

**TRANSPORTATION STUDY SCOPE  
LIVABLE SOUTH DOWNTOWN EIS**

9th Draft, City of Seattle, 12-22-06 (Final)

The following scope of services has been prepared to complete the transportation analysis as part of the Livable South Downtown EIS. The proposed scope of work has been divided into eight major tasks focusing on each of the major modes or elements of the transportation section of the EIS, and preparation of the document and responses to the Draft EIS transportation-related comments for the Final EIS. The scope assumes the evaluation of up to four alternative land use scenarios, one of which includes the no-action land use alternative. Each land use alternative will be defined by the City of Seattle, with varying densities of development in each of six subareas (Pioneer Square, Stadium Area, Chinatown, South of Dearborn, Japantown, and Little Saigon). The EIS study area follows the Livable South Downtown study area that includes the entirety of the Pioneer Square and Chinatown/International District neighborhoods east to approximately Rainier Avenue S., and SODO industrial area properties south to S. Holgate Street in the 1<sup>st</sup> Avenue S. vicinity.

**1. TRAFFIC OPERATIONS**

**1.1. Existing Plan and Policy Review**

1.1.1. The City will identify relevant transportation plans and policies, and summarize key items and information related to this study. The EIS document will include reference to land use and transportation plan and policy documents, some of which may include:

- Seattle’s Transportation Strategic Plan
- Center City Circulation Report and Center City Access Strategy
- Greater Duwamish Manufacturing & Industrial Center Plan
- Freight Mobility Action Plan

1.1.2. Document the alternatives’ relationship to the pertinent transportation plans and policies, at a programmatic level of detail based on the information summarized by the City.

1.1.3. The City will identify planned transportation improvements in the study area.

**1.2. Existing Traffic Conditions Evaluation**

1.2.1. Summarize existing traffic conditions in study sub-areas referencing past studies and other available materials from the City of Seattle, Puget Sound Regional Council, WSDOT and/or other sources.

1.2.2. Evaluate existing traffic operations for the PM peak hour, and for the AM peak hour at key locations

1.2.3. Evaluate current conditions’ impacts on traffic operations by analyzing roadway level of service and capacity for each primary corridor, while also evaluating intersection level of service (LOS) for up to 35 locations in the PM peak hour and

15 intersections in the AM peak hour. Use the LOS analysis to prepare estimates of corridor travel times.

- 1.2.4. Focus the analysis on the highest priority corridors such as 1st Avenue S., 2<sup>nd</sup> Avenue Extension, 3<sup>rd</sup> Avenue S., 4th Avenue S., SR 519 segments in the Safeco Field vicinity, S. Jackson Street, S. Dearborn Street, E-3 Busway, and Rainier Avenue S. Include an evaluation of the major intersections along each route.

### **1.3. Forecast Traffic Conditions Evaluation**

- 1.3.1. Evaluate up to four different distributions of land use development throughout the study area by the year 2030, three with the same levels of development and a no action alternative with a lesser amount of development.
- 1.3.2. Review each alternative's travel characteristics and potential for generating significant adverse impacts on the transportation network in the year 2030, by using broad-level comparisons of differences.
- 1.3.3. Evaluate the impacts on traffic operations by analyzing roadway level of service and capacity for each primary corridor, while also evaluating intersection level of service for up to 35 locations in the PM peak hour and 15 intersections in the AM peak hour. Use the LOS analysis to prepare estimates of corridor travel times.
- 1.3.4. Coordinate with SDOT to obtain the City's travel demand model and associated documentation. Using the model, complete the following items:
  - 1.3.4.1. Review and evaluate the base year model calibration and performance within the study area based on recent traffic counts. Recommend modifications that are likely to address performance measures that are below standards.
  - 1.3.4.2. Ensure the future model network accurately represents transportation projects that are expected to be completed by 2030 (within or adjacent to the study area) based upon the list of planned improvements provided by the City. Review future baseline assumptions with City staff.
  - 1.3.4.3. City staff will develop and provide land use forecasts for each alternative. The land use data will be summarized by the model's Transportation Analysis Zones (TAZs), and subsections thereof, and categorized by land use type.
  - 1.3.4.4. Rerun model trip generation, distribution, mode split, and assignment procedures for each alternative using the City's model.
  - 1.3.4.5. Develop a PM peak hour subarea travel demand model that is consistent with and complementary to the citywide model. The subarea model will be refined for the study area using greater network detail and smaller TAZs to better reflect future travel patterns and assist in evaluating each of the identified performance measures and testing improvement alternative concepts. Adjust the resulting trip table to better reflect travel patterns within the study area.

- 1.3.4.6. Develop PM peak hour travel forecasts for the study area that are consistent with outputs from the citywide model. Account for regional travel patterns and expected changes in mode share.
- 1.3.4.7. Future AM peak hour traffic forecasts will be estimated from a simple post-processing formula that is based on the existing AM peak hour traffic counts and the PM peak hour model forecasts.
- 1.3.4.8. SDOT to review and advise on the model updates and changes.
- 1.3.5. Using available studies such as the Alaskan Way viaduct traffic mitigation analysis, quantify the relative potential for spillover transportation impacts of the alternatives on areas outside the study area, including the SODO area south to S. Spokane Street, Downtown immediately north of Pioneer Square, S. Jackson Street east of Rainier Avenue S., the Jackson Place neighborhood east of Rainier Avenue S., and the Rainier Avenue S. corridor south of S. Dearborn Street. Include access points to I-5, I-90, and SR 99. SDOT staff will obtain the relevant studies and data, and provide to the consultant.
- 1.3.6. The City will evaluate and summarize how the growth assumptions used in the alternatives' analysis relate to Puget Sound Regional Council and City of Seattle background growth assumptions, and how specific instances of growth, such as Jackson Place growth-in-the-pipeline and potential expansion of Starbucks facilities in SODO, may or may not be accounted for in the background growth assumptions. The City will provide the summary results to the consultant to update/validate the travel demand model assumptions.
- 1.3.7. At a programmatic level of detail, identify impacts based upon adopted City standards and other criteria provided by the City. Prepare a written analysis that will adequately describe the results of the technical analyses, including whether the identified impacts for the alternatives would constitute "significant adverse impacts" (as defined by the City).

#### **1.4. Mitigation Strategies for Traffic Operations**

- 1.4.1. Describe a range of mitigation strategies to reduce or mitigate transportation impacts on traffic operations identified for 2030.
- 1.4.2. Indicate which strategies, if any, should be proposed as "required" mitigation for identified significant adverse impacts, and which are optional "other possible" mitigation strategies that could be approved at the decision makers' discretion.
- 1.4.3. Prepare a list of conceptual improvements for traffic operations that would be needed to adequately mitigate impacts related to growth under Livable South Downtown planning. While the improvements need not be designed beyond conceptual levels, the objective is to understand the approximate range of improvements needed to support development patterns under each alternative. This would also support later analysis leading to future transportation impact mitigation payment program proposals by SDOT.
- 1.4.4. If necessary, identify impacts of the alternatives that cannot practically be mitigated to achieve acceptable operational conditions.

- 1.4.5. If there are significant uncertainties about future network conditions due to unresolved planning on other major road projects, describe at a qualitative level the approximate implications on the Livable South Downtown mitigation strategies.

## **2. TRANSIT ANALYSIS**

### **2.1. Existing Plan and Policy Review**

- 2.1.1. The City will identify relevant policies and information within the Transit Plan, and summarize key items and information related to this study. The summary will be provided to the consultant in written format. The EIS document will include reference to the Seattle Transit Plan, including the topic of bus layover.
- 2.1.2. Document the alternatives' relationship to the Seattle Transit Plan at a programmatic level of detail based on the information summarized by the City.
- 2.1.3. The City will identify planned transit improvements in the area.

### **2.2. Existing Transit Service Analysis**

- 2.2.1. The City will coordinate with Metro to obtain and summarize transit ridership data, and provide maps or GIS files of bus routes and bus stop locations for the study area. Also, the City will obtain forecast data from Sound Transit developed as part of their light rail project.
- 2.2.2. Summarize existing AM and PM peak hours' transit service and ridership statistics in study sub-areas referencing past studies and other available materials from the City of Seattle, Sound Transit, King County Metro, and/or other sources, as provided by the City. The analysis will focus on key transit centers and corridors rather than specific routes.
- 2.2.3. Indicate the relative proximity and availability of various transit modes throughout the study area during the AM and PM peak hours.
- 2.2.4. Summarize current AM and PM peak hour transit speed and reliability performances along the key corridors using information and data provided by the City.

### **2.3. Forecast Transit Conditions and Needs**

- 2.3.1. Characterize the results in terms of the relative distribution of additional transit ridership generated by the new residential and commercial development.
- 2.3.2. Indicate the relative proximity and availability of various transit modes through the study area during the AM and PM peak hour, and the degree to which transit mode would likely be able to accommodate additional ridership. Future assumptions in transit service should include increased service resulting from the Transit Now initiative and any other anticipated increases shown in the 6-year transit plans for Metro and Sound Transit. Include consideration of the need for new transit corridors or gaps in the existing service that would need to be addressed to serve the increase in land use.

- 2.3.3. Indicate the impacts of additional AM and PM peak hour traffic in 2030 on transit speed and reliability on the Seattle Connections corridors identified in the Seattle Transit Plan. Estimate the relative reduction in speed along each identified corridor and compare the results to the standards established in the Transit Plan.
- 2.3.4. At a programmatic level of detail, discuss and identify impacts based upon adopted City standards and other criteria provided by the City. Prepare a written analysis that will adequately describe the results of the technical analyses, including whether the identified impacts for the alternatives would constitute “significant adverse impacts” (as defined by the City).

#### **2.4. Mitigation Strategies for Transit Operations**

- 2.4.1. Describe a range of mitigation strategies to reduce or mitigate transportation impacts on transit operations identified for 2030. Indicate which strategies, if any, should be proposed as “required” mitigation for identified significant adverse impacts, and which are optional “other possible” mitigation strategies that could be approved at the decision makers’ discretion.
- 2.4.2. Estimate the number and share of trips that would need to shift to transit and other non-SOV modes to meet the mode share goals in the Comprehensive Plan. The mode share goals address work trips to the study area and all trips made by residents of the area. Identify potential strategies to meet the goals.
- 2.4.3. Include consideration of the need for new transit corridors or gaps in the existing service that would need to be addressed to serve the increase in land use. Identify conceptual improvements that would be needed to adequately mitigate impacts on transit operations related to growth under Livable South Downtown planning.
- 2.4.4. If necessary, identify impacts of the alternatives that cannot practically be mitigated to achieve acceptable transit operational conditions.

### **3. NON-MOTORIZED TRANSPORTATION ANALYSIS**

#### **3.1. Existing Plan and Policy Review**

- 3.1.1. The City will identify relevant policies and information within the Seattle’s Transportation Strategic Plan, Center City Circulation Report and Center City Access Strategy, and Bicycle Master Plan. Key items and information related to this study will be summarized for use by the consultant.
- 3.1.2. Evaluate the alternatives’ relationship to each of the plans at a programmatic level of detail based on the information summarized by the City.
- 3.1.3. The City will identify planned non-motorized improvements in the area.

#### **3.2. Existing Pedestrian/Bike Facilities**

- 3.2.1. Summarize existing conditions for non-motorized transportation (bicycle and pedestrian) in study sub-areas referencing past studies and other available materials from the City of Seattle and/or other sources.

- 3.2.2. Indicate the location of bicycle and pedestrian facilities based on GIS data and aerial photos provided by the City. Supplement this information by performing a quick windshield survey of the area. Identify existing pedestrian crossing locations and other major pedestrian and bicycle facilities.
- 3.2.3. Identify any pedestrian and bicycle safety issues or high accident locations based on collision data provided and summarized by the City.

### **3.3. Forecast Pedestrian/Bike Activity**

- 3.3.1. Evaluate the impacts of additional traffic on pedestrian and bicycle mobility by focusing on a total of three major corridors such as Dearborn Street, Jackson Street, and 1<sup>st</sup> Avenue South between King Street and S. Holgate Street.
- 3.3.2. Identify locations where there would be high vehicle conflicts.
- 3.3.3. Review whether the existing pedestrian/bike facilities are adequate for the level of growth and densities projected under each alternative. This would include identifying density of pedestrian crossings and missing sidewalk locations.
- 3.3.4. At a programmatic level of detail, discuss and identify non-motorized impacts. Prepare a written analysis that will adequately describe the results of the analyses, including whether the identified impacts for the alternatives would constitute “significant adverse impacts” (as defined by the City).

### **3.4. Mitigation Strategies for Non-Motorized Transportation**

- 3.4.1. Develop a list of conceptual improvements for non-motorized transportation that would be needed to adequately mitigate impacts related to growth under Livable South Downtown planning.

## **4. FREIGHT OPERATIONS**

### **4.1. Existing Plan and Policy Review**

- 4.1.1. The City will identify relevant policies and information within the Seattle’s Transportation Strategic Plan, Center City Circulation Report and Center City Access Strategy, Greater Duwamish Manufacturing & Industrial Center Plan and Freight Mobility Action Plan. Key items and information related to this study will be summarized for use by the consultant.
- 4.1.2. Evaluate the alternatives’ relationship to each of the plans at a programmatic level of detail based on the information summarized by the City.
- 4.1.3. The City will identify planned freight improvements in the area.

### **4.2. Existing Freight Facilities**

- 4.2.1. Identify the major freight routes through the study area.
- 4.2.2. Identify major freight travel origins and destinations.

- 4.2.3. Meet with the Freight Mobility Interest Group to better understand existing and future freight issues and concerns within the study area, especially along Dearborn Street and the South of Dearborn vicinity.
- 4.2.4. Review and summarize daily vehicle classification counts along Dearborn Street collected by the City.

**4.3. Impacts to Freight Operations**

- 4.3.1. Describe the relationship of likely future development patterns to known freight routes.
- 4.3.2. Describe the degree to which potential future development along freight routes may generate conflicts with freight movements.
- 4.3.3. Describe the degree to which new signals or other street improvements might improve or contribute to added delays in freight movements.
- 4.3.4. At a programmatic level of detail, discuss and identify impacts to the freight system based upon adopted City standards and other criteria provided by the City. Prepare a written analysis that will adequately describe the results of the technical analyses, including whether the identified impacts for the alternatives would constitute “significant adverse impacts” (as defined by the City).

**4.4. Mitigation Strategies for Freight Operations**

- 4.4.1. Describe a range of mitigation strategies to reduce or mitigate transportation impacts on freight operations identified for 2030.
- 4.4.2. For each alternative, formulate lists of conceptual improvements for freight operations that would be needed to adequately mitigate impacts related to growth under Livable South Downtown planning.
- 4.4.3. If there are significant uncertainties about future network conditions due to unresolved planning on other major road projects, describe at a qualitative level the approximate implications on the Livable South Downtown mitigation strategies.

**5. PARKING ANALYSIS**

**5.1. Existing Plan and Policy Review**

- 5.1.1. Identify relevant City parking policies. This may include policies in plans or adopted in ordinances (such as Downtown parking taxes).
- 5.1.2. Evaluate the alternatives’ relationship to pertinent City parking policies, at a programmatic level of detail.
- 5.1.3. Describe the existing practices for influencing stadium event related parking in on-street and off-street locations, including the City’s stadium area PARC committee and the annual transportation management plans prepared by the stadium venues.

- 5.1.4. The City will provide information to help identify any commitments and/or requirements associated with the stadium EISs.

## **5.2. Existing Parking Conditions Analysis**

- 5.2.1. Summarize existing on-street and off-street public parking supply, including surface lots in study sub-areas as available from past studies and other available materials from the City of Seattle and/or other sources or visible from aerial photos. The work will not include parking contained in structures that is not visibly public, or is privately connected to other uses. For example, this effort would only include a summary of surface parking lots available hourly, or by permit, that are likely to be redeveloped for higher use. Inventory will review on-street parking information gathered by City staff, and conduct a windshield survey to verify conditions and observe typical weekday use patterns. Summarize data by neighborhood and type of parking (one hour, all-day, permit, etc.)

## **5.3. Future Parking Analysis**

- 5.3.1. For the various neighborhood subareas' zones, summarize the regulatory requirements related to parking in future development, and the assumed rate of off-street parking provision in future development projects.
- 5.3.2. Evaluate the potential loss of off-street parking supply caused by future development of properties currently used for surface parking lots. Summarize the potential adverse impacts on overall parking supply in each neighborhood subarea for the target year of 2030.
- 5.3.3. Summarize the extent to which long-term major infrastructure improvement projects may affect on-street parking supply in the study area for baseline and with project 2030 conditions. Loss of on-street parking would only be noted if on-street parking is reduced in an alternative in order to increase roadway capacity. In this case, any lost parking spaces would be estimated based on information in existing studies (Viaduct parking study) or from aerial photos.
- 5.3.4. At a programmatic level of detail, discuss and identify impacts to parking operations based upon adopted City standards and other criteria provided by the City. Summarize the broad parking implications of future growth to on-street and off-street parking resources by sub-area. Prepare a written analysis that will adequately describe the results of the technical analyses, including whether the identified impacts for the alternatives would constitute "significant adverse impacts" (as defined by the City).

## **5.4. Mitigation Strategies for Parking Operations**

- 5.4.1. Describe a range of mitigation strategies to reduce or mitigate transportation impacts on parking operations identified for 2030.
- 5.4.2. Indicate which strategies, if any, should be proposed as "required" mitigation for identified significant adverse impacts, and which are optional "other possible" mitigation strategies that could be approved at the decision makers' discretion.

**6. EVENT TRAFFIC ANALYSIS**

- 6.1. The City will provide existing traffic management plans from the Seattle Police Department in coordination with the stadium venues.
- 6.2. Review and summarize the existing traffic management plans for typical Seahawk and Mariner games. Identify key access and control issues within the study area.
- 6.3. Reach out and meet with stadium stakeholders to identify existing and future event related traffic concerns.
- 6.4. Assess the impacts of increased higher density land uses within South Downtown and around the stadium venues by reviewing the estimated changes in traffic circulation and overall traffic volumes during representative event-traffic conditions. Evaluate whether the estimated changes would impact the key access and control points.
- 6.5. Describe the level by which the existing traffic management plans might need to be modified to address adverse impacts (if identified) on event-condition traffic circulation caused by increased high density land uses within the study area.

**7. PROJECT ADMINISTRATION & REPORT DOCUMENTATION**

The project manager will coordinate with the City of Seattle on a regular basis throughout the duration of the project. The coordination will address project scope/status, technical and policy direction, budget, schedule, and meetings. Coordination will be via telephone calls, email, and meetings, as appropriate. Progress reports and invoices will be provided to the City on a monthly basis.

The project manager and another team member will participate in up to three 2-hour project team meetings with City staff. Additional meetings with stakeholders or the public, including preparation of formal meeting materials, are not included in the scope.

The written analysis and materials prepared as part of each task will be pulled together into a cohesive report documenting the analysis, findings, and mitigation strategies. Included in the report will be graphics and figures summarizing the technical findings and providing a comparison of each of the alternatives. The DEIS transportation analysis report will be finalized following receipt of one round of comments from the City of Seattle. Transpo will work with the City to provide consistent formatting with other EIS elements.

**8. RESPOND TO DRAFT EIS COMMENTS**

Prepare draft written responses to transportation and parking-related comments submitted from other agencies, stakeholders, and the general public. Depending upon complexity of tasks needed to adequately respond to comments, provide an estimate of additional analytic work that would be needed to revise and update the transportation analysis for the FEIS.

## **9. OPTIONAL TASKS**

**Additional Non-Motorized Analysis:** Supplement available GIS data and other sources of information by performing a survey of the area to identify pedestrian and bicycle facilities. Identify the condition and width of sidewalks and whether they meet Americans with Disabilities Act (ADA) Requirements. Summarize the data by study sub-area. Evaluate the impacts of growth and additional traffic on pedestrian and bicycle mobility for all the major corridors in the study area. Characterize each alternative by highlighting the estimated relative distribution of additional bicyclists and pedestrians generated by new residential and commercial development. The distribution of ped/bike trips would be based on a general estimate of ped/bike travel patterns based on known trip generators. Review whether the existing ped/bike facilities are adequate for the level of growth and densities projected under each alternative by identifying substandard sidewalk widths and locations that are not in compliance with ADA requirements.

**Additional Parking Analysis:** As originally proposed, provide a more detailed supply and utilization evaluation. This additional work would be to more specifically inventory the parking supply in the study sub-areas, collecting additional data on parking supply, including identification of to whom the parking is available (public, permitted users, specific commercial uses), how it is currently managed (time restrictions, costs, permits) and mid-day utilization. For future conditions, more specific information would be available on the amount and kind of parking that would be displaced if existing supply is redeveloped. Additionally, similar information could be made available for on-street parking. However, where not striped or individually metered, on-street parking inventory would be estimated by approximating number of vehicles that would fit on continuous curb length.