



MEMORANDUM COMMUNITY & ECONOMIC DEVELOPMENT

Date: 8/20/2024
To: Planning Commission
From: Zack Shields, Senior Planner
Subject: **Introduction to the Transportation Master Plan Update**

SUMMARY

The objective of the 8/20/2024 session is:

- 1) To discuss the Transportation Master Plan Update Project with Commissioners, and
- 2) Review the Future Multimodal Conditions Memo, and
- 3) To take the Commissioners' questions and comments.

TRANSPORTATION MASTER PLAN UPDATE PROJECT

The SeaTac Transportation Master Plan (TMP) update project is progressing as scheduled. Staff will discuss the project, including the development of a new travel demand model in collaboration with the Port of Seattle. Staff will also provide an overview of the statutory responsibilities for transportation master plans, discuss the expected future multimodal conditions in SeaTac, and answer questions from the Commissioners.

The TMP focuses largely on defining projects to improve the transportation system and address safety, connectivity, operational, and capacity needs; however, it also addresses ongoing programs to preserve, maintain, and reduce the system's demands.

The Travel Demand Model was used to evaluate the three growth scenarios previously identified to the commission. The base year for the SeaCast model is 2018 to match the PSRC SoundCast model and the forecast year is 2044 for all three growth scenario alternatives. The base year model was calibrated using segment counts from a variety of data sources which were collected between 2013 and 2023. Within the model, residents utilize seven primary modes to travel in the SeaCast model: walking, biking, transit, TNC, SOV, HOV2, and HOV3+.¹

- Activity-Based Travel Demand Model Development: "SeaCast"
Activity-based travel demand models derive travel demand from the daily activity patterns of a simulated population in an environment derived from real-world traffic counts. Activity-based models represent each person's daily activity and travel choices. Behaviors and decisions around activities form the basis of these models.

¹ TNC (Transportation Network Company); SOV (Single-occupancy Vehicle); HOV2 (High Occupancy Vehicle, with two persons traveling); HOV3+ (High Occupancy Vehicle, with three or more persons, not including transit)

In contrast, SeaTac's current 2015 travel model, like most demand models at the time, utilizes trip-based or a four-step model to estimate aggregate travel demand for each geographic zone directly from zonal land use data². Among other advantages, activity-based models produce more detailed information across a broader set of performance metrics and are more useful in assessing policies and outcomes around equity, for example. This was the impetus for SeaTac to move toward the activity-based model structure.

The new travel demand model for SeaTac was created from the PSRC SoundCast Activity-Based Travel Demand Model in collaboration with the Port of Seattle. This localized version of the PSRC model uses a custom zone and network structure for higher resolution within the city limits of SeaTac and incorporates a customized submodel for the SEA Airport.

Traffic forecasts for 2044 were developed using the travel demand model. The highest-volume vehicle corridors are I-5, SR 518, SR 509 (including the extension), International Boulevard (SR 99), the new Airport South Access Expressway, and S. 188th Street.

- The SR 509 extension and South Access Expressway are well utilized in future forecasts, preventing additional demand or potentially decreasing demand on SeaTac's local roadways.
- Evaluation of Growth Scenarios Impacts on the Transportation Network
 - In addition to land use assumptions and anticipated growth, the development of a future 2044 scenario incorporates planned regional and local projects.
 - South Access: The PSRC model maintains the SAE. It is not, however, in the Port of Seattle's list of Near-Term Projects (NTPs)³ within the Sustainable Airport Master Plan (SAMP). If the Port removes this project from its public planning documents, the impacts on city streets, particularly International Boulevard, should be evaluated.
 - Intersection Level of Service for most study intersections perform at LOS D or better.
 - Des Moines Memorial Drive and SR 518 (stop-controlled on/off ramps) experience LOS F, but WSDOT and the City of Burien identify projects to address this deficiency.
 - S. 170th Street and S. 188th Street at International Boulevard operate as LOS E. This meets the WSDOT LOS Standard for this corridor.
 - Concurrency Corridor travel speeds meet adopted standards.

REVIEW OF FUTURE MULTIMODAL CONDITIONS

The Multimodal Conditions Memo analyzes the possible growth scenarios using the new travel demand model, discusses future transportation forecasts for all modes of travel, and identifies the multimodal needs to accommodate the planned growth while achieving the larger vision for the City. It is essentially the framework of the new master plan.

High-level outcomes from the memo show:

- All three alternatives have similar results regarding mode share, total volume, truck volume, and overall delay.
- Trip distances and durations show good equity for low-income and transit-dependent residents.
- Active Transportation assessment:

² [Four Stage Transportation/Land Use Model. Rodrigue, Jean-Paul. "Geography of Transport Systems" \(2024\)](#)

³ [Port of Seattle Near-Term Project Map](#)

- Many intersections require adjustments to improve pedestrian safety and provide better access to key destinations through more frequent crossings and ADA upgrades.
- The current SeaTac roadway standards do not explicitly include bike facility design guidance to reduce levels of stress and support all ages and abilities. A mix of protected bike lanes, shared use paths, and neighborhood greenways are needed.
- As large parcels redevelop, the land use code should support active transportation connections that are required to be constructed by the developer to and through the site.
- Forecasted truck traffic shows highest demand for highways and major arterials. The SR 509 extension and Airport South Access Expressway both attract a significant number of truck trips, lessening the demand on International Boulevard south of S 182nd Street/Arrivals Drive.
 - City Truck Routes provide an appropriate network for the industrial zones in the south and west of the City.
 - With the large number of “No Through Hauling” restrictions in the north near Riverton Heights, consideration of access routes to and from the northern industrial zone may be needed.
- Future transit service is planned by Sound Transit (ST3) and King County Metro (Metro Connects) including the Stride BRT S1 Line serving the Tukwila International Blvd Station.
 - When looking at the walkshed for future frequent transit service (defined as routes with 15-minute headways or less) there are three main areas outside of the 0.5-mile walksheds to frequent transit:
 - Near S. 142nd Street and S. 146th Street along 24th Avenue S. – west edge of Riverton Heights Neighborhood
 - From S. 164th Street through S. 172nd Place by Military Road S (mostly east of Military Road S.) – east end of McMicken Heights Neighborhood
 - West of 18th Avenue S. near S. 200th Street towards the city limits at Des Moines Memorial Drive – Maywood Neighborhood

2044 Multimodal Conditions

Growth is forecasted for International Boulevard in the southbound direction, primarily south of S. 182nd Street/Arrivals Drive. Northbound volume growth on International Boulevard is primarily on the section north of S. 170th Street. For east-west corridors, growth is forecasted on S. 188th Street but only east of International Boulevard. There is also growth shown on S. 200th Street west of the new South Access Expressway. All other corridors see only modest changes in daily traffic.

Decreases in daily volume are forecasted for the northbound direction of International Boulevard from S. 200th Street to S. 182nd Street/Arrivals Drive, the eastbound and westbound directions of S. 188th Street between SR 509 and International Boulevard, the westbound direction of S. 200th Street between 26th Avenue S. and Military Road S., and the eastbound direction of S. 200th Street from International Boulevard to I-5. Travel patterns here show a shift to using the SR 509 extension and South Access Expressway.

PROJECT RESOURCES AND INFORMATION

The following information is a resource for Commissioners who would like to refamiliarize themselves with presentations and other materials provided by other Envision project staff at past meetings.

- [Envision SeaTac 2044 Project Website](#): Scroll down to the “Planning Commission Documents” section to see materials from all Envision project briefings.

PACKET MATERIALS

Packet materials include the following:

- Future Multimodal Conditions Memo
- Presentation