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Dennis Walsh/AWA/FAA
09/08/2005 01:21 PM

To "Shawn Kinder" <s_kinder@ricondo.com>
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cc Ward Keech/AWA/FAA@FAA, frankb@gra-inc.com,
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bcc

Subject Re: Draft Supplemental BCA Document

History

This message has been replied to.

Shawn

attached are FAA's consolidated comments on the 9-6-05 supplemental BCA.

Look forward to discussing shortly

Dennis Walsh
APP-510, Financial Analysis and PFC Branch



202-493-4890 FAA Comments on Supplemental 9_06_05.doc

FAA Comments on ORD BCA Dated 9/6/05

#1 Page 1, [EDIT] In February 2005, the City of Chicago (City) submitted a revised request for a Letter of Intent (LOI) for a multiyear commitment of Airport Improvement Program (AIP) funding for Phase 1 of the O'Hare Modernization Program. That submittal included a Benefit/Cost Analysis (BCA) based primarily on the delay reduction (measured in terms of changes in total aircraft travel time) benefits anticipated to be produced by the project. At that time, the City used a methodology for calculating the benefit cost ratio that assumed that beyond the base case no additional operations were realized. Thus, the benefit-cost ratios and NPVs (net present values) presented here (in the original BCA) are based on underestimated benefits and would be expected to be higher if a full accounting of project benefits were performed." (LOI Application, pages iv, IV-1). The Federal Aviation Administration subsequently requested that the City provide a supplemental BCA that relaxed the assumption that aircraft operations were capped consistent with the base case. This document outlines the methodology, assumptions, and results of that supplemental analysis.

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Deleted: used in that BCA did "not attempt to quantify or consider all benefits associated with the project, but rather illustrate that the aircraft travel time savings alone are sufficient to produce benefits that in all cases exceed project costs.

Deleted: incorporating a quantitative analysis of the benefits resulting from the increased capacity produced by the proposed project.

#2 Page 1, [EDIT] In this analysis, the capacity benefits of the project, i.e. the airport's ability to process additional traffic and passengers as a result of the proposed project, are estimated using consumer surplus as the appropriate measure of the benefits of the project. Consumer surplus is defined, as the difference between what consumers must pay for a given level of service and what they would be willing to pay for that same level of service. The FAA provided a document (included in Appendix C prepared by GRA, Incorporated (GRA) that describes how the benefits of a capacity expansion project can be calculated based on an economic model which measures changes in consumer surplus. This methodology is derived from the information contained in Appendix C, Section C.2 of the FAA Airport Benefit-Cost Analysis Guidance, December 15, 1999 (BCA Guidance).

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#3 Page 2, [EDIT].... supplemental analysis provides a mechanism to quantify the benefits associated with the increased traffic and passengers that can be processed by the airport as a result of the capacity increase attributed to the project. This methodology utilizes sound, common economic principles in analyzing the benefits of the program. It relies on the principle that consumers make travel decisions based on the value they receive for the price they are expected to pay. The following is a summary of the results of the application of this supplemental methodology. Results of sensitivity analyses are discussed in Section V.

Deleted: It does not, however, provide a mechanism for measuring the benefits of a project that reduces delay but does not realize an increase in demand; the February 2005 BCA does measure such a situation.

#4 Page 5, [Edit] Table I-1 illustrates the steps taken and the assumptions made to calculate changes in consumer surplus. Specific details relating to assumptions can be found in Sections II, IV and V.

Deleted: To calculate benefits from consumer surplus, GRA provided R&A with a methodology to derive quantifiable benefits through mathematical calculations. Table I-1 describes the GRA methodology and assumptions made by R&A.

#5 Page 14, [Comment] IV.2 Simulation Results – The travel times for the scenario case phase-1 are wrong. These are the travel times that came out of the original BCA and do not reflect actual operations or the operational constraint under phase 1. It was our understanding that the difference in travel time would reach 0 when average aircraft delays are capped in both the base case and scenario case (somewhere around 2017), then the benefits after this time would be reached through the drop in money fare alone.

#6 Page 15, [Comment] “Average Travel Time. The average travel time per operation was obtained from TAAM simulations performed for the OMP. The travel time considered for this BCA is the Base Case scenario. It is an average of the arrival and departure travel times and includes minutes of travel delay.” Despite the fact that the response to comment suggested that they addressed our previous concern with this section, there has been not change made to the document.

#7 Page 15 [Comment] “Salvage Value. As set forth in the BCA Guidance, salvage value of the project may be considered. The salvage value of improvements at the end of the 20-year evaluation period is estimated to include only the value of the land acquired for the projects. For purposes of this analysis, it was assumed that the value of the land remains the same as on the purchase date, and the discounted value is included in the project benefits.” Despite the fact that the response to comment suggested that they addressed our previous concern with this section, there has been not change made to the document.

#8 Page 18 [Edit] V.2.1. Elasticity of Demand To evaluate the range of elasticities of demand over which the project is cost beneficial, holding all other variables constant different values for the elasticity of demand were entered as model inputs until a cost-benefit ratio of approximately 1.0 was obtained. Table V-3 describes the range of elasticity of demand for each scenario where the benefit-cost ratio is positive.

#9 Page 18 [Edit] V.2.2. Future Enplanements To evaluate the range of future demand over which the project is cost beneficial, holding all other variables constant the growth rate of passenger enplanements was reduced to closely match the “Constrained” growth rate. This rate was reduced to the minimum value possible while still achieving a benefit-cost ratio of one. An annual average growth rate for each scenario was calculated for the forecast period (2002 through 2028). The average annual growth rate used in each scenario is presented below in Table V-4.

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#10 Page 19 [Comment] “Additional forecasts were evaluated to determine the impact of alternate enplanement scenarios on project benefits. The 2003 TAF and 2004 TAF both show larger project enplanements than Constrained – Phase I forecast used in this analysis, and they were evaluated as the “high-growth” scenarios. The 2003 TAF in 2018 projects 56.3 million enplanements. This value is reached in 2027 of the Constrained – Phase I forecast. Thus, if a positive BCR is shown using this forecast, it follows that

using the 2003 TAF would also produce a positive BCR. The same comparison was made with the 2004 TAF. In 2018 enplanements are project to reach 50.2 million. The Constrained – Phase I forecast predicts this level of enplanements to occur in 2020. As stated in the case of the 2003 TAF, if a positive BCR was obtained using the Constrained – Phase I forecast, then a positive BCR will be obtained using this forecast that predicts a larger number of enplanements. Lower growth scenarios were analyzed as part of a multi-variable sensitivity analysis and are discussed in Section V.2.4.” -- **Logically not sure if this argument makes any sense. The reason is that the 2003 and 2004 forecasts have higher operations levels that would negatively impact on the travel timesavings. [delete]**

#11 Page 19 [Comment] V.2.4. Plausibility of the Money Fare – This analysis is wrong based on the fact that they are using the incorrect travel times associated with the phase 1.

#12 Page 20 [Comment] V.2.4.2 Variations in Elasticity and Passenger Demand
“As in the previous analysis, the elasticity was varied from –0.5 to –2.5. Passenger demand is assumed not to fall below values found in the Base Case. Thus alternate values for passenger demand were calculated as percent increases from the base case.”
Passenger demand should be calculated based off the scenario case, but not allowed to fall below the base case.

#13 Page 20 [Comment] Sponsor failed to conduct the multi-attribute sensitivity analysis for “passenger levels vs. base case average money fare”. In response to comments they noted there were going to conduct all the multi-attribute sensitivity analyses specified in our comments.

#14. Earlier we asked the City to provide a supplemental analysis on the OMP Total Airfield and the Total Master Plan scenarios similar to that conducted in Appendix D, "Supplemental Information" of the original BCA. This will help us respond to OIG's concern that FAA, to the extent possible, consider the benefits and costs of the full OMP.