

SUSTAINABLE AIRPORT MASTER PLAN (SAMP)

Funding Authorization Request

February 27, 2018

Briefing Overview

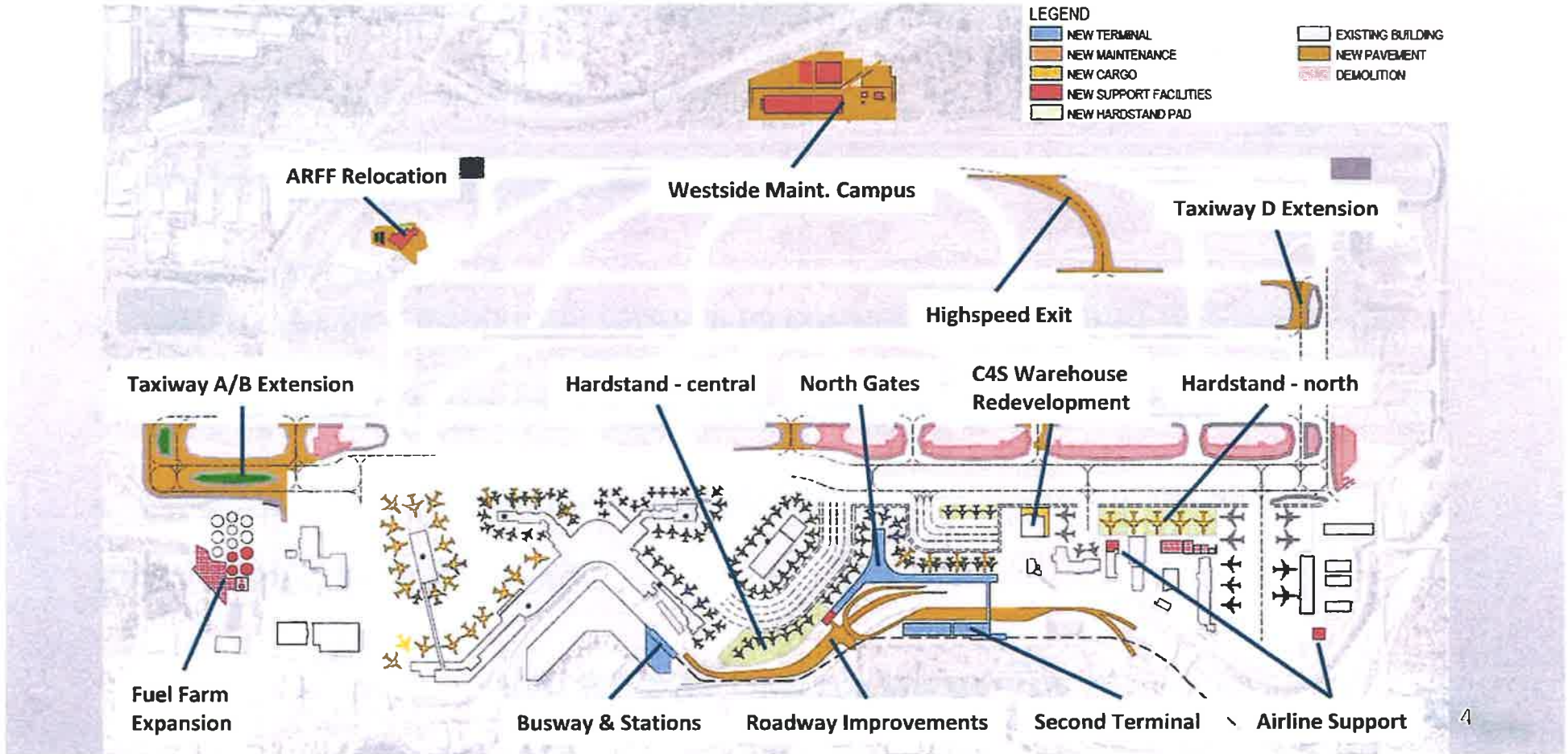
- Forecast Unconstrained Demand Methodology
- Near-term projects – *Major Improvements*
- Near-term project phasing
 - Future baseline
 - Enabling projects
 - Expansion projects
 - Operational efficiency & compliance projects
- Long-term Vision
- Environmental Impact Categories
- SAMP Public Outreach

Forecast Methodology

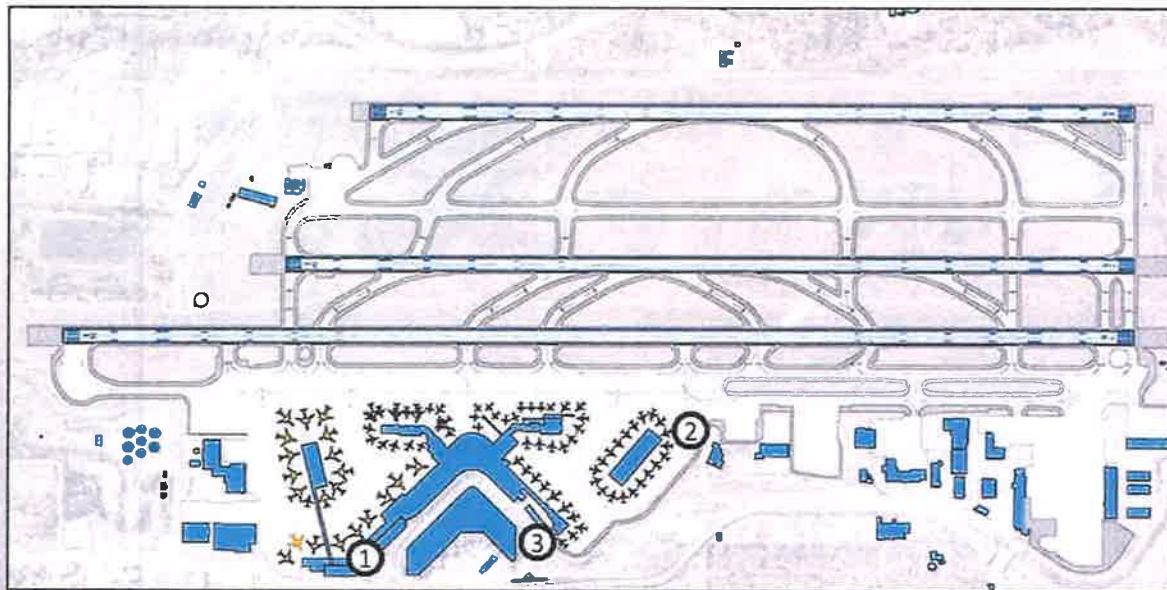
Key inputs and drivers

- Underlying socioeconomic conditions
- Cost of travel (airfares, yields, and Low Cost Carrier seats)
- Airline service decisions related to connecting hub and international gateway operations
- Route networks of hubbing airlines
- Overlapping service and competition
- Competing service at West Coast gateways

Near-Term Projects - Major Improvements



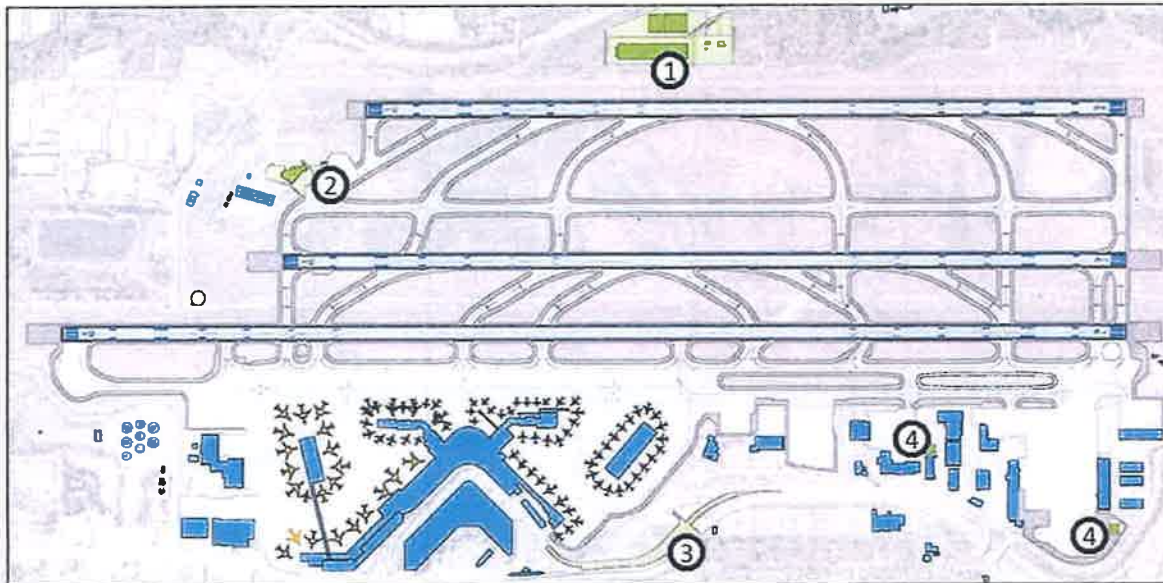
Near-Term Project Phasing



Future Baseline

- 1) International Arrivals Facility
- 2) NorthSTAR
- 3) Concourse D Hardstand Holdroom

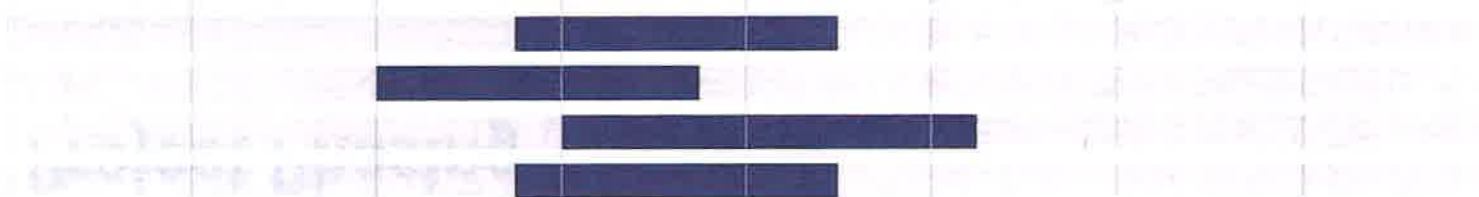
Enabling Projects



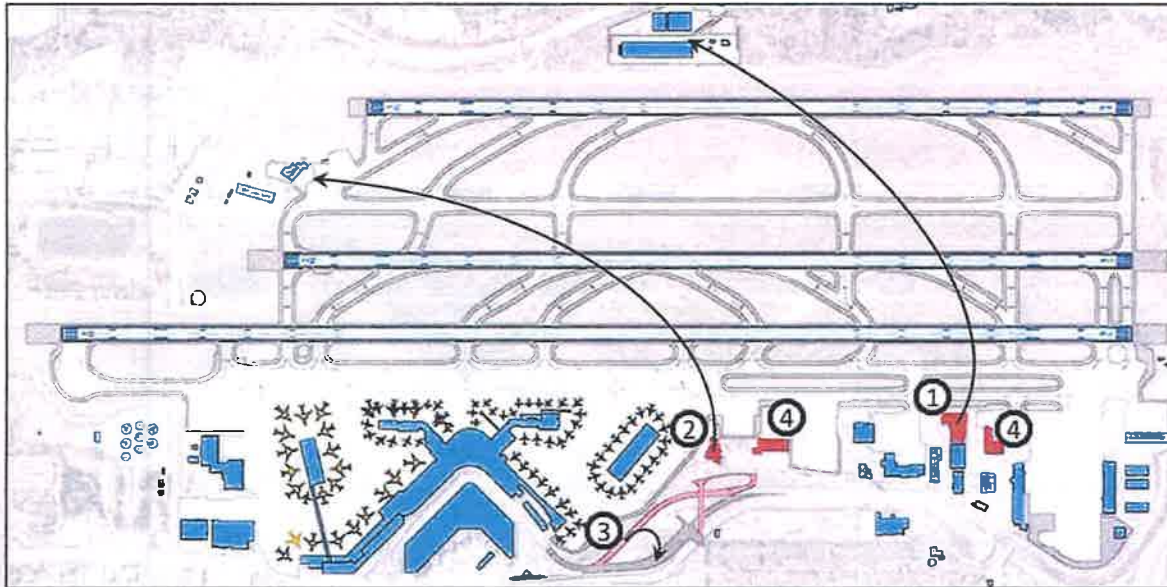
- 1) Westside Maintenance Campus
- 2) Aircraft Rescue and Fire-Fighting (ARFF) Relocation
- 3) Roadway Improvements
- 4) Airline Support

Construction period estimates 2020 2021 2022 2023 2024 2025 2026 2027

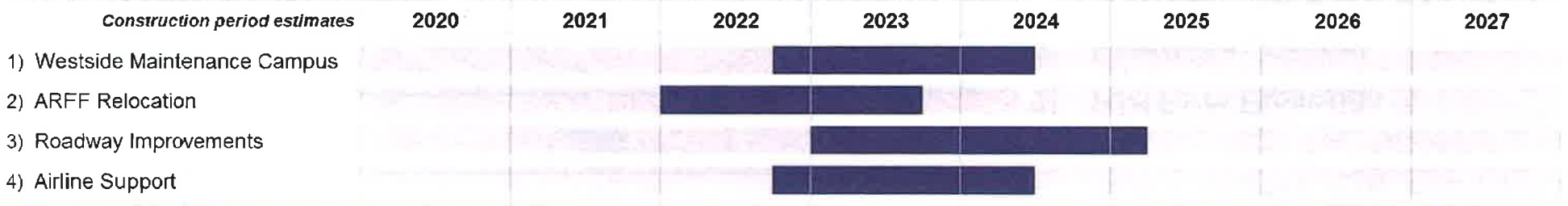
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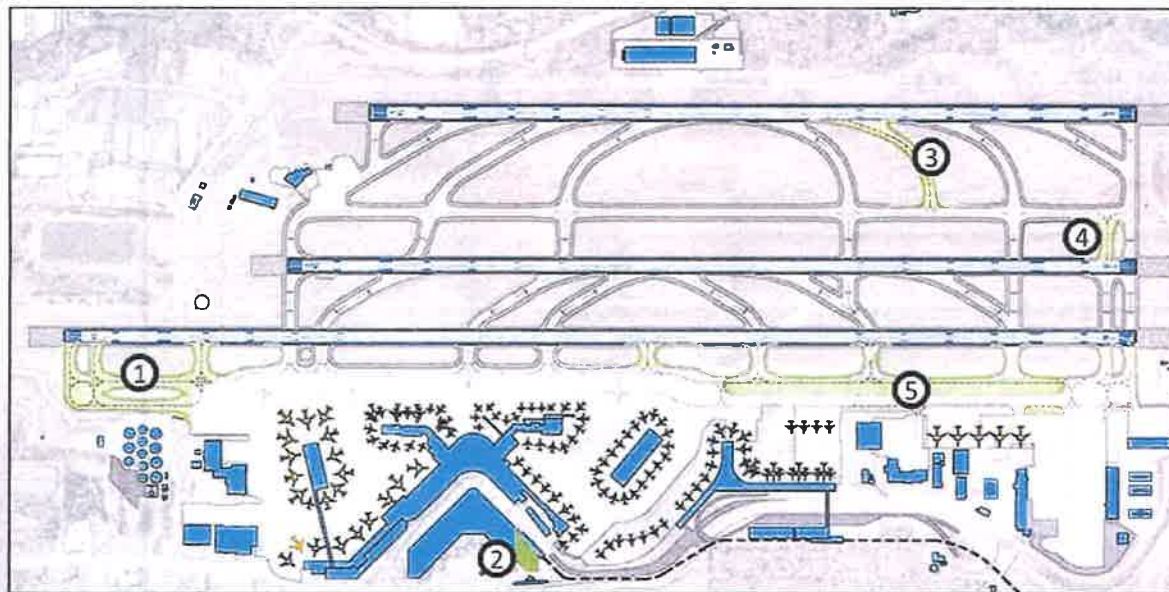
Relocations



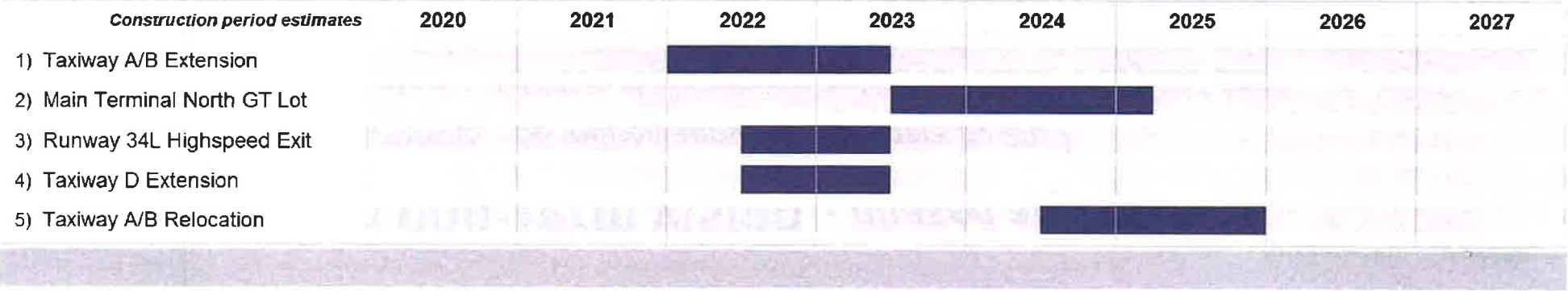
- 1) Port Maintenance relocated to Westside Maintenance Campus
- 2) ARFF Relocation
- 3) Southbound lanes relocated to the northeast
- 4) Airline Support relocated to existing /new facilities



Operational Efficiency & Compliance Projects



- 1) Taxiway A/B Extension
- 2) Main Terminal North Ground Transportation Lot
- 3) Runway 34L Highspeed Exit
- 4) Taxiway D Extension
- 5) Taxiway A/B Relocation (to comply with 500' runway/taxiway separation requirement)

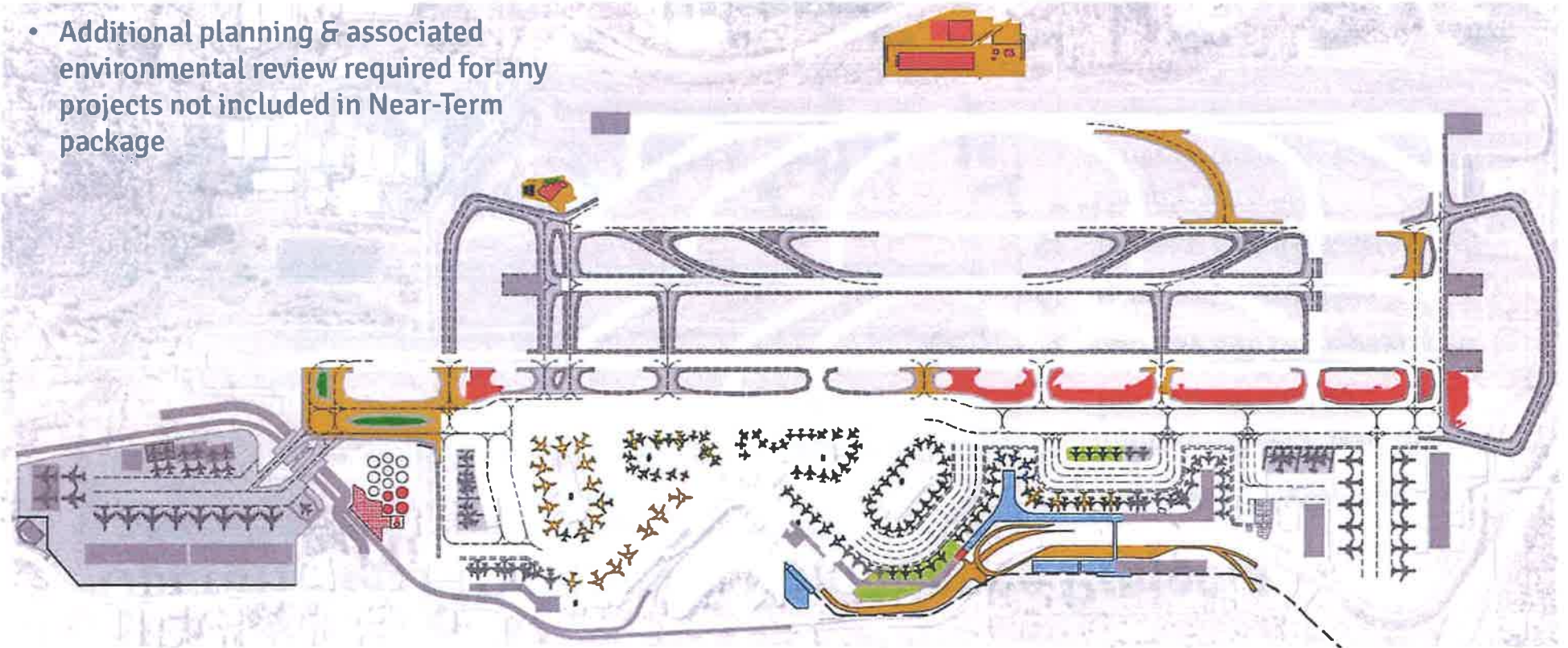


Long-Term vision - *phased approach*

Near-Term projects - *56 million annual passengers by 2027*

Long-Term vision - *Additional planning required for demand beyond 2027*

- Additional planning & associated environmental review required for any projects not included in Near-Term package



Next steps

- Complete planning for Near-term projects
- Work with FAA to finalize SAMP documentation
- Planning work to support environmental review
- Community open houses Q2 2018
- Environmental review public scoping Q2/Q3 2018
- Airfield/airspace study for SAMP Long-term Vision
- Regional aviation demand baseline study

Funding Request

- **Project Management**
- **Extensive Airside Modeling**
- **Additional Analysis**
- **Stakeholder Coordination and Community Outreach**
- **Environmental Review Planning Support**

Environmental Impact Categories

- Air Quality & Greenhouse Gases
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Public Land & Recreational Impacts
- **Endangered and Threatened Species**
- **Essential Fish Habitat**
- **Migratory Bird Act**
- Floodplains
- **Solid Waste Impacts**
- Cumulative Impacts
- Hazardous Materials
- Historical & Archeological Resources
- Light Emissions & Visual Impacts
- Energy Supply & Sustainable Design
- Noise
- Induced Impacts
- Socio-Economic
- Environmental Justice
- Environmental Health
- Water Quality
- **Wetland**
- Transportation
- Shoreline

Green = Has
direct link to
community
issues

Almost all categories have direct links to community issues

SAMP Public Outreach

- **Community Open Houses**
 - Report Out on Planning Work (Q2 2018)
- **Ongoing engagement with tenants, operators, FAA, & TSA**
- **Targeted engagement with external stakeholders**
 - Airport-area communities
 - Social justice community leaders
 - Airport-area business leaders
 - Regional business and labor leaders
 - Traveling public
- **Environmental Review in 2018**
 - Coordinated outreach program between SAMP planning and environmental



**COMMISSION
AGENDA MEMORANDUM**

Item No.

8a

ACTION ITEM

Date of Meeting

February 27, 2018

DATE: January 8, 2018

TO: Stephen P. Metruck, Executive Director

FROM: Jeffrey Brown, Director of Aviation Facilities and Capital Programs
Thomas Hooper, Manager Aviation Planning Program

SUBJECT: Sustainable Airport Master Plan (SAMP) Request for Additional Funds

Amount of this request: \$800,000

Total estimated project cost: \$10,450,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to execute an amendment to the existing SAMP service agreement with Leigh Fisher for an increase of \$800,000 for a new contract amount of \$10,450,000 to finalize planning documentation and provide planning support to environmental review of the SAMP Near-term projects.

EXECUTIVE SUMMARY

The Port initiated the Sustainable Airport Master Plan (SAMP) in 2013 and the planning work is nearing completion. Most recently, staff worked with stakeholders to identify and evaluate major enabling and capacity projects required to satisfy near-term demand. Analysis of these major projects (including 19 gates connected to a second terminal, north of the existing terminal complex) and has concluded that they will deliver needed capacity through 2027. Commission received a SAMP planning status update on February 13, 2018. Staff is currently working with the FAA, airlines, and internal stakeholders to finalize the package of near-term projects to be proposed for environmental review and anticipates briefing Commission again in April.

SAMP planning has taken considerably longer and has cost more than anticipated. There are two primary factors which have contributed to schedule delay and the increased cost of analysis, documentation, project management, and other soft costs of the SAMP. One factor is extensive airside modeling and coordination with the FAA experts to test the ability of development alternatives to meet near-term and long-term demand and to determine a two-step approach to advance SAMP. The other primary factor is additional analysis and documentation required due to the identification of alternatives involving one vs two terminals – i.e. accommodating forecast demand within the existing terminal with significant

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redevelopment/expansion versus accommodating future demand with a combination of a second terminal and less expansion/modification of the existing terminal.

Staff anticipates the \$800,000 additional funds will be sufficient to complete the SAMP documentation and provide planning support to environmental review of the SAMP Near-term projects for the estimated duration of that process. The environmental review will be done under a separate but existing contract, led by Landrum & Brown, a consultancy firm specializing in environmental review and currently under contract with the Port.

In accordance with RCW 53.19.060, this memorandum constitutes notifying Commission the amended amount (\$10,450,000) to the service agreement with Leigh Fisher for SAMP exceeds 50 percent of the original contract value of \$6,000,000. This amendment is made available for public inspection. \$2,096,142 of the total authorization was used to prepare programming and planning analyses, peer review to support the development of the project definition document for the IAF.

JUSTIFICATION

The estimated cost of SAMP planning has exceeded the amended level of effort and the requested additional funds are needed for the following primary reasons:

- Increased cost of project management and contract administration due to the additional time required to conduct specific analysis and documentation.
 - SAMP planning has taken considerably longer than anticipated due to unforeseen challenges related primarily to airside modeling of development alternatives; documentation and analysis related to terminal requirements and alternatives; and implementation planning related to physical and financial constraints.
- Extensive airside modeling required to assess development alternatives.
 - Following the initial round of modeling and documentation of results, the Port worked with the FAA to evaluate the model's performance and subsequently determined that the way in which the airfield is operated has changed, airlines have changed the way they schedule flights, and the airfield/airspace is constrained. This required recalibration of the model, several more rounds of modeling, and extensive coordination with FAA experts to test the ability of development alternatives to meet near-term and long-term demand and to determine a two-step approach to advance SAMP.
- Additional analysis and documentation required due to the identification of alternatives involving one vs two terminals.
 - The planning process led to the identification of two major terminal development options; one where future gates and airfield are served by redevelopment and expansion of the existing terminal and supporting landside system, and another where future gates and airfield are served by the existing

terminal and a second terminal and supporting roadways to the north. These two options have very different facility requirements, which required a significant amount of additional analysis and documentation.

- Stakeholder Coordination and Community Outreach
 - Continue Community Open Houses
 - Ongoing engagement with tenants, operators, FAA, & TSA
 - Targeted engagement with external stakeholders
 - Airport-area communities
 - Social justice community leaders
 - Airport-area business leaders
 - Regional business and labor leaders
 - Traveling public
 - Coordinated outreach program between SAMP planning and environmental
- Planning Support during Environmental Review

DETAILS

Environmental review of the SAMP Near-term projects will be led by Landrum & Brown, a consultancy firm specializing in environmental review and currently under contract with the Port. Continued planning support services are needed to finalize SAMP documentation, conduct additional public outreach, transition the SAMP to environmental review and provide planning support during environmental review. SAMP documentation is required to gain concurrence from the FAA regarding the Near-term projects and approach to environmental review, and to serve as the public facing document explaining the planning process and findings.

Planning analysis and supporting documentation required to transition the SAMP to environmental review includes: 1) an analysis of a “no-action alternative” which will be used to compare the relative impacts of taking no action to the impacts of implementing the SAMP Near-term projects and 2) the drafting of detailed project descriptions which will include information regarding construction quantities and activities which are required to assess construction impacts of Near-term project implementation.

Scope of Work

These additional funds would be used to complete work that falls within the scope of the existing contract.

The SAMP scope includes the following primary tasks:

- **Strategic Objectives**—Confirm study goals and focus areas.
- **Sustainability** – Determine, understand, and fully integrate environmental, social, and economic responsibilities.

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- **Forecast**—Determine future activity levels for passengers, cargo, and flights.
- **Inventory**—Gathering and preparing background data and drawings for analyses.
- **Requirements**—Develop basis for sizing facilities to provide adequate capacity to meet future activity levels.
- **Alternatives**—Identify and evaluate alternative facility development plans to accommodate forecast demand.
- **Financial**—Analyze financial capacity to support decision-making for capital improvements.
- **Implementation Plan**—Prepare a capital improvement program based on the SAMP Long-term Vision.
- **Airport Layout Plan (ALP)**—Update the current ALP for approval by the FAA.
- **Public Involvement**—Communicate master plan progress and conclusions to the public and other stakeholders.

Also include in the based scope of work as authorized by the Commission on March 11, 2014 is

- **IAF Project Definition Document (PDD) Support** - Programming and planning analyses, peer review to support the development of the project definition document for the IAF

Schedule

Staff anticipates beginning the public scoping process for environmental review of the Near-term projects in Q2 or Q3 of 2018. Staff anticipates the \$800,000 additional funds will be sufficient to complete the SAMP documentation and provide planning support to environmental review of the Near-term projects for the duration of that process.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Do not add funds to the SAMP planning contract, but instead, procure new consultant services. The work described in this memo is required to advance the SAMP Near-term projects into environmental review, but could be conducted by a consultancy firm specializing in airport master planning and not currently under contract with the Port.

Cost Implications: This alternative would likely cost more and take longer to complete, but the potential increase in cost and schedule delays cannot be reasonably quantified.

Pros:

- (1) None

Cons:

- (1) Procuring a consultancy firm specializing in airport master planning other than LeighFisher to conduct the work described in the details section of this memo would likely cost more and take longer due to the lack of knowledge of the planning issues and projects that has, by comparison, been gained by the SAMP planning consultant

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team through their work on the SAMP to date. In addition, the procurement process itself would take time to execute.

- (2) Cost likely higher than the estimated \$800,000 authorization request

This is not the recommended alternative.

Alternative 2 – Do not add funds to the SAMP planning contract and use Port staff to complete the work.

Cost Implications: No additional funds added to the contract – potential \$800,000 savings.

Pros:

- (1) Short term cost savings

Cons:

- (1) Using Port staff to conduct the work described in the details section of this memo would likely take longer due to the lack of knowledge of the planning issues and projects that has, by comparison, been gained by the SAMP consultant team through their work on the SAMP to date. In addition, the Port lacks the staff resources to conduct the work – in particular, within the planning department which is currently understaffed.
- (2) Using Port staff to conduct the work would also likely result in an inferior product given their comparative lack of SAMP specific knowledge and staff time to apply to the work effort.

This is not the recommended alternative.

Alternative 3 – Add the requested funds to the existing SAMP contract.

Cost Implications: \$800,000

Pros:

- (1) This is the most cost effective way to complete the work described in the details section of this memo due to the knowledge of the planning issues and projects that has been gained by the SAMP consultant team through their work on the SAMP to date and the public relations resources in the SAMP consultant team.

Cons:

- (1) \$800,000 cost

This is the recommended alternative.

FINANCIAL IMPLICATIONS

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<i>Authorization/Expenditure Summary</i>	Authorization	Expenditure thru 12-31-17	Remaining Funds as of 12-31-17
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AUTHORIZATION			
Previous authorizations			
• SAMP (09-05-12)	6,000,000	\$7,208,955	
• IAF related planning (03-11-14)	3,650,000	\$2,096,142	
Total	\$9,650,000	\$9,305,097	\$344,903
Current request for authorization	\$800,000		
Total	\$10,450,00	\$9,305,097	

Annual Budget Status and Source of Funds

The 2018 operating budget included \$500,000 for additional SAMP planning work to transition to environmental review. If all of the additional \$800,000 is spent together with the remaining authorization in 2018, the Aviation division would need to identify \$644,903 in other savings to keep within the 2018 budget. As these are operating costs, the funding source will be the Airport Development Fund.

Financial Analysis and Summary

The costs associated with this contract are accounted for as operating costs and allocated among airport cost centers. There would be no impact on passenger airline cost per enplanement (CPE) if spending stays within budgeted amounts.

ADDITIONAL BACKGROUND

The Port initiated the Sustainable Airport Master Plan (SAMP) in 2013 and the planning work is nearing completion, with public scoping for environmental review anticipated to begin in Q2 or Q3 of 2018.

The primary purpose of the SAMP is to identify facility improvements required to satisfy demand over the 20-year planning horizon and to balance capacity in all key functional areas to the fixed capacity of the airfield. To that end, the SAMP started with an unconstrained, 20-year forecast of cargo and passenger activity which was used to determine peak hour facility requirements based on demand derived from the movement of aircraft, passengers, bags, vehicles and freight. Alternatives for facilities development to satisfy demand were then developed and assessed, resulting in a phased capital program to deliver needed capacity through the 20-year planning horizon.

For planning purposes, the SAMP assumes the airport’s current three-runway system and close-in airspace configuration will remain in place. With the airport’s small footprint and significant physical constraints, redevelopment at Sea-Tac requires expensive relocation of existing facilities and limited options for expansion.

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Work to evaluate alternatives for project phasing and to assess airside capacity has included extensive airside modeling in consultation with FAA specialists and has determined that existing constraints require a two-step approach to advance the SAMP.

The first step is to identify a package of Near-term projects to be assessed through environmental review. Included in this briefing is an overview of the major improvements anticipated to be included in the package of Near-term projects.

Staff has conducted airside modeling of these near-term projects (including 19 gates connected to a second terminal, north of the existing terminal complex) and has concluded that they will deliver needed capacity through 2027. Staff is currently working with the FAA, airlines, and internal stakeholders to finalize the package of Near-term projects to be proposed for environmental review and anticipates briefing Commission in April 2018.

The second step is to better understand the constraints for airside facilities, which includes runway and taxiway utilization, airfield configuration, gate availability, and airspace management as conducted by FAA. The Port will work with the FAA to conduct an airfield/airspace study which will determine the long-term capacity of the airfield and inform or reaffirm the SAMP Long-term vision.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- February 13, 2018 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- August 23, 2016 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- July 12, 2016 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- April 12, 2016 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- January 26, 2016 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- September 8, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- April 28, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- March 24, 2015 - Commission Briefing: "Briefing on Sea-Tac Cargo as part of the Sustainable Airport Master Plan (SAMP)"

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- January 27, 2015 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Planning Update"
- October 7, 2014 - Commission Briefing: "Sustainable Airport Master Plan (SAMP) Forecast and Facilities Challenges"
- March 11, 2014 - Commission authorization to amend the existing Sustainable Airport Master Plan (SAMP) service agreement with Leigh Fisher Associates for IAF-related planning tasks for an increase of \$3,650,000 and a new total contract amount of \$9,650,000
- September 5, 2012 - Commission authorization for SAMP development and to advertise and execute a contract for consulting services for the SAMP, with a total estimated value of \$6 million
- August 14, 2012 - Commission deferred consideration of a request to approve funding for the Sustainable Airport Master Plan (SAMP)
- June 27, 2012 - Commission Briefing: "Terminal Development Challenges"