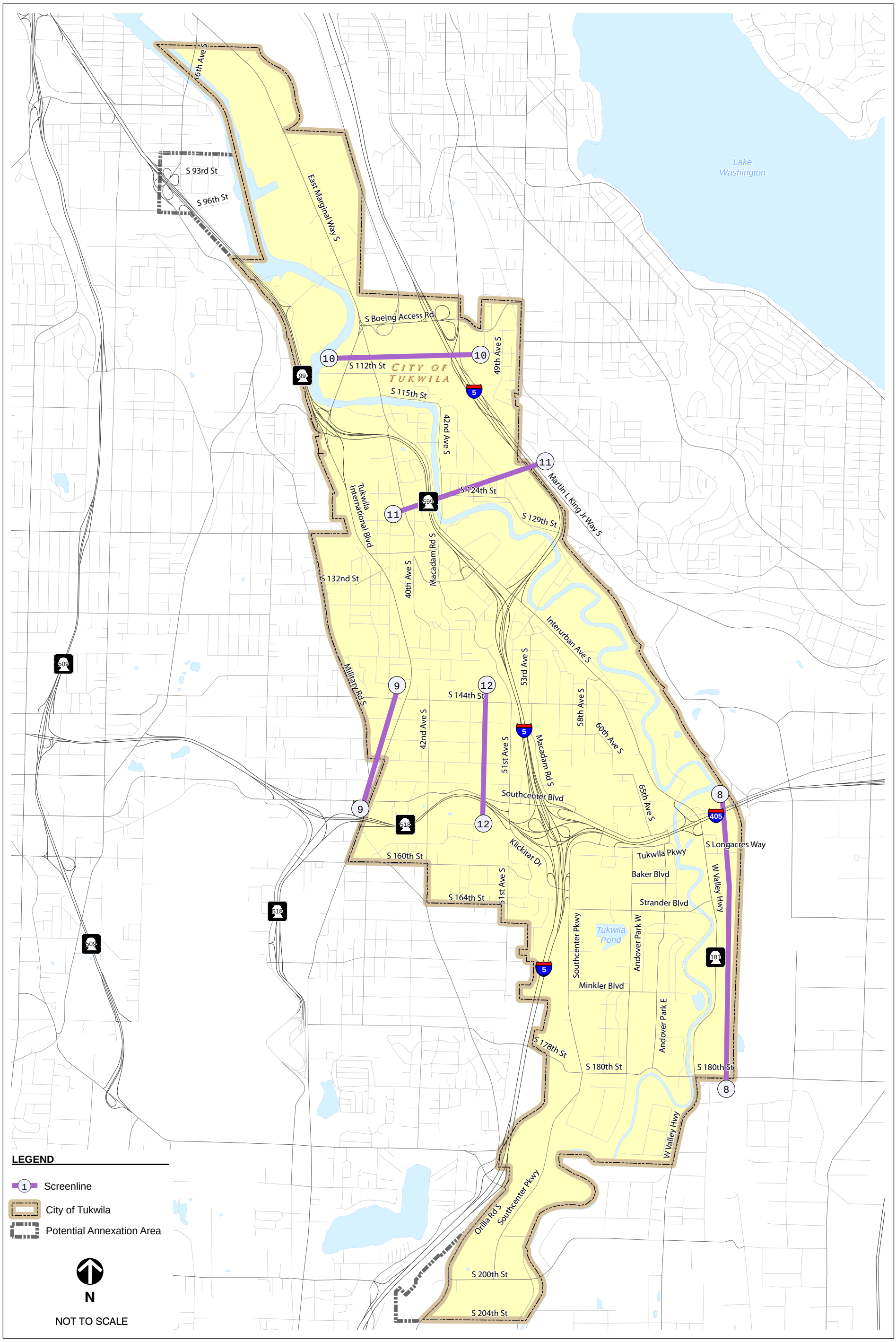
CITY OF TUKWILA -
SCREENLINE MAP FOR SOUTHCENTER AREA
FIGURE 26



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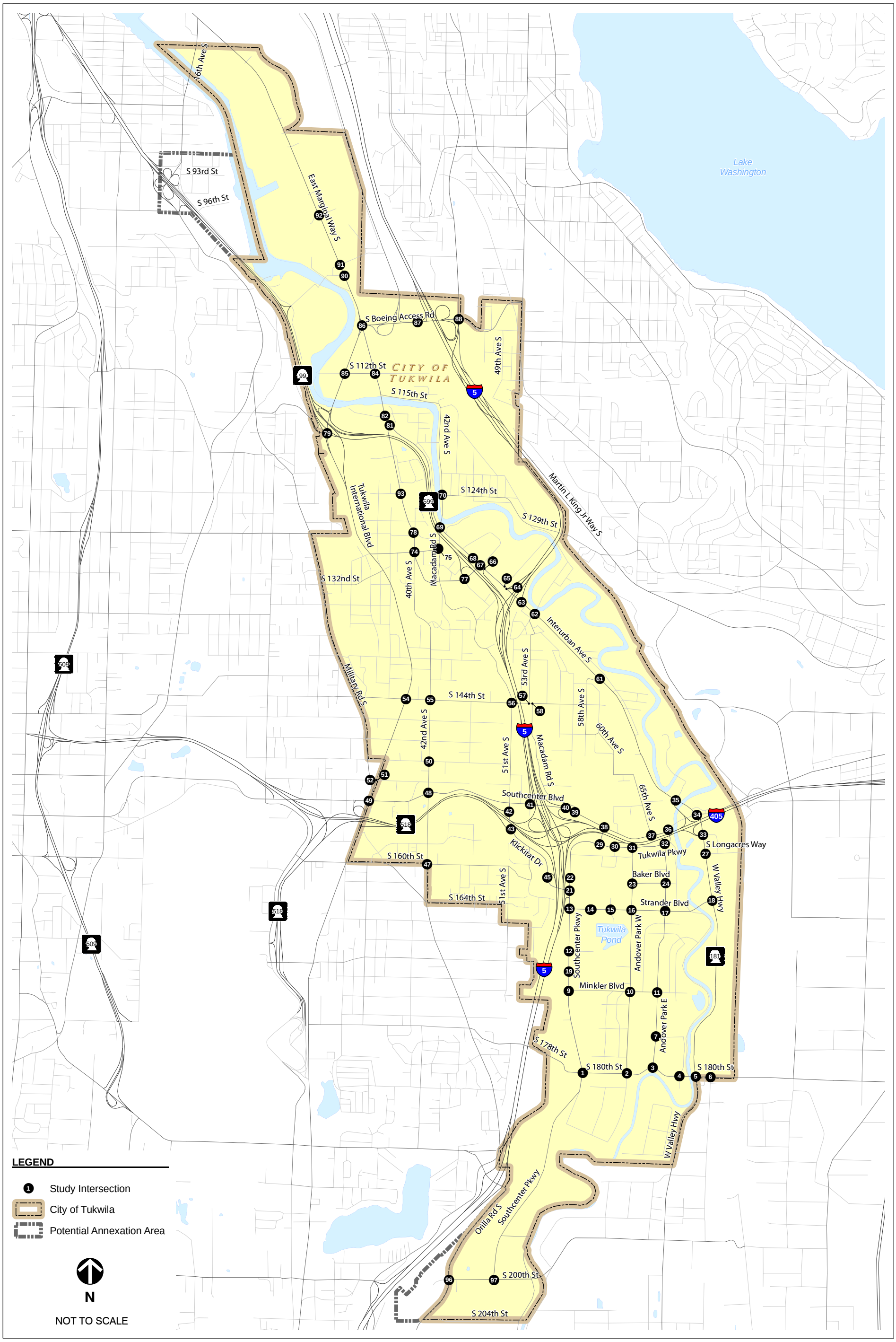
CITY OF TUKWILA -
SCREENLINE MAP FOR AREAS OUTSIDE SOUTHCENTER AREA
FIGURE 27



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CITY OF TUKWILA -
STUDY INTERSECTIONS FOR 2030 CONDITIONS
FIGURE 28

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