



**COMMISSION
AGENDA MEMORANDUM**

Item No. 8b

ACTION ITEM

Date of Meeting January 22, 2019

DATE: January 14, 2019

TO: Stephen P. Metruck, Executive Director

FROM: Michael Ehl, Director Airport Operations
Wayne Grotheer, Director Aviation Project Management

SUBJECT: Widen Arrivals Roadway (CIP #C800866) – Design

Amount of this request: \$8,340,000

Total estimated project cost: \$50,000,000

ACTION REQUESTED

Request Commission authorization for the Executive Director, in support of the Widen Arrivals Roadway project located at Seattle-Tacoma International Airport, to 1) amend a project-specific design contract to increase the contract value by \$2,600,000, 2) proceed with the design and preparation of contract bid documents, 3) execute utility agreements, and 4) negotiate and execute project labor agreements. The amount being requested under this authorization is \$8,340,000 of a total estimated project cost of \$50,000,000.

EXECUTIVE SUMMARY

The purpose of this project is to increase the capacity of the southbound lanes of the Northern Airport Expressway, thereby addressing the key cause of congestion and queuing for vehicles accessing the Main Terminal and Garage. The approved 2019 budget includes \$15.6 million for this project; this request totals \$8.6 million and \$2.1 million is expected to be expended in 2019 as design gets underway. The total estimated project cost has increased by \$34.4 million to \$50 million in order to align the proposed scope with the improvements contemplated by the Sustainable Airport Master Plan (SAMP)

Today's authorization request supports only the design phase of this work. Design will progress at risk and will be contingent on the outcome of the SAMP Near-Term Projects environmental review that is currently underway. Future budget increases and construction authorizations will be phased in support of the work, and to address potential significant scope and cost increases associated with the Airport Utilities Master Plan.

JUSTIFICATION

This project supports the following Century Agenda strategic goals and objectives:

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- 1) Advance this region as a leading tourism destination and business gateway by meeting the region’s air transportation needs at the Airport for the next 25 years.
- 2) Be the greenest and most energy efficient port in North America by meeting or exceeding agency requirements for storm water leaving Port-owned or operated facilities, and by reducing air pollutants and carbon emissions.
- 3) Use the Port’s influence as an institution to promote women and minority business enterprise (WMBE) growth through Resolution 3737 – Diversity in Contracting WMBE aspirational goals, small business growth, and workforce development by increasing the proportion of funds spent by the Port with qualified firms on construction, consulting, goods, and services.

The terminal roadway system was originally designed in 1968 to support an overall activity level of 25 million annual passengers (MAP). Over the years, a number of efforts have been completed to extend the life of the terminal roadway system. These include; relocating commercial ground transportation services to the third floor Ground Transportation Center and Northeast Ground Transportation Lot, extending the Arrivals curbside to the south for public transit and commercial ground transportation, and relocating rental car customers off-site to the consolidated Rental Car Facility.

With the Airport reaching 47 MAP in 2017, the southbound lanes of the Northern Airport Expressway, which provide access to the Main Terminal and Garage, are currently capacity-constrained, resulting in significant congestion and queueing during peak periods. With no further improvements, when airport passenger traffic reaches 54 MAP, studies have indicated that peak period congestion and queueing during peak periods will reach the I-5/I-405 South Center interchange on a regular basis. This project is intended to address the existing capacity constraints and provide the necessary roadway capacity and access in support of the strategies under consideration in the Ground Transportation Access Plan (GTAP), and the anticipated use of the Main Terminal and Garage as defined by the SAMP Near-Term projects.

DETAILS

The Widen Arrivals Roadway project includes the widening of the southbound lanes of the Northern Airport Expressway to provide an additional two lanes for a total of six lanes from South 170th Street into the Departures and Arrivals curbsides and Main Garage. This requires the relocation and expansion of the roadways to the west given the location of the columns supporting the Light Rail Transit guideway. This project supports and accommodates the SAMP Near-Term project to relocate the southbound lanes of the Northern Airport Expressway required to prepare for the development of the Second Terminal by raising the existing roadway grades.

Design will progress at risk and will be contingent on the outcome of SAMP Near-Term Projects environmental review. While design can overlap the environmental review process, construction cannot start until both the State Environmental Policy Act (SEPA) Environmental Impact Statement (EIS) and National Environmental Policy Act (NEPA) Environmental

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Assessment (EA) are complete. The SAMP SEPA EIS/NEPA EA is anticipated to be complete by early 2020 and the current project schedule does not require construction authorization until Q4 2020.

On April 24, 2018, the Commission authorized the Airport Utilities Master Plan; the Widen Arrivals Roadway project includes several risks associated with the development of this plan. The Airport Utilities Master Plan may result in decisions to build a utility corridor under the Arrivals approach roadway or to upgrade the primary water, storm drainage, or power distribution systems under the roadways. Due to the work associated with the Airport Utilities Master Plan, the construction will occur in two phases, under two separate construction contracts, to help mitigate these risks. Phase I will provide the improvements necessary to support the Phase II temporary roadways (detours), and Phase II will provide the temporary roadways and permanent roadway improvements to support Airport operations. Both the Phase I and Phase II construction contracts will utilize project labor agreements.

The total estimated cost to complete the Widen Arrivals Roadway project as currently defined is \$50 million. Since the Airport Utilities Master Plan risks can be significant if they occur and changes to the project are needed, they will be treated as scope revisions requiring additional Commission authorization. Future requests for Commission authorizations, and corresponding budget increases, are planned to coincide with the phased implementation of this project and would include any scope revisions.

Scope of Work

The Widen Arrivals Roadway project is a roadway improvement project. These types of projects generally include paving, sidewalks, barriers/curbs, pavement markings, illumination, storm drainage, retaining walls, signage, sign structures, safety elements (e.g. attenuators), and Intelligent Transportation Systems (ITS) improvements. Key components of the project include:

- (1) The widening of the southbound lanes of the Northern Airport Expressway to provide an additional two lanes into the curbsides and Main Garage
- (2) The demolition of the existing closed bridge from Departures to the 4th Floor of the Main Garage
- (3) The demolition of the remaining Bridge 5 ramp and abutment, construction of a retaining wall to support the Departures approach roadway, and the relocation of the north rental car bus curb further to the north
- (4) The completion of the seismic retrofit of the north portal of the Service Tunnel, consistent with work underway in other portions of the tunnel
- (5) The construction of a retaining wall along the airfield north of the Service Tunnel and the relocation of power, water, and natural gas infrastructure systems to support the future temporary roadways (detours)
- (6) The relocation of a portion of Air Cargo Road along the new airfield retaining wall

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The project will be completed in two phases under two separate construction contracts. Phase I includes; the Service Tunnel north portal seismic retrofit, the new airfield retaining wall, the relocation of infrastructure systems to support the Phase II temporary roadways (detours), and the relocation of a portion of Air Cargo Road. Phase II includes; the construction of the temporary roadways, the construction of the permanent approach roadways for the Main Garage, Arrivals and Departures curbsides, and the other remaining scope elements.

Schedule

Design start	2019 Quarter 1
Commission construction authorization (Phase I)	2020 Quarter 4
Construction start (Phase I)	2021 Quarter 2
In-use date (Phase I)	2021 Quarter 4
Commission construction authorization (Phase II)	2021 Quarter 4
Construction start (Phase II)	2022 Quarter 1
In-use date (Phase II)	2023 Quarter 1

Cost Breakdown

	This Request	Total Project
Design	\$8,340,000	\$8,600,000
Construction	\$0	\$41,400,000
Total	\$8,340,000	\$50,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – No improvements are completed until the SAMP Near-Term Project to relocate southbound lanes of the Northern Airport Expressway is implemented in support of the Second Terminal

Cost Implications: \$0

Pros:

- (1) No significant capital investment in the short-term
- (2) Allows the completion of the Airport Utilities Master Plan before beginning the design for the roadway improvements

Cons:

- (1) Due to existing capacity constraints significant congestion and queueing occurs each day on the southbound lanes of the Northern Airport Expressway. With no improvements, when airport passenger traffic reaches 54 MAP, studies have indicated that the Expressway queueing will reach the I-5/I-405 South Center interchange on a regular basis. With the additional delay the project would be under construction during these higher periods of congestion.

This is not the recommended alternative.

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Alternative 2 – The southbound lanes of the Northern Airport Expressway and the approach to the Arrivals curbside are widened to provide one more lane.

Cost Implications: \$18,200,000

Pros:

- (1) Lower capital investment in the short-term
- (2) Provides the necessary capacity improvements in support of Airport Operations
- (3) Allows the completion of the Airport Utilities Master Plan before beginning the design of the SAMP Near-Term projects

Cons:

- (1) This alternative does not support, by raising the existing roadway grades, the SAMP Near-Term projects. The completed roadway improvements would need to be reconstructed as part of the relocation of the southbound lanes of the Northern Airport Expressway.
- (2) Greatest overall capital investment for the Airport's roadway improvements

This is not the recommended alternative.

Alternative 3 – Provide capacity improvements through a Heavy Civil General Contractor/Construction Management (GC/CM) contract

Cost Implications: \$55,500,000

Pros:

- (1) Selection of the General Contractor includes consideration of qualifications, and they will be part of the project team that defines the phasing of work, and the traffic management plan, during the construction of these critical roadways
- (2) Provides the necessary capacity improvements in support of Airport operations
- (3) Supports, and more importantly accommodates, the SAMP Near-Term Project that relocates the southbound lanes of the Northern Airport Expressway

Cons:

- (1) Given the risk the Airport Utilities Master Plan may add scope to and delay this project, the Heavy Civil GC/CM contract may require renegotiation
- (2) The Heavy Civil GC/CM contracting methodology requires a slightly greater capital investment
- (3) The Heavy Civil GC/CM contracting methodology requires stronger negotiations than traditional GC/CM contracts
- (4) The Port has not utilized this methodology

This is not the recommended alternative.

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Alternative 4 – Provide capacity improvements through two design-bid-build construction contracts

Cost Implications: \$50,000,000 (current estimate)

Pros:

- (1) Provides the necessary capacity improvements in support of Airport operations for the least overall capital investment
- (2) Provides a phased construction approach to address potential scope risks yet to be identified by the Airport Utilities Master Plan
- (3) Supports and more importantly accommodates, the SAMP Near-Term Project that relocates the southbound lanes of the Northern Airport Expressway

Cons:

- (1) General Contractor selected only on price and the Port does not gain General Contractor expertise when developing phasing and traffic management plans in support of the construction effort

This is the recommended alternative.

FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary

	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$15,600,000	\$0	\$15,600,000
Cost increase	\$34,100,000	\$300,000	\$34,400,000
Revised cost estimate	\$49,700,000	\$300,000	\$50,000,000
Potential future scope/cost increase	TBD	TBD	TBD
AUTHORIZATION			
Previous authorizations	\$260,000	\$0	\$260,000
Current request for authorization	\$8,340,000	\$0	\$8,340,000
Total authorizations, including this request	\$8,600,000	\$0	\$8,600,000
Remaining amount to be authorized	TBD	TBD	TBD

Annual Budget Status and Source of Funds

This project (CIP #C800866) was included in the 2018 – 2022 capital budget and plan of finance as a business plan prospective project with a total budget of \$15,600,000. The total estimated cost for the Widen Arrivals Roadway project, as currently defined, is \$50,000,000. These estimated project costs do not include potential scope additions from the Airport Utilities Master Plan. Future budget increases, airline approval through the majority-in-interest vote, and construction authorizations will be phased in support of the work with budget transfers from the Aeronautical Allowance C800753. The funding source for this project will be the Airport Development Fund and future revenue bonds.

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Financial Analysis and Summary

Project cost for analysis	\$50,000,000
Business Unit (BU)	Roadways
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.09 in 2024

Future Revenues and Expenses (Total cost of ownership)

The operational and maintenance costs for the Airport roadway system are anticipated to change as a result of this project. The installation of a LED based roadway illumination system is anticipated to reduce costs, but the installation of ITS systems, additional signage, and landscaping areas are anticipated to increase costs.

ADDITIONAL BACKGROUND

In 2007 the Final Seattle-Tacoma International Airport Comprehensive Development Plan (CDP) NEPA Environmental Assessment (EA) and SEPA environmental review was completed. The CDP programmatically included the relocation of the southbound lanes of the Northern Airport Expressway to accommodate future airfield and terminal facilities, meaning it would need future project-level environmental review. Thus, the project is part of the SAMP Near-Term Projects environmental review and supports existing demand and future airport development.

On July 11, 2017, the Commission authorized the execution of a professional services contract in support of the Air Cargo Road Safety Improvements project. This led to the procurement and execution of the Airport Roadways Design Support Service contract with the HNTB Corporation that would support both the Air Cargo Road Safety Improvements project, and the future Widen Arrivals Roadway project if authorized by the Commission. The original contract value was estimated at \$3,000,000 to support both projects. During the planning process the scope and estimated cost for the Widen Arrivals Roadway project increased from \$15.6 million to \$50 million. The major changes are attributed to 1) the need to accommodate the SAMP Near-Term Projects by raising the roadway grades and providing two additional lanes to support curbside, parking, and ground transportation operations at the Main Terminal, 2) the need to provide a third access ramp into the Main Garage to support parking and ground transportation operations, and 3) the need for temporary roadways (detours) and the associated retaining wall and infrastructure system relocations in order to maintain operations during construction. Given these changes the contract value needs to be amended and increased by \$2,600,000 to \$5,600,000 to provide design support services for the Widen Arrivals Roadway project.

On September 25, 2018, the Commission was briefed on GTAP. Several strategies were identified to be further explored that would increase access for high occupancy modes, and advance transportation modes and programs to foster social equity and customer choice. The

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Widen Arrivals Roadway project supports these efforts since it will provide the basic roadway capacity and access necessary for private vehicles, commercial ground transportation, and public transit services to access the Main Terminal and Garage.

ATTACHMENTS TO THIS REQUEST

- (1) Project PowerPoint Presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

September 25, 2018 – The Commission was last briefed on Ground Transportation to the Airport including GTAP

May 8, 2018 – The Commission was last briefed on the status of SAMP and the start of the environmental review process

April 24, 2018 – The Commission authorized the completion of infrastructure master planning for Airport utility systems

July 11, 2017 – The Commission authorized design, the execution of a professional services contract, and early pavement repair work for the Air Cargo Road Safety Improvements project