

78



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Subject 2004 TAF for BCA purposes

History This message has been forwarded

Shawn

Attached is a spreadsheet containing the unconstrained/constrained 2004 TAF for use in the supplemental BCA sensitivity analysis. We've also included a write-up that includes the assumptions and methodology used to produce the 2004 numbers. The write-up can be inserted in the supplemental BCA as an appendix (source it as FAA). Also, the write-up includes a section on the suggested use of the 2004 forecasts in the BCA analysis. this should be followed.

Please let me know if you have any questions
thanks



2004 TAF sensitivy 9-23-05.doc TAF2004 Sensitivity 9-23-05.xls

A sensitivity analysis was performed using the 2004 TAF instead of the 2002 TAF as the basis for projecting OMP-1 operations and passengers. Recall that the baseline OMP-1 build scenario used the 2002 TAF projections for both operations and passengers for 2007-2015, after which annual operations were capped at 1.15 million through the end of the analysis period in 2028. Leigh Fisher Associates prepared the projections for 2016-2028. Exhibit 1 below shows these baseline forecasts, along with associated estimates of average seat size and load factors.

Exhibit 1
Projections based on 2002 TAF

Calendar Yr	Operations*	Enplanements	Enpl Growth Rate	Avg Seats	Avg Load Factor
2004	976,544	33,633,730		105.7	68.80%
2005	992,855	34,696,477	3.16%	106.4	69.45%
2006	1,009,439	35,798,962	3.18%	107.0	70.13%
2007	1,026,300	36,943,000	3.20%	107.7	70.82%
2008	1,041,635	38,027,251	2.93%	108.6	71.27%
2009	1,057,200	39,149,000	2.95%	109.4	71.76%
2010	1,072,706	40,280,622	2.89%	110.3	72.19%
2011	1,088,438	41,450,619	2.90%	111.1	72.64%
2012	1,104,402	42,660,538	2.92%	112.0	73.11%
2013	1,120,600	43,912,000	2.93%	112.9	73.49%
2014	1,134,910	45,119,418	2.75%	113.9	73.91%
2015	1,149,402	46,367,491	2.77%	114.9	74.35%
2016	1,150,000	47,181,000	1.75%	116.0	74.89%
2017	1,150,000	48,110,000	1.97%	117.2	75.55%
2018	1,150,000	49,062,000	1.98%	118.5	75.91%
2019	1,150,000	49,994,000	1.90%	120.3	76.16%
2020	1,150,000	50,944,000	1.90%	122.2	76.41%
2021	1,150,000	51,810,000	1.70%	123.9	76.66%
2022	1,150,000	52,691,000	1.70%	125.6	76.91%
2023	1,150,000	53,587,000	1.70%	127.3	77.16%
2024	1,150,000	54,498,000	1.70%	129.1	77.41%
2025	1,150,000	55,315,000	1.50%	130.6	77.66%
2026	1,150,000	56,145,000	1.50%	132.1	77.91%
2027	1,150,000	56,987,000	1.50%	133.7	78.16%
2028	1,150,000	57,842,000	1.50%	135.2	78.41%

*Includes non-scheduled operations.

Notes: Fiscal year TAF projections for 2004-2015 converted to calendar year.
 Avg annual % chg in seat size: 0.76% (2004-2015)
 1.26% (2015-2028)
 0.50% (Change)
 Avg annual chg in load factor: 0.31 pct points (2015-2028)

The Exhibit shows that enplanements are projected to continue to grow (albeit at a reduced rate) after operations are capped in 2016. This is because it is likely that carriers will upgauge their aircraft (more than they otherwise would) once the operational cap is reached; this is reflected in the fact that average seat size is projected

to rise by about 0.76% annually from 2004-2015, and then increase by about half a percentage point to 1.26% annually from 2016-2028. Load factors are also expected to rise slowly over time, averaging about 0.31percentage points from 2015-2028.

It was not feasible or timely to have Leigh Fisher Associates prepare an entirely new set of forecasts based on the 2004 TAF. Instead, the projections shown below in Exhibit 2 were obtained in the following manner. First, the 2004 TAF projections for operations and enplanements were converted from fiscal to calendar years in the same manner as was done for the 2002 TAF. Again assuming that FAA would cap annual operations at about 1.15 million, this would occur in 2013 based on the 2004 TAF, reflecting a quicker ramp-up in flight activity. The FAA also provided projections of average seat size and load factors for the 2004 TAF, shown in the Exhibit for the years 2004-2013.

Exhibit 2
Projections based on 2004 TAF

Calendar Yr	Operations*	Enplanements	Enpl Growth Rate	Avg Seats	Avg Load Factor
2004	985,490	35,340,956		105.8	71.60%
2005	983,419	35,776,054	1.23%	105.3	72.67%
2006	1,015,934	36,844,622	2.99%	104.3	72.85%
2007	1,040,443	37,962,387	3.03%	104.5	73.12%
2008	1,061,529	39,030,494	2.81%	104.9	73.41%
2009	1,081,410	40,101,040	2.74%	105.3	73.71%
2010	1,099,749	41,140,162	2.59%	105.9	74.00%
2011	1,118,203	42,191,215	2.55%	106.6	74.19%
2012	1,137,062	43,286,057	2.59%	107.3	74.38%
2013	1,156,462	44,425,001	2.63%	108.0	74.57%
2014	1,156,462	45,053,510	1.41%	109.0	74.88%
2015	1,156,462	45,690,118	1.41%	110.1	75.20%
2016	1,156,462	46,334,923	1.41%	111.2	75.51%
2017	1,156,462	46,988,025	1.41%	112.3	75.82%
2018	1,156,462	47,649,526	1.41%	113.4	76.13%
2019	1,156,462	48,319,528	1.41%	114.6	76.44%
2020	1,156,462	48,998,134	1.40%	115.7	76.76%
2021	1,156,462	49,685,450	1.40%	116.8	77.07%
2022	1,156,462	50,381,581	1.40%	118.0	77.38%
2023	1,156,462	51,086,634	1.40%	119.2	77.69%
2024	1,156,462	51,800,718	1.40%	120.3	78.00%
2025	1,156,462	52,523,943	1.40%	121.5	78.32%
2026	1,156,462	53,256,421	1.39%	122.7	78.63%
2027	1,156,462	53,998,262	1.39%	124.0	78.94%
2028	1,156,462	54,749,582	1.39%	125.2	79.25%

*Includes non-scheduled operations.

Notes: Fiscal year TAF projections for 2004-2013 converted to calendar year.

Avg annual % chg in seat size: 0.49% (2006-2013)
0.50% (Increase due to cap)
0.99% (2014-2028)

Assumed annual chg in load factor: 0.31 pct points (2015-2028)

An important change from the 2002 TAF is the increased prominence of current and projected RJ activity at O'Hare. This is reflected in the lower seat sizes as compared to Exhibit 1. Seats sizes are lower in absolute terms, and after an initial dip in 2004-05, average seat size is now projected to rise by only about 0.49% annually from 2006-2013. Nevertheless, it is still the case that the operational cap effective in 2013 would most likely lead to additional upgauging. A reasonable assumption is that the gain in average seat size after imposition of the cap would be comparable to what was seen in the baseline projection, i.e., about half a percentage point. Thus it was estimated that the growth in average seat size would go from 0.49% annually in the 2006-2013 period, to 0.99% annually in the 2013-2028 period. This leads to the seat sizes shown in Exhibit 2.

As noted above, load factors rose by about 0.31 points annually after imposition of the cap under the baseline. This same factor was applied to the 2004 TAF projections for the years 2014-2028.

Finally, it can be inferred from the 2013 data in Exhibit 2 (the last year before the cap) that scheduled operations make up about 95.4% of total operations (this is the number of operations at the indicated seat size and load factor that would yield the projected number of enplanements). Assuming this share would hold constant in the following years, enplanements for the 2014-2028 period can be computed as:

$$\begin{aligned} \text{Enplanements} = & 0.5 \times \text{Total operations} \\ & \times \text{Scheduled operation share} \\ & \times \text{Average Seat size} \\ & \times \text{Average Load factor} \end{aligned}$$

The estimates shown in Exhibit 2 show that after 2014 projected passenger enplanements would actually be somewhat lower using the 2004 TAF as compared to the 2002 TAF even though operations ramp up quicker. This is expected because of the increased use of RJs and their lower-than-average seat capacities.

Suggested Use of Forecast

The 2004 TAF provides up-to-date information that is useful for sensitivity studies in the context of the BCA. If the BCA remains strongly positive under the 2004 projection, then one can be confident that the underlying economics of the OMP-1 project are robust, even if there are secular changes in aircraft types flown. However, it may not be appropriate to apply a wide range of sensitivity studies to the 2004 forecast itself. The change in the composition of flights in the 2004 TAF may significantly affect the TAAM delay and travel time estimates and may also affect environmental results. Using the 2002 TAF forecast consistently across the entire set of studies that underlay the OMP-1 project and then subjecting it to a wide range of sensitivities provides a

consistent set of results for decision-making. The 2004 forecast reported here is one such sensitivity study.

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102.1733
103.6014
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