

I-5 Lid Feasibility Study

Study Committee - Preliminary Structural Feasibility Workshop Summary

August 22, 2019

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Workshop summary

Welcome, meeting purpose and introductions

- Brett Watson, meeting facilitator with EnviroIssues, opened the meeting, reviewed the agenda and ground rules, and led a round of introductions.
- David Driskell, Deputy Director of the Office of Planning and Community Development (OPCD), thanked committee members for joining the workshop and noted that the feasibility study is on schedule and operating within budget. Of the total \$1.5 million allocated to the study as a part of the community benefit agreement related to the Washington State Convention Center's expansion, \$1.38 million goes toward conducting the feasibility study; \$60,000 goes toward equity outreach, in collaboration with the Department of Neighborhoods (DON); \$25,000 goes toward partnership with the Washington State Department of Transportation (WSDOT) for coordination; and \$57,000 for contingency purposes and federal grants for next stage analysis.
- Monisha Harrell provided an update on DON outreach. Monisha noted that many of the individuals reached did not yet know about the study. Groups that the DON has briefed and given opportunities to provide feedback include city commission groups, local community organizations, low-income and affordable housing associations, communities of color, and native tribes. Much of the feedback received has concerned equity, land use, and if local communities will feel welcome in the new space that the I-5 Lid would provide. More information on this feedback will be shared at the next committee meeting for members to consider in the study development process.
- Dhyana Quintanar, WSP consultant team Deputy Project Manager, reviewed the work plan and meeting look-ahead with the committee. The focus of this meeting will be to examine the feasible geometrical layout for the lid and where it can be placed in the context of the built environment. As the study team has adapted their process to consider feedback and include more consistent engagement with the committee and other stakeholders, the next committee meeting may need to be pushed from October to November to allow time for committee members to review new materials and provide feedback. The study team will send a poll to decide the next committee meeting date.

Questions for presenters/discussion

- What does outreach to the homeless community look like?
- Will written comments from the public be available for study committee members to review?
- Can community meeting dates be shared with the committee?

Presentation of preliminary structural feasibility

- Greg Banks, WSP consultant team, provided an overview of the preliminary structural and technical feasibility of building the I-5 Lid, noting that the designs presented will be purely conceptual and will need further discussion with agencies moving forward.
- Greg Banks explained the conceptual project schedule to implement a lid and where the feasibility study fits within that timeline. As of August 2019, the consultant team is

finishing the preliminary technical feasibility study to answer the question of where a lid can be built. The next step is to move forward with the technical and cost refinement analysis process to answer the question of what structures the lid can support. The study phase will finish with the development of the feasibility study report, anticipated to reach completion in early 2020. The second phase would focus on the development of the planning process, program definition and public engagement activities. Construction of the I-5 Lid could tentatively be projected to occur in 15 to 16 years.

- The feasibility study includes:
 - Identification of potential impacts and capital cost ranges associated with the lid sub-areas for different levels of development
 - Concept-level structural design suitable for establishing rough order of magnitude costs
 - Design decisions based on engineering judgement by limited analysis
- The study does not include:
 - Consultant Team recommendations, or identification of fatal flaws; the study will identify a tool set that can be used for planning future phases of work
 - Development of design submittals for various engineering discipline review; this would need to be performed in future phases of work
 - Addressing traffic and utility impacts (temporary or permanent); this would need to be performed in future phases of work
 - Mitigation of traffic impacts and associated costs; this would need to be addressed in future phases of work
- WSDOT is working with the City of Seattle to understand the requirements and constraints that would affect freeway lid feasibility in this study area.
- The study approach includes:
 - Preliminary basemap development, built on documents received from information requests
 - Geometric layouts of lid sub-areas to define impacts and work zones
 - Lid sub-area structural assessment with a parametric study based on anticipated spans of the identified lid sub-areas; will consider four different load conditions (e.g., open space, low-rise development, high-rise development)
 - Next steps include interdisciplinary coordinated to approximate costs and impacts
- The structural assessment boundary is from Madison St to E Denny Way and is divided into four sub-areas. Within the sub-areas, the consultant team identified the number and type of bridge/wall structures, vertical clearances, and grade variations.
- Grades in the study area fluctuate from north to south and slope down from east to west. The steep grades in the area present a unique complexity and create specific impacts in terms of connectivity and access to the lid area, compared to other lids such as Klyde Warren Park in Dallas.
- The feasibility study uses several technical assumptions including:
 - It will not make any decisions about the future of the I-5 corridor.

- Projects constructed by April 2019 are included in the feasibility assessment; projects currently in planning are not considered to be built.
- Existing structures are not being assessed for deficiencies; PSRC 2018 State Facilities Action Plan is the basis for the I-5 asset analysis.
- Existing bridges, ramps, walls, or other structures (excluding buildings and tunnels) within the study area boundary can be removed, modified, or replaced for the purpose of this analysis.
- Geometrical layouts are conceptual and solely for the purpose of exploring the opportunities, constraints, and technical questions that will need to be examined in more detail if there are additional studies to lid I-5. This feasibility study is being conducted in collaboration with the asset owners and will not predetermine the use or function of public assets.
- The study will only assess structural modifications to the existing lids at Freeway Park and the Convention Center necessary for potential edge integration with a future lid.
- The existing capacity of I-5 will not be reduced, although permanent I-5 lane configuration modifications may be considered, and temporary I-5 impacts may be permissible.
- Costs can be developed without performing construction engineering or studying potential modifications to I-5 (based on sound engineering judgement and regional project experience)
- Four loading levels:
 - Open space – landscaping and pavilions (up to 3 stories)
 - Low-rise residential – 7-story structures
 - Mid-rise residential/commercial – 15 to 20-story structures
 - High-rise residential/commercial – 45-story structures
- No new subsurface explorations will be performed.
- Existing road network has adequate capacity to support the proposed lid development.
- Existing utility systems have adequate capacity to support the proposed lid development.
- Environmental Impact Statement may be required to complete the SEPA and NEPA process; complexity of the project and dense urban context may generate significant environmental impacts and/or a high level of controversy.
- Lid sub-areas will require lighting, emergency ventilation system, fixed fire-fighting system, structure fire durability protection, power and controls for lighting and emergency ventilation systems, climate-controlled room to house switchgear, switchboards, and related appurtenances.
- For high-rise load level, only locations where a structure can be conventionally framed will be considered
- Greg Banks presented considerations for potential development by each lid sub-area, including opportunities to maximize lid coverage,

- Sub-area 1 (Madison St to Seneca St): three “options” for sub-area 1 were presented. Different considerations, benefits and drawbacks were included for each option. For example, maximizing the lid area would require demolition of the Freeway Park box gardens and south edging, demolition of I-5 ramps, modification of existing walls, and temporary I-5 traffic impacts. Whereas, maintaining the Freeway Park box gardens and I-5 ramps, would result in a minimal, disconnected lid in this sub-area.
- Sub-area 2 (Seneca St, Freeway Park, and the Convention Center): considerations include partial demolition of the Freeway Park edges, modification of existing walls, temporary I-5 traffic impacts, and partial demolition/replacement of the overhangs. Benefits of the lid would include noise reduction, increased connections, and an increase in area for active uses on Freeway Park.
- Sub-area 3 (Pike St to Olive Way): considerations include partial demolition/replacement of overhangs, modification of existing walls, modification of the ramps, and permanent I-5 lane reconfiguration. Benefits include ability to maintain existing ramps.
- Sub-area 4 (Olive Way to Denny Way): considerations include the modification or demolition of the ramps, modification of existing walls, temporary I-5 traffic impacts, permanent I-5 lane reconfiguration, and temporary ramp impacts. Keeping existing ramps may reduce lid area.
- Greg Banks covered the potential new lid area in each sub-area, for a total of 17.7 potential new acres. He also reviewed maximum load levels (live and dead loads) within each sub-area. Greg noted that the combination of dead live loads needs to be considered when examining load capacity/structure types. Maximum load levels do not preclude lid areas from being considered for open space use.
- Greg Banks provided an overview of the considerations associated with potential changes such as: replacement of elevated I-5 overhangs, demolition/replacement of overpasses, removal of on/off-ramps, removal/modification of existing walls, modifications to Freeway Park and Convention Center edges, reconfiguration of I-5 channelization, and impacts to utilities.
- Immediate next steps include continuing the lid sub-area structural assessment and beginning interdisciplinary coordination. This will include discussing utility impacts and life safety requirements with the technical team disciplines, and discussing massing and edging options with the Urban Design and Economics Team.
- Future additional technical studies to be conducted under potential future phases of work include studies on the traffic network, fire and life safety/ventilation, construction staging and phasing, and field exploration.
- Greg Banks concluded that the study indicates it is technically feasible to construct a lid over I-5 through downtown Seattle. As the work to date is preliminary, additional in-depth technical studies beyond the scope of this feasibility analysis will be necessary. Other considerations are required to address the overall feasibility, to be informed by the urban context, economic and financial feasibility, governance assessment, and agency alignment. Costs will be developed and shared by the Jan. 23, 2020 committee meeting.

Questions for presenters/discussion

- Will the study team identify building and structure types for each sub-area?
- What assumptions are the consultant team making about girder type and use?
- The study team's assumption is that the footprint of I-5 will remain the same when construction begins, but I-5 is currently in need of improvements. Will the sections that will be rebuilt with modern technology change the assumptions?
- Why is the study team not considering a reduction in I-5 capacity?

Break

- Committee members took a 10-minute break before beginning small group work sessions.

Sub-area analysis and small group discussion

- The committee members broke into four groups based on their lid sub-area of interest. Each group was provided a small group work-session guide and concept maps of their sub-area to review and aid their discussion.
- Brett reviewed the small group work-session guide with the committee and the small group facilitators. Working in the four groups, the committee identified opportunities, challenges, and elements to consider for their assigned sub-area. Each group shared highlights from their work session with the full committee:

Sub-area 1: Madison St to Seneca St

- The third concept would maintain Freeway Park while demolishing the ramps. While the preservation of Freeway Park would be a benefit to its identification as a historic place, the group had concerns about traffic noise funneling up to the lid surface and creating a less pleasant experience for park users. The group discussed potential strategies to recreate and celebrate the experience of Freeway Park if the existing structure is to be demolished.
- The second concept would partially demolish Freeway Park and maintain the existing ramps. This concept was not desired by the group.
- The first concept would involve lidding Freeway Park and removing the existing ramps to maximize the potential lid area. The group was most excited about this concept, as it would allow for maximum connectivity from First Hill to the Downtown Retail Core. The 5-foot drop on 6th Ave would require discussions on load level and edging options. The group expressed a desire for a portion of the lid space to be dedicated as public park space, especially if the existing Freeway Park will be lidded or demolished. Low-rise structures overlooking the park space will be ideal for public use as well as for the maintenance of sightlines and visibility.

Sub-area 2: Seneca St., Freeway Park, and the Convention Center

- As this sub-area features the most existing infrastructure compared to the other sub-areas, there is significant potential for many improvements with the least cost per square foot.
- An important consideration for the committee to consider is the process of identifying Freeway Park as a historic place, as this identification controls incentives.
- The existing Freeway Park has challenges with regards to safety, accessibility, and movement at all hours. How do we create an inviting and placemaking space that welcomes all people to rest and spend time? The Freeway Park could also benefit from Americans with Disabilities Act (ADA) improvements.
- There may be opportunity for low-rise and mid-rise developments near Freeway Park and on 8th Avenue to introduce retail and residences in the area. These new structures would also introduce more “eyes” on the street and park and increase safety.

Sub-area 3: Pine St to Olive Way

- Due to the large potential lid area in this segment and the potential removal of the Olive Way ramp, the variety of land uses include housing, schools, retail, and better pedestrian and cycling experiences connecting downtown to Capitol Hill.
- Sound Transit’s transit-oriented development plans within this sub-area will require the committee to consider its edge conditions with the surrounding lid area.
- The committee should keep in mind the changes that will occur to traffic and development in this area by 2035.
- WSDOT and SDOT will need to consider an integrated transportation system in this area, especially with on/off-ramp considerations.

Sub-area 4: Olive Way to Denny Way

- As this sub-area is complicated, the group suggested that the team create a 3D model to visualize the sub-areas.
- Considerations to building high-rise developments in this area will need to be discussed in the context of sightlines and visibility to the west and the surrounding urban context.
- As there is a significant amount of residential investment west of Denny Way, improving pedestrian routes in this area would be beneficial. Existing intersections in this area are currently unsafe.
- Is there a need for on-/off-ramps a few decades from now? Bus volumes in the downtown area may decrease as Link light rail and other transit systems begin operating. The removal or relocation of the ramps would involve a difficult political conversation.
- The group concluded that it would not be feasible to approach the process with the question of what can be built on the lid without considerations to I-5.

Further discussion

- Dhyana noted that the committee should consider east-west connectivity challenges within the context of the grade in the lid study area. A challenge exists with integrating the lid edges with the existing urban environment to maintain and improve pedestrian access, with up to a 35 ft. drop from the lid to adjacent land on the west side.
- With many people living and working within the study area, the committee and study team should understand the engineering and environmental challenges associated with creating better pedestrian connections in the South Lake Union and Capitol Hill neighborhoods.
- The committee and study team should identify the “low-hanging fruit” of low-cost improvements associated with the study to showcase opportunities and obtain buy-in with the public. The perception of the existing Freeway Park may impact people’s perceptions of what the I-5 Lid may entail. If the committee and study team can change this perception in its outreach, it will benefit moving forward.
- How do we ensure that a future lid is built with an eye toward long-term investments and improving real-user experience? The study team should consider the environment on top of the lid as well the conditions created below the lid and its exit and entry points.
- The final I-5 Lid feasibility study report should touch on placemaking, communities, user experience and safety as well as technical features.
- Monisha Harrell noted that the outreach team is working on collecting feedback to integrate into the study report. Dhyana added that one of the study’s guiding principles is to complete communities and that the study will touch on this principle and related topics in maximizing the benefits of the lid for all.
- It was requested that a list of the study’s guiding principles be placed in the room at the following committee meetings for the members to consider and keep in mind.

Questions for presenters/discussion

- How do we share our ideas and comments after the committee meeting?
- Is the report only focused on structural and technical feasibility or will it also focus on placemaking and transformation?

Public comment

- No public comment was given at this meeting.

Questions for presenters/discussion

- None