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Appendix D Supplemental Information



Request for Letter of Intent to provide a

Multi-Year Commitment of Airport Improvement Program Grant-in-Aid Funding



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Appendix D: Supplemental Information

Supplemental information is presented to demonstrate (1) the economic justification for the overall OMP airfield program, and (2) that the benefits provided by the airfield projects alone outweigh the costs associated with both airfield and non-airfield elements of the entire Airport Master Plan.

It is important to recognize that the methodology used to quantify the program delay reduction benefits considered the benefits that would materialize under the constrained forecast for the proposed plan to avoid the need to assess the hard-to-quantify value of increased passenger and aircraft activity. Because the benefits analysis already considers the constrained forecast, there is limited potential for non-airfield facilities (terminals, gates, roadways, etc.) to constrain the benefits further. As such, these sensitivity analyses assume that non-airfield facilities are built that may not be needed to accommodate demand.

It is also important to recognize that many of the non-airfield elements of the OMP and Master Plan will produce additional benefits that are not quantified under this analysis. The quantification of these benefits was not necessary to produce a positive BCA result, but may be undertaken in the future to further demonstrate the overall benefits of the plan.

Each of the supplemental analyses are described below, supporting documentation is provided in **Appendix E**, and **Table D-1** summarizes the BCR and NPV for each supplemental analysis:

- *Master Plan Phase 1:* An analysis was conducted to consider the benefits and costs related to development of all OMP-Phase 1 elements as outlined in the EIS, including the airfield, West Satellite Concourse, and other facilities from the World Gateway Program. Only airfield operational travel time benefits are included in this analysis. Other benefits of Master Plan Phase 1 including improved terminal efficiency are not quantified or used in this analysis. These additional benefits would only increase the BCRs and NPVs.
- *OMP Total Airfield:* An analysis was conducted to consider the benefits and costs related to the development of all OMP Airfield Projects. In addition to the OMP-Phase 1 Airfield Projects, design and construction of the following runway projects and their associated enabling projects are included: Runway 9C-27C, Runway 9R extension, and Runway 10R-28L. The decommissioning of Runways 14L-32R and 14R-32L are also included.
- *Total Master Plan:* An analysis was conducted to consider all other OMP projects (airfield, terminal, and enabling) and all WGP projects, in addition to the OMP-Phase 1 Airfield Projects. The purpose of this supplemental analysis is to evaluate the ability of the benefits generated by the airfield projects to outweigh the overall costs of the Master Plan. Only airfield operational travel time benefits are included in this analysis; however, the unconstrained forecast of passenger activity was used to provide a surrogate measure of the costs incurred by the additional passengers that are unable to use the Airport under the Base Case. Under this methodology, each of these additional passengers would incur a benefit equal to the benefit of the passengers using the Airport, approximately \$4 each. Other benefits of the Master Plan include improved ground circulation, parking, and terminal efficiency as well as others listed in **Table D-2** that are not quantified or used in this analysis. These additional benefits would only increase the BCRs and NPVs.

Table D-1

Benefit-Cost Ratios and Net Present Values (2001 dollars) – Supplemental Analyses
Aircraft Travel Time Benefits Only

Projects	Evaluation End Year	Present Value Benefits (billions)	Present Value Costs (billions)	Net Present Value ² (billions)	Benefit-Cost Ratio
Master Plan Phase 1 ¹	2028	\$4.1	\$2.6	\$1.5	1.56
OMP Total Airfield	2032	\$5.7	\$2.9	\$2.9	2.01
Total Master Plan	2032	\$6.4	\$6.2	\$0.2	1.04

¹ WGP costs converted from 1999 dollars to 2001 dollars using the Gross Domestic Product Price Inflator in accordance with the *BCA Guidance*.

² Totals may not add due to rounding.

Source: Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

These supplemental analyses demonstrate that the overall OMP airfield program is economically justified, and that the delay benefits of the airfield program alone outweigh costs, even considering the additional costs associated with non-airfield elements of the program. In all cases, the BCR and NPV of the supplemental analyses exceed the FAA thresholds.

This analysis does not attempt to quantify or consider all benefits associated with the project (LOI Projects, Master Plan Phase 1, OMP Total Airfield, and Total Master Plan), but rather it illustrates that the aircraft travel time savings alone are sufficient to produce benefits that in all cases exceed project costs. Thus, the benefit-cost ratios and NPVs presented here are based on underestimated benefits and would be expected to be higher if a full accounting of project benefits is performed. Other benefits of the OMP, including improved terminal and gate efficiency, and ground transportation system operations are not considered at this time in this analysis. The specific project benefits, which have not been quantified, are shown in Table D-2.

Table D-2

Inventory of Benefits Quantified and Not Quantified in the BCA

Project Type	Typical Benefit	Benefits Quantified in BCA	Benefits Not Quantified in BCA
Airside Capacity	• Reduced aircraft, passenger, and cargo delay during normal airport operations	x	
	• Greater schedule predictability including (1) aircraft operator able to make more efficient use of equipment and personnel and (2) passenger able to take later flight and arrive at destination on time		x
	• Improved efficiency of traffic flows (reduced vectoring and taxiing distances)	x	
	• Airport's ability to accommodate faster, larger, and/or more efficient aircraft		x
	• Bringing pre-existing infrastructure into compliance with FAA safety and security standards		x

Project Type	Typical Benefit	Benefits Quantified in BCA	Benefits Not Quantified in BCA
Airport Terminal Building Capacity	• Safety improvements		x
	• Reduced aircraft, passenger, cargo, and meter/greeter delay (attributable to more gates and faster passenger transfers to connecting flights)		x
	• Improved passenger schedule predictability (ability to allow less time for potential delays at airport terminal building)		x
	• More efficient traffic flows (shortened pedestrian traffic distances)		x
	• Improved passenger comfort		x
	• Lower airport terminal building operating and maintenance costs		x
Landside Access	• Reduced passenger, cargo, and airport and airline employee delay in getting to airport		x
	• Improved schedule predictability (ability to leave later for airport and arrive on time for check in)		x
	• Lower operating and maintenance costs		x
	• Improved safety		x

Source (Typical Benefits): FAA, *BCA Guidance*.

Source (Assessed Benefits): Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc.