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08/15/2005 04:22 PM

To Richard Kula/AGL/FAA@FAA
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GRA Analysis - Phase I Master Plan.xls GRA Analysis Phase I Airfield.xls

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECTED AVIATION ACTIVITY

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
OMP-Phase 1 Project & Full Airfield																															
Total Aircraft Operations (thousands)	922.8	928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	892.5	900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Total Passengers (millions)	63.4	65.2	67.0	68.7	70.3	72.4	73.9	75.4	77.0	78.5	80.2	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
Full Build OMP																															
Total Aircraft Operations (thousands)	922.8	928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	892.5	900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Total Passengers (millions)	63.4	65.2	67.3	69.4	71.6	73.9	76.1	78.3	80.6	82.9	85.3	87.8	90.2	92.7	95.3	98.0	100.7	102.1	104.4	106.8	109.1	111.5	113.8	116.1	118.5	120.8	123.1	125.5	127.8	130.1	132.5

[1] Assumes "Constrained No Action Forecast" consistent with the ORD EIS, constrained at 974,000 operations after 2007.

Source: Leigh Fisher Associates, based on FAA 2002 Terminal Area Forecast, and U.S. DOT data, May 2004 as used for ORD EIS.
Prepared by: Ricondo & Associates, Inc.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

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INCREMENTAL OPERATING & MAINTENANCE EXPENSE IMPACTS (millions of 2001 dollars) [1]

		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case Phase I Scenario																																
Phase I OMP Airfield	[A]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$0.0	$0.0	$0.0	$0.0
Supplemental Scenarios																																
Master Plan Phase I	[B]	$0.0	$0.0	$0.0	$0.0	$0.0	$5.4	$5.4	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0
OMP Total Airfield	[C]	0.0	0.0	0.0	0.0	0.0	4.8	4.8	15.6	15.6	15.6	15.6	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
Total Master Plan	[D]	0.0	0.0	0.0	0.0	0.0	4.2	4.2	27.8	27.8	27.8	27.8	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Incremental O&M Impact by Proposed Runway																																
Runway 9L-27R	[A,B]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8
Runway 10L-28R Extension	[A,B]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Runway 10C-28C	[A,B]	0.0	0.0	0.0	0.0	0.0	0.8	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Runway 9C-27C		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Runway 9R-27L Extension		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Runway 10R-28L		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Total Phase I Airfield	[C]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$15.6	$15.6	$15.6	$15.6	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7
OMP-Phase I Terminal incremental O&M Impact																																
Satellite Concourse		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7
WGP-Phase I Projects Incremental O&M Impact																																
Concourse K		$0.0	$0.0	$0.0	$0.0	$0.0	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)
Terminal 2 FIS Facility [2]		0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Total OMP & WGP-Phase I DBO Projects	[E]	$0.0	$0.0	$0.0	$0.6	$0.6	$0.6	$0.6	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4
WGP Terminal Incremental O&M Impact																																
Core Terminal Area																																
Terminal 1		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Terminal 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terminal 3		0.0	0.0	0.0	0.0	0.0	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)
Terminal 4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
East Terminal Area																																
Terminal 5		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$8.0	$0.0	$0.0	$0.0	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.6	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8
Terminal 6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Satellite Concourse (T7)		$0.0	$0.0	$0.0	$0.8	$0.0	$0.0	$0.0	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1
West Terminal (T7)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Total WGP Terminal O&M Impact		$0.0	$0.0	$0.0	$0.0	$0.0	($1.2)	($1.2)	$6.8	$6.8	$6.8	$6.8	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4
Total Incremental O&M Expense Impact	[D]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.2	$4.2	$27.8	$27.8	$27.8	$27.8	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5

[1] Totals may not add due to rounding.
[2] Source: Table 2-2 Terminal Functional Area Summary published in the Final Environmental Assessment for the World Gateway Program dated February 8, 2001.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Rough-Cut Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2001 Dollars)

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					2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Project Analysis (millions of dollars)																		
OMP-Phase 1 Airfield					$0.0	$49.5	$197.0	$305.1	$604.6	$935.4	$329.2	$316.1	$20.0	$0.0	$0.0	$0.0	$0.0	$2,797.0
Supplemental Analysis (millions of dollars)																		
Master Plan Phase 1					$0.0	$49.5	$197.0	$316.0	$627.5	$911.8	$614.3	$397.2	$30.1	$25.8	$25.8	$25.8	$0.0	$3,026.2
OMP Total Airfield					0.0	49.5	197.0	305.1	604.6	423.0	425.3	404.3	189.0	308.9	363.8	343.7	20.0	4,126.2
Total Master Plan					0.0	49.5	197.0	354.0	672.9	1,197.0	1,026.3	1,326.6	900.4	1,504.4	1,113.3	811.1	20.0	9,268.4
OMP CASH FLOWS	OMP-Phase 1 Airfield	Master Plan Phase 1	OMP Total Airfield	Total Master Plan	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Program Wide Requirements																		
Program-wide Requirements	X	X	X	X	$0	$77,500,000	$22,607,000	$79,170,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$179,777,000
Preliminary Engineering	X	X	X	X	0	0	21,045,000	18,291,000	4,553,000	0	0	0	0	0	0	0	0	43,889,000
Wetlands mitigation	X	X	X	X	0	0	1,342,000	22,330,000	0	0	0	0	0	0	0	0	0	24,272,000
Noise Mitigation (OMP-Phase 1)	X	X	X	X	0	0	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	0	0	0	0	140,000,000
Noise Mitigation (OMP-Phase 2)			X	X	0	0	0	0	0	0	0	0	0	20,000,000	20,000,000	20,000,000	20,000,000	80,000,000
Land Acquisition	X	X	X	X	0	31,950,000	67,532,000	72,916,000	52,524,000	68,194,000	14,562,000	9,700,000	0	0	0	0	0	319,284,000
Land/Environmental Contingency			X	X	0	0	0	0	0	77,670,000	77,670,000	67,001,000	0	0	0	0	0	222,341,000
Subtotal - Program Wide Requirements					$0	$109,450,000	$132,526,000	$212,707,000	$199,077,000	$257,864,000	$212,232,000	$197,670,000	$220,000,000	$220,000,000	$220,000,000	$220,000,000	$220,000,000	$2,010,534,000
Airfield																		
Design of Runway 9L-27R	X	X	X	X	$0	$0	$23,364,000	$91,670,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$115,034,000
Construction of Runway 9L-27R	X	X	X	X	0	0	0	114,132,000	190,730,000	190,730,000	0	0	0	0	0	0	0	515,592,000
Demolition Runway 14-32			X	X	0	0	0	0	0	0	0	0	2,322,000	0	0	0	0	2,322,000
Design of Runway 9C-27C			X	X	0	0	0	0	0	6,930,000	11,997,000	5,953,000	2,977,000	0	0	0	0	28,857,000
Construction of Runway 9C-27C			X	X	0	0	0	0	0	0	0	0	122,877,000	243,754,000	194,346,000	48,075,000	0	609,052,000
Design of Runway 9R Extension			X	X	0	0	0	0	0	0	1,300,000	2,600,000	2,600,000	0	0	0	0	6,500,000
Construction of Runway 9R Extension			X	X	0	0	0	0	0	0	0	0	0	26,300,000	52,612,000	52,612,000	0	131,524,000
Design of Decommissioned Runway 14L-32R			X	X	0	0	0	0	0	0	0	0	0	0	32,000	0	0	32,000
Demolition Runway 14L-32R			X	X	0	0	0	0	0	0	0	0	0	0	0	1,364,000	0	1,364,000
Design of Runway 14L Extension	X	X	X	X	0	0	20,308,000	0	0	0	0	0	0	0	0	0	0	20,308,000
Construction of Runway 14L Extension	X	X	X	X	0	0	0	58,601,000	136,135,000	146,901,000	22,955,000	25,999,000	0	0	0	0	0	390,591,000
Design of Runway 10C-28C	X	X	X	X	0	0	20,303,000	20,303,000	0	0	0	0	0	0	0	0	0	40,777,000
Construction of Runway 10C-28C	X	X	X	X	0	0	0	121,251,000	165,440,000	169,654,000	211,302,000	240,445,000	0	0	0	0	0	907,092,000
Design of Runway 10R-28L			X	X	0	0	0	0	0	0	5,160,000	6,613,000	3,443,000	0	0	0	0	17,216,000
Construction of Runway 10R-28L			X	X	0	0	0	0	0	0	0	0	34,794,000	104,382,000	104,382,000	104,382,000	0	347,940,000
Design for Runway 14R/32L Decommissioning/Taxiway Conversion			X	X	0	0	0	0	0	0	0	0	0	2,421,000	2,421,000	0	0	4,842,000
Construction of Runway 14R/32L Decommissioning/Taxiway Conversion			X	X	0	0	0	0	0	0	0	0	0	0	0	105,313,000	0	105,313,000
Subtotal - Airfield					$0	$0	$64,975,000	$505,002,000	$492,032,000	$464,195,000	$243,634,000	$280,630,000	$160,916,000	$270,003,000	$243,799,000	$323,748,000	$0	$3,311,340,000
Western Terminal Complex																		
Design of Western Airside Concourse		X		X	$0	$0	$0	$9,722,000	$12,964,000	$9,722,000	$0	$0	$0	$0	$0	$0	$0	$32,408,000
Construction of Western Airside Concourse		X		X	0	0	0	0	0	167,695,000	217,017,000	142,762,000	0	0	0	0	0	527,473,000
Design of Energy Plant		X		X	0	0	0	1,159,000	3,704,000	0	0	0	0	0	0	0	0	4,863,000
Construction of Energy Plant		X		X	0	0	0	0	0	16,433,000	33,266,000	5,545,000	0	0	0	0	0	55,244,000
Design of Fuel Storage and Distribution Improvements		X		X	0	0	0	0	3,072,000	0	0	0	0	0	0	0	0	3,072,000
Construction of Fuel Storage and Distribution Improvements		X		X	0	0	0	0	0	17,249,000	22,998,000	17,249,000	0	0	0	0	0	57,496,000
Design of Western Terminal				X	0	0	0	0	0	0	14,283,000	21,711,000	21,711,000	0	0	0	0	58,705,000
Construction of Western Terminal				X	0	0	0	0	0	0	0	0	197,778,000	243,437,000	171,718,000	85,859,000	0	698,792,000
Design of Western Parking Facilities				X	0	0	0	0	0	0	0	0	3,028,000	3,028,000	0	0	0	6,056,000
Construction of Western Parking Facilities				X	0	0	0	0	0	0	0	0	0	0	48,109,000	48,779,000	0	96,888,000
Subtotal - Western Terminal Complex					$0	$0	$0	$10,881,000	$19,340,000	$211,349,000	$289,564,000	$187,267,000	$222,717,000	$246,465,000	$219,827,000	$134,638,000	$0	$1,734,709,000
On-Airport Circulation																		
Design of Programmer				X	$0	$0	$0	$8,416,000	$8,416,000	$0	$0	$0	$0	$0	$0	$0	$0	$16,832,000
Construction of Programmer				X	0	0	0	0	0	168,325,000	168,325,000	88,417,000	0	0	0	0	0	425,067,000
Design of Maintenance Facility				X	0	0	0	336,000	336,000	0	0	0	0	0	0	0	0	672,000
Construction of Maintenance Facility				X	0	0	0	0	0	9,023,000	2,471,000	0	0	0	0	0	0	11,494,000
Subtotal - On-Airport Circulation					$0	$0	$0	$8,752,000	$8,752,000	$177,348,000	$170,796,000	$88,417,000	$0	$0	$0	$0	$0	$452,065,000
Other Program Costs																		
Misc Operations Budget				X	$0	$0	$0	$0	$0	$0	$0,700,000	$0	$0	$0	$0	$0,700,000	$0	$20,410,000
Program Contingency				X	0	0	0	0	0	31,470,000	51,420,000	30,014,000	20,592,000	50,027,000	50,104,000	30,230,000	0	264,859,000
Subtotal - Other Program Costs [1]					$0	$0	$0	$0	$0	$31,470,000	$61,307,000	$30,014,000	$20,592,000	$50,027,000	$50,104,000	$31,307,000	$0	$285,677,000
OMP Totals					$0	$109,450,000	$197,501,000	$534,434,000	$521,096,000	$1,042,472,000	$1,025,499,000	$1,127,979,000	$1,204,000,000	$1,786,000,000	$1,645,135,000	$1,521,200,000	$220,000,000	$8,000,000,000

[1] Subtotal includes approximately $2,000 adjustment for rounding and other purposes.
Source: O'Hare Partners, based on cost estimate analyses by TOR, LLC, and AOR.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2001 Dollars)

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WGP CASH FLOWS	OMP Phase 1 Airfield	Master Plan Phase 1	OMP Total Airfield	Total Master Plan	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
WGP Phase 1																		
Taxiway A/B Relocation		X			$0	$0	$0	$0	$0	$0	$3,127,470	$14,790,140	$0	$0	$0	$0	$0	$17,917,626
T1/T2 Expansion		X			0	0	0	0	690,346	6,505,992	0	0	0	0	0	0	0	7,196,338
Concourse X - Allowance		X			0	0	0	0	0	7,020,901	7,020,901	56,321,391	0	0	0	0	0	70,370,193
Terminal 2 - Interior Upgrade		X			0	0	0	0	12,896,926	51,598,162	0	0	0	0	0	0	0	64,495,087
Taxiway November - Facility Relocation		X			0	0	0	0	0	0	1,600,340	22,499,006	0	0	0	0	0	24,099,344
Taxiway Rd		X			0	0	0	0	0	0	0	0	0	25,001,173	25,001,173	25,001,173	0	75,003,519
Taxiway November - New		X			0	0	0	0	0	0	0	2,008,200	10,146,000	0	0	0	0	12,154,200
Subtotal - WGP Phase 1					$0	$0	$0	$0	$13,587,272	$65,125,055	$11,736,000	$95,618,826	$10,146,000	$25,001,173	$25,001,173	$25,001,173	$0	$273,648,068
WGP																		
Terminal 4 Apron - Support Facility Relocation				X	$0	$0	$0	$0	$0	$0	$6,411,073	$117,401,097	$0	$0	$0	$0	$0	$123,816,990
Terminal 4 Apron - Utility Relocation				X	0	0	0	0	0	0	828,324	6,192,198	0	0	0	0	0	7,016,122
Terminal 6 - Utility Relocations				X	0	0	0	0	0	0	12,164,740	98,382,197	0	0	0	0	0	142,526,097
Terminal 2 - New Concourse - FIS Facilities				X	0	0	0	27,432,904	27,432,904	27,432,904	0	0	0	0	0	0	0	82,298,702
Terminal 4 Apron - Support Facility Relocation				X	0	0	0	0	0	0	5,640,288	30,678,573	0	0	0	0	0	36,347,703
Terminal 4 - Facility Relocations				X	0	0	0	0	0	0	16,138,462	87,540,472	0	0	0	0	0	188,627,594
Terminal 4 - Drainage Control				X	0	0	0	0	0	0	0	10,460	0	0	0	0	0	10,460
WGP - Airport Wide Off-Site spoil				X	0	0	0	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	0	17,754,454
Terminal 4 Apron - New (beyond 40 feet)				X	0	0	0	0	0	0	0	1,746,706	15,881,442	15,881,443	0	0	0	31,898,072
Terminal 4 Apron - Grading				X	0	0	0	0	0	0	721,736	1,833,920	983,221	334,234	336,234	0	0	3,988,973
Terminal 6 Apron - Additional Relocation/Demolition				X	0	0	0	0	0	0	2,886,905	4,142,078	3,953,880	1,643,472	1,317,994	0	0	13,744,149
Terminal 4 Northern Extension - New Apron/Grading				X	0	0	0	0	0	0	0	0	0	627,500	10,081,763	10,100,209	0	28,837,651
Terminal 6 - New Apron (within 40 feet)				X	0	0	0	0	0	0	0	125,508	449,771	1,694,057	0	0	0	2,288,775
Terminal 6 - At-Grade Roadway				X	0	0	0	0	0	0	650,967	491,620	5,942,082	5,962,082	3,135,789	0	0	16,210,901
Terminal 6 - ATS Facilities				X	0	0	0	0	0	0	3,208,097	3,200,097	34,831,990	63,426,080	23,164,383	0	0	198,223,259
Terminal 6 - Elevated Roadway				X	0	0	0	0	0	0	4,297,136	3,190,237	30,459,397	34,659,397	33,383,063	0	0	118,849,231
Terminal 6 - Parking Structure				X	0	0	0	0	0	0	2,499,091	3,336,674	37,017,210	34,985,457	0	0	0	97,797,231
Terminal 6 - Pedestrian Bridge to Parking (2)				X	0	0	0	0	0	0	150,736	361,099	5,826,985	8,294,616	62,799	0	0	14,643,711
Terminal 6 - T5 Surface Lot Reconfiguration				X	0	0	0	0	0	0	177,916	260,575	2,477,307	3,974,722	0	0	0	7,070,920
Terminal 6 - Temporary Roadway				X	0	0	0	0	0	0	26,920	20,930	190,736	190,736	187,357	0	0	606,400
Terminal 6 - Utilities				X	0	0	0	0	0	0	430,311	3,309,433	4,454,600	4,308,171	3,033,340	0	0	16,034,866
Terminal 6 - Terminal 5 Concourse Reconfiguration				X	0	0	0	0	0	0	0	3,763,346	8,630,240	11,526,491	3,763,346	0	0	31,705,634
Terminal 6 - Special Systems				X	0	0	0	0	0	0	1,398,153	10,489,900	14,643,711	11,183,460	9,528,072	0	0	58,437,129
Terminal 6 - SFRB Deficiencies - Northwest				X	0	0	0	0	0	0	0	0	0	7,990,903	0	0	0	7,990,903
Terminal 6 - SFRB Deficiencies - Delta				X	0	0	0	0	0	0	0	0	0	29,182,024	0	0	0	38,182,624
Terminal 6 - New Terminal and Concourse Building				X	0	0	0	0	0	0	12,122,901	93,369,900	127,776,099	123,730,398	82,141,019	0	0	448,074,296
Terminal 6 - Loading Bridges and Equipment				X	0	0	0	0	0	0	334,713	2,541,730	3,483,111	3,371,513	2,209,779	0	0	12,087,943
Terminal 6 - Landscaping				X	0	0	0	0	0	0	0	0	312,794	809,748	994,349	0	0	1,433,911
Terminal 6 - Baggage Systems				X	0	0	0	0	0	0	993,400	7,635,449	30,440,134	10,123,000	4,798,066	0	0	36,082,610
Terminal 6 - Apron Demolition				X	0	0	0	0	0	0	0	420,072	2,198,177	0	0	0	0	2,904,029
Terminal 4 Northern Extension - Baggage Systems				X	0	0	0	0	0	0	0	0	0	167,397	2,248,096	7,217,258	0	9,633,470
Terminal 6 Northern Extension - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	0	0	52,299	772,400	2,003,753	0	9,211,197
Terminal 4 Northern Extension - New Concourse				X	0	0	0	0	0	0	0	0	0	1,007,015	13,041,183	46,196,080	0	64,283,094
Terminal 6 Northern Extension - Special Systems				X	0	0	0	0	0	0	0	0	0	135,977	1,872,303	4,003,922	0	8,012,202
Terminal 6 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	355,635	3,083,340	3,053,340	0	0	0	6,422,313
Terminal 6 - Thermal System Tunnel				X	0	0	0	0	0	0	1,831,303	14,238,779	19,987,315	10,880,307	12,604,100	0	0	67,183,254
Terminal 6 - Realign. Hydrant Fueling gates M20A M21				X	0	0	0	0	0	0	0	115,000	313,794	1,548,136	0	0	0	1,948,949
Terminal 6 Northern Extension- Hydrant Fueling/Fuel Pipeline Extension				X	0	0	0	0	0	0	0	125,510	0	44,839	41,839	2,349,773	0	3,478,971
Terminal 2 Apron - New				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Utilities and FAA Tower Controls				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Special Systems				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Rebuild Terminal 2 Airside				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - New Concourse (Domestic)				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Baggage Systems				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Building Demolition				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 4 Apron - New				X	0	0	0	0	0	0	0	0	0	0	30,807,726	27,603,391	0	38,471,731
Terminal 4 Apron - Grading				X	0	0	0	0	0	0	0	361,499	3,229,897	4,881,045	0	0	0	10,292,437
Terminal 4 - At-Grade Roadway				X	0	0	0	0	0	0	0	0	62,799	753,565	1,171,497	481,151	0	2,468,511
Terminal 4 - ATS Facilities				X	0	0	0	0	0	0	0	10,400	1,598,989	7,049,901	31,797,773	15,898,886	0	56,315,520
Terminal 4 - Elevated Roadway				X	0	0	0	0	0	0	0	10,400	554,349	3,198,517	8,186,340	3,347,134	0	17,716,820
Terminal 4 - Elevated Walkway				X	0	0	0	0	0	0	0	0	0	1,088,270	4,403,573	0	0	5,901,851
Terminal 4 - Utilities				X	0	0	0	0	0	0	0	3,838,664	12,980,466	5,978,643	0	0	0	26,724,773
Terminal 4 - Underground Utility Relocation				X	0	0	0	0	0	0	0	5,522,771	18,489,237	14,246,239	0	0	0	38,178,247
Terminal 4 - Underground Baggage Room Expansion				X	0	0	0	0	0	0	0	1,056,439	7,673,640	22,986,940	17,304,177	11,980,431	0	68,372,465
Terminal 4 - Temporary Roadway				X	0	0	0	0	0	0	0	0	34,379	349,173	943,580	230,119	0	1,158,977
Terminal 4 - Special Systems				X	0	0	0	0	0	0	0	1,023,000	7,400,672	22,182,404	17,133,142	11,022,009	0	59,662,463
Terminal 4 - New Terminal FIS Facilities				X	0	0	0	0	0	0	0	1,380,403	98,135,548	30,988,736	23,137,063	14,438,196	0	58,982,250
Terminal 4 - New Terminal (Domestic)				X	0	0	0	0	0	0	0	6,800,326	40,672,296	150,160,797	113,886,409	75,927,642	0	396,066,793
Terminal 4 - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	207,495	1,931,062	5,826,105	4,434,405	3,988,042	0	15,884,016
Terminal 4 - Landscaping				X	0	0	0	0	0	0	0	0	0	0	0	31,379	0	32,379
Terminal 4 - Demolition and Site Preparation				X	0	0	0	0	0	0	94,138	1,363,439	4,866,620	0	0	0	0	7,420,453
Terminal 4 - Concourse L Demolition				X	0	0	0	0	0	0	0	125,510	2,227,906	0	0	0	0	2,353,454
Terminal 4 - Baggage Systems				X	0	0	0	0	0	0	0	794,044	3,885,195	17,403,775	11,382,018	8,038,538	0	46,110,440
Terminal 4 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	200,196	6,483,988	763,365	0	0	0	7,676,589
Subtotal - Other WGP					$0	$0	$0	$29,405,640	$29,405,640	$29,405,640	$78,804,975	$405,118,034	$469,160,800	$731,972,640	$473,220,176	$251,972,344	$0	$2,491,830,941
WGP Total					$0	$0	$0	$29,405,635	$42,992,890	$94,530,762	$84,721,385	$868,424,489	$479,310,880	$747,772,783	$498,148,349	$277,773,417	$0	$2,765,365,889

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City of Chicago
Orlando International Airport
Orlando Modernization Program (OMP)
Strength Cost Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2001 Dollars)

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WGP Cash Flow Source: Landrum & Brown; Project components included in OMP Master Plan selected by Hazardo & Associates, Inc.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
Master Plan Phase I

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AIRCRAFT DELAY PER OPERATION FOR PHASE I		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case Constrained No Action																															
Total Aircraft Operations (thousands)		928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)		908.4	919.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[A]	0.0	0.0	0.0	0.0	146.1	148.4	150.7	152.8	154.8	156.9	158.9	159.5	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	0.0	0.0	0.0	0.0
OMP-Phase I																															
Total Aircraft Operations (thousands)		928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	[B]	908.4	919.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]	0.0	0.0	0.0	0.0	145.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
Difference in Delay per Operation between scenarios (minutes)	[D]	[A-C] 0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	0.0	0.0	0.0	0.0
AIRCRAFT DELAY BENEFITS																															
Total Incremental Aircraft Travel Time Minutes (million)	[E]	[D*B] 0.00	0.00	0.00	0.00	2.27	2.27	4.15	4.34	4.52	4.70	4.88	4.89	4.91	4.92	4.94	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	0.00	0.00	0.00	0.00
Average Aircraft Operating Savings per Minute	[F]	$0.00	$0.00	$0.00	$0.00	$29.98	$29.98	$30.09	$29.76	$29.63	$29.49	$29.36	$29.07	$29.97	$30.28	$30.58	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88
Total Aircraft Savings (million)	[E*F]	$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.3	$129.1	$133.9	$138.6	$143.2	$145.1	$147.1	$149.1	$151.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$0.0	$0.0	$0.0	$0.0
PASSENGER DELAY BENEFITS																															
Total Passengers (million)	[G]	0.0	0.0	0.0	0.0	72.4	73.9	75.4	77.0	78.5	80.2	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	0.0	0.0	0.0	0.0
Total Incremental Passenger Travel Time Minutes (million)	[H]	[G*D] 0.0	0.0	0.0	0.0	177.7	181.2	330.6	362.3	386.9	413.4	438.0	447.1	455.6	464.3	473.3	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	0.0	0.0	0.0	0.0
Passenger Delay Savings per Minute [1]	[I]	$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Total Passenger Delay Savings (million)	[J]	[H*I] $0.0	$0.0	$0.0	$0.0	$95.1	$97.0	$181.2	$193.8	$207.0	$220.6	$234.8	$239.2	$243.7	$248.4	$253.3	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Downstream Savings (million) [1]		[J*0.5%] $0.0	$0.0	$0.0	$0.0	$76.1	$77.6	$144.9	$155.1	$165.6	$176.5	$187.8	$191.4	$195.0	$198.7	$202.6	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$0.0	$0.0	$0.0	$0.0
PROJECT BENEFITS																															
Total Incremental Aircraft Delay Savings (million)		$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.3	$129.1	$133.9	$138.6	$143.2	$145.1	$147.1	$149.1	$151.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Savings (million)		0.0	0.0	0.0	0.0	95.1	97.0	181.2	193.8	207.0	220.6	234.8	239.2	243.7	248.4	253.2	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	0.0	0.0	0.0	0.0
Total Passenger Delay Downstream Savings (million)		0.0	0.0	0.0	0.0	76.1	77.6	144.9	155.1	165.6	176.5	187.8	191.4	195.0	198.7	202.6	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	0.0	0.0	0.0	0.0
Total Savings (million)		$0.0	$0.0	$0.0	$0.0	$239.1	$242.5	$450.3	$478.0	$506.5	$535.7	$565.8	$575.7	$585.8	$596.2	$606.8	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$0.0	$0.0	$0.0	$0.0

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
Master Plan Phase I

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AIRCRAFT DELAY PER OPERATION FOR FULL AIRFIELD			2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case Constrained No Action:																																
Total Aircraft Operations (thousands)			928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)			892.5	900.4	907.8	915.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[A]		137.7	139.8	141.9	144.0	146.1	148.4	150.7	152.8	154.8	156.9	158.9	159.3	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
Off-Plan 1																																
Total Aircraft Operations (thousands)			928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	[B]		892.5	900.4	907.8	915.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]		137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Difference in Delay per Operation between scenarios (minutes)	[D]	[A-C]	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
AIRCRAFT DELAY BENEFITS																																
Total Incremental Aircraft Travel Time Minutes (millions)	[E]	[D*B]	0.00	0.00	0.00	0.00	2.24	2.27	4.16	4.34	4.54	4.72	7.01	6.97	6.99	7.00	7.02	7.03	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	6.00	6.00	6.00	6.00
Average Aircraft Operating Savings per Minute	[F]		$0.00	$0.00	$0.00	$0.00	$29.50	$29.90	$29.09	$29.38	$29.63	$29.49	$29.36	$29.67	$29.97	$30.28	$30.58	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88
Total Aircraft Savings (millions)		[E*F]	$0.0	$0.0	$0.0	$0.0	$67.3	$68.0	$124.3	$129.6	$134.5	$139.2	$205.9	$206.9	$208.4	$212.0	$214.3	$217.1	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$0.0	$0.0	$0.0	$0.0
PASSENGER DELAY BENEFITS																																
Total Passengers (millions)	[G]		0.0	0.0	0.0	0.0	73.4	73.9	73.4	77.0	78.5	80.2	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
Total Incremental Passenger Travel Time Minutes (millions)	[H]	[C*D]	0.0	0.0	0.0	0.0	177.7	181.3	338.6	362.3	386.9	412.4	628.3	636.4	650.9	663.4	674.3	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6
Passenger Delay Savings per Minute [1]	[I]		$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Total Passenger Delay Savings (millions)	[J]	[H*I]	$0.0	$0.0	$0.0	$0.0	$95.1	$97.0	$181.2	$193.8	$207.0	$220.6	$336.2	$343.1	$348.2	$354.4	$360.8	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3
Total Passenger Delay Downstream Savings (millions) [2]		[J*85%]	$0.0	$0.0	$0.0	$0.0	$76.1	$77.6	$144.9	$155.1	$165.6	$176.5	$268.9	$275.7	$278.5	$283.5	$288.6	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9
PROJECT BENEFITS																																
Total Incremental Aircraft Delay Savings (millions)			$0.0	$0.0	$0.0	$0.0	$67.5	$68.0	$124.3	$129.6	$134.5	$139.2	$205.9	$206.9	$209.4	$212.0	$214.3	$217.1	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Savings (millions)			0.0	0.0	0.0	0.0	95.1	97.0	181.2	193.8	207.0	220.6	336.2	343.1	348.2	354.4	360.8	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3
Total Passenger Delay Downstream Savings (millions)			0.0	0.0	0.0	0.0	76.1	77.6	144.9	155.1	165.6	176.5	268.9	275.7	278.5	283.5	288.6	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9
Total Savings (millions)			$0.0	$0.0	$0.0	$0.0	$238.6	$242.6	$450.4	$478.6	$507.0	$534.3	$811.0	$825.7	$834.1	$849.9	$863.9	$878.2	$878.9	$878.9	$878.9	$878.9	$878.9	$878.9	$878.9	$878.9	$878.9	$878.9	$661.2	$661.2	$661.2	$661.2

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O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
Master Plan Phase 1

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AIRCRAFT DELAY PER OPERATION FOR FULL BUILD OMP																																	
Base Case: Constrained No Action:																																	
Total Aircraft Operations (thousands)			928.7	940.8	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)			909.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[A]		137.7	139.0	141.9	144.0	146.1	148.4	150.7	157.0	154.8	156.9	158.9	159.5	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
OMP																																	
Total Aircraft Operations (thousands)			928.7	940.8	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	[B]		909.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]		137.7	139.0	141.9	144.0	143.6	145.0	146.3	148.1	149.0	151.7	151.2	151.9	152.3	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Difference in Delay per Operation between scenarios (minutes)	[D]	[A-C]	0.0	0.0	0.0	0.0	2.5	2.5	4.3	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
AIRCRAFT DELAY BENEFITS																																	
Total Incremental Aircraft Travel Time Minutes (million)	[E]	[D*B]	6.90	6.80	6.80	6.80	2.27	2.27	4.15	4.34	4.53	4.70	6.90	7.00	7.04	7.02	7.04	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05
Average Aircraft Operating Savings per Minute	[F]		$0.00	$0.00	$0.00	$0.00	$29.90	$29.90	$29.89	$29.76	$29.63	$29.49	$29.36	$29.47	$29.57	$30.39	$30.30	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00	$30.00
Total Aircraft Savings (million)		[E*F]	$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.3	$129.1	$133.9	$138.6	$205.0	$207.6	$210.1	$212.6	$213.2	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0
PASSENGER DELAY BENEFITS																																	
Total Passengers (million)	[G]		0.0	0.0	0.0	0.0	73.0	76.1	78.3	90.0	92.9	95.3	97.0	98.2	93.7	95.2	96.0	100.7	102.1	104.4	106.0	109.1	111.5	113.0	116.1	118.5	120.0	123.1	125.5	127.0	130.1	132.5	
Total Incremental Passenger Travel Time Minutes (million)	[H]	[G*D]	0.0	0.0	0.0	0.0	181.2	186.6	351.3	379.3	408.4	430.0	674.5	692.3	716.5	728.3	748.9	760.0	779.5	797.3	815.1	832.9	850.7	868.6	886.4	904.2	922.0	939.8	957.7	975.5	993.3	1,011.1	
Passenger Delay Savings per Minute [1]	[I]		$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	
Total Passenger Delay Savings (million)	[J]	[H*I]	$0.0	$0.0	$0.0	$0.0	$97.0	$99.0	$188.0	$202.9	$216.5	$234.0	$360.8	$370.3	$380.1	$390.2	$400.6	$411.4	$417.0	$426.5	$436.1	$445.6	$455.1	$464.7	$474.2	$483.7	$493.3	$502.8	$512.3	$521.9	$531.4	$540.9	
Total Passenger Delay Downtrend Savings (million) [2]		[J*80%]	$0.0	$0.0	$0.0	$0.0	$77.6	$79.9	$150.4	$162.3	$174.8	$187.9	$288.7	$296.3	$304.1	$312.3	$320.5	$329.1	$333.6	$341.2	$348.9	$356.5	$364.1	$371.7	$379.4	$387.0	$394.6	$402.2	$409.9	$417.5	$425.1	$432.8	
PROJECT BENEFITS																																	
Total Incremental Aircraft Delay Savings (million)			$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.3	$129.1	$133.9	$138.6	$205.0	$207.6	$210.1	$212.6	$213.2	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	
Total Passenger Delay Savings (million)			0.0	0.0	0.0	0.0	97.0	99.0	188.0	202.9	216.5	234.0	360.8	370.3	380.1	390.2	400.6	411.4	417.0	426.5	436.1	445.6	455.1	464.7	474.2	483.7	493.3	502.8	512.3	521.9	531.4	540.9	
Total Passenger Delay Downtrend Savings (million)			0.0	0.0	0.0	0.0	77.6	79.9	150.4	162.3	174.8	187.9	288.7	296.3	304.1	312.3	320.5	329.1	333.6	341.2	348.9	356.5	364.1	371.7	379.4	387.0	394.6	402.2	409.9	417.5	425.1	432.8	
Total Savings (million)			$0.0	$0.0	$0.0	$0.0	$242.5	$247.6	$462.7	$494.3	$527.2	$561.3	$854.5	$874.1	$894.3	$915.0	$936.3	$958.3	$968.4	$985.5	$1,002.7	$1,019.8	$1,037.0	$1,054.2	$1,071.3	$1,088.5	$1,105.7	$1,122.8	$1,140.0	$1,157.1	$1,174.3	$1,191.5	

[1] Source: Derived from Economic Values for FAA Investment and Regulatory Decisions, A Guide, GRA, Inc. (as shown on page 1-3 of treatment of values of passenger time). Based on DOT policy.
[2] Passenger Delay Downtrend Savings represents 80% of total Passenger delay savings as recommended in the report by the MIT Lincoln Laboratory, Analysis of Downtrend Impacts of Air Traffic Delay, 1997.

Source: Activity- Leigh Fisher Associates, FAA 2002 Terminal Area Forecast, and U.S. DOT data, May 2004. Travel & Delay Time- Rinaudo & Associates, Inc.
Prepared by: Rinaudo & Associates, Inc.

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)

TITLE:	Benefit-Cost Analysis
FILE NAME:	Z:\CHICAGO\ORD Financial\BCA Model Phase 1 v2 (12-22-04)
LAST USER OF FILE:	ADF
LAST UPDATE:	January 12, 2005
FILES LINKED TO:	Linked Sheets - Budget 2004 2-3-04 Full Program Operating Cost per Block Hour Results Operating Cost per Block Hour Results (constrained) Summary of Annual Enplaned Passengers May211

SWITCHES - Place '1' in cell in which to activate

		Comments
Base Case		
OMP-Phase 1 Airfield	[redacted]	Uses Phase 1 Simulation Results
Sensitivities		
Master Plan Phase 1	[redacted]	Uses Phase 1 Simulation Results
OMP Total Airfield		Uses Full Build Simulation Results
Total Master Plan		Uses Full Build Simulation Results

Assumptions:		Comments
Discount Rate	7.0%	Source: BCA Guidance, December 1999.
Base Year for Analysis	2001	Basis: All OMP costs are stated in 200X dollars in EIS, Master Plan, and LOI.
First Full Year of Operation for OMP-Phase 1 Airfield	2009	
First Full Year of Operation for Total OMP Airfield	2013	
Last Full Year for Benefits and Costs for Analysis	2028	Basis: Per BCA Guidance, December 1999, use 20 years past construction completion.
Estimated Percent of Total Aircraft Operations that are Passenger Airline or All-Cargo	97.0%	Source: 2003 Aviation Activity Reports, City of Chicago Department of Aviation
1999 Consumer Price Index	166.60	
2000 Consumer Price Index	172.20	
2001 Consumer Price Index	177.10	
2002 Consumer Price Index	179.88	
2003 Consumer Price Index	183.96	
2004 Consumer Price Index	191.00	
1999 GDP Deflator	97.9	Used to inflate aircraft operating costs
2000 GDP Deflator	100.0	Source: Bureau of Economic Analysis, http://www.bea.doc.gov/bea/dn1.htm
2001 GDP Deflator	102.4	Basis for GDP use: Per BCA Guidance, December 1999, and confirmed with Kathy Lizotte, FAA APO-200.
2002 GDP Deflator	104.1	Note: 2004 Dollars through third quarter of 2004
2003 GDP Deflator	106.0	
2004 GDP Deflator	107.9	
OMP Cash Flow Rate using GDP Deflator	1.000	
WGP Cash Flow Rate using GDP Deflator	1.046	
O&M Escalation Rate	5.4%	Source: 10 year CAGR for O&M projections in Rates & Charges model
O&M Deflation from 2004 dollars to base year	94.8%	

ORD Aircraft Block Cost per Min. - Unconstrained Schedules	2004 dollars	2001 dollars
2002 Fleet Mix	$31.76	$30.12
2007 Fleet Mix	$31.12	$29.51
2009 Fleet Mix	$30.62	$29.04
2013 Fleet Mix	$29.56	$28.04
2018 Fleet Mix	$30.12	$28.56

	2001
Aircraft Operating Cost Dollars	
Increase (Reduction) in Aircraft Operating Costs	0.0%

Source: USDOT, Form 41, Schedule P-5.2, for the calendar year 2003 including line items 5123, 5124, 5145.1, 5145.2, 5157, 5168, and 5299.
Note: Interim years between fleet mix schedule are interpolated.

ORD Aircraft Block Cost per Min. - Constrained Schedules	2004 dollars	Alt dollars
2002 Fleet Mix	$31.76	$30.12
2007 Fleet Mix	$31.53	$29.90
2009 Fleet Mix	$31.52	$29.89
2013 Fleet Mix	$30.96	$29.36
2018 Fleet Mix	$32.57	$30.88

Source: USDOT, Form 41, Schedule P-5.2, for the calendar year 2003 including line items 5123, 5124, 5145.1, 5145.2, 5157, 5168, and 5299.
Note: Interim years between fleet mix schedule are interpolated.

Value of Passenger Time (2000 Dollars)	$32.10	Source: Treatment of Passenger Time in Economic Analysis, FAA-APO-03-1, dated March 2003. Note: Per FAA-APO-03-1 dated March 2003, number should not be escalated.
Downstream Passenger Delay Cost Multiplier	80%	MIT Lincoln Labratory, Analysis of Downstream Impacts of Air Traffic Delay, 1997.
Assume arrivals equal departures in projected years.		Source: Ricondo & Associates.

Prepared by: Ricondo & Associates, Inc.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

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UNIMPEDED & AVERAGE TRAVEL TIMES

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Phase 1 Scenario																														
Phase 1 OMP Airfield	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
New Phase 1 Scenario																														
Master Plan Phase 1	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
OMP Total Airfield	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Total Master Plan	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
BASE CASE:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Incremental Aircraft Travel Time Cost																														
Estimated Passenger Airline and All-Cargo Operations (thousands)	980.4	907.8	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Average Travel Time per Operation (with delay)																														
Arrivals					154.3		160.4				169.1					172.4														
Departures					135.8		141.0				148.7					151.5														
Average per Operation	137.7	139.8	141.9	144.0	146.1	148.4	150.7	152.8	154.8	156.9	158.9	159.5	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
OMP-PHASE 1 TRAVEL TIMES:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Average Travel Time per Operation (with delay)																														
Arrivals					150.8		151.9				159.5																			
Departures					136.5		140.5				147.7																			
Average Travel Time In Operational Phase	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6				
Travel Time Savings	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4				
FULL BUILD TRAVEL TIMES:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Average Travel Time per Operation (with delay)																														
Average Arrivals					150.8		151.9				156.4					159.5														
Average Departures					136.5		140.5				146.1					149.2														
Average Travel Time In Operational Phase	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Travel Time Savings	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6

SUMMARY OF ANNUAL ENPLANED PASSENGERS
Chicago O'Hare International Airport

	Domestic Originating	Domestic Connecting	Domestic Total	International Originating	International Connecting	International Total	Total Enplaned Passengers		
Unconstrained									
2002	13,146,000	14,241,078	27,387,078	2,810,000	1,513,434	4,323,434	31,710,512	63.42	-
2003	13,174,000	14,855,000	28,029,000	3,023,000	1,557,000	4,580,000	32,609,000	65.22	-
2004	13,512,944	15,246,037	28,758,981	3,211,708	1,663,042	4,874,750	33,633,730	67.27	-
2005	13,860,808	15,647,368	29,507,975	3,412,196	1,776,305	5,188,502	34,696,477	69.39	-
2006	14,217,216	16,059,262	30,276,479	3,625,200	1,897,283	5,522,483	35,798,962	71.60	-
2007	14,583,000	16,482,000	31,065,000	3,851,500	2,026,500	5,878,000	36,943,000	73.89	-
2008	15,008,541	16,815,378	31,823,920	4,043,704	2,159,627	6,203,331	38,027,251	76.05	-
2009	15,446,500	17,155,500	32,602,000	4,245,500	2,301,500	6,547,000	39,149,000	78.30	-
2010	15,901,957	17,491,971	33,393,928	4,498,582	2,388,112	6,886,894	40,280,622	80.56	-
2011	16,370,843	17,835,041	34,205,884	4,766,751	2,477,983	7,244,735	41,450,619	82.90	-
2012	16,853,555	18,184,840	35,038,395	5,050,906	2,571,237	7,622,143	42,660,538	85.32	-
2013	17,350,500	18,541,500	35,892,000	5,352,000	2,668,000	8,020,000	43,912,000	87.82	-
2014	17,897,418	18,814,834	36,712,050	5,645,334	2,782,034	8,407,368	45,119,418	90.24	-
2015	18,461,573	19,091,791	37,553,363	5,954,746	2,859,382	8,814,128	46,367,491	92.73	-
2016	19,043,512	19,373,031	38,416,543	6,281,116	2,960,161	9,241,277	47,657,820	95.32	-
2017	19,643,795	19,658,413	39,302,208	6,625,374	3,064,492	9,689,866	48,992,074	97.98	-
2018	20,263,000	19,948,000	40,211,000	6,988,500	3,172,500	10,161,000	50,372,000	100.74	-
Constrained--No Project									
2007	14,536,500	15,842,500	30,379,000	3,868,000	1,972,500	5,840,500	36,219,500	72.44	-
2008	14,816,307	15,986,595	30,803,287	4,060,700	2,093,065	6,153,844	36,957,132	73.91	-
2009	15,101,500	16,132,000	31,233,500	4,263,000	2,221,000	6,484,000	37,717,500	75.44	-
2010	15,381,255	16,314,988	31,696,243	4,491,255	2,294,065	6,785,319	38,481,562	76.96	-
2011	15,666,192	16,500,051	32,166,244	4,731,731	2,369,533	7,101,264	39,267,508	78.54	-
2012	15,956,408	16,887,214	32,843,822	4,985,083	2,447,484	7,432,567	40,076,189	80.15	-
2013	16,252,000	16,876,500	33,128,500	5,252,000	2,528,000	7,780,000	40,908,500	81.82	-
2014	16,687,254	16,976,996	33,664,250	5,434,036	2,582,407	8,016,443	41,680,693	83.36	-
2015	17,134,164	17,078,090	34,212,255	5,622,382	2,637,985	8,260,367	42,472,622	84.95	-
2016	17,593,044	17,179,787	34,772,830	5,817,255	2,694,760	8,512,015	43,284,845	86.57	-
2017	18,064,212	17,282,089	35,346,301	6,018,883	2,752,756	8,771,639	44,117,940	88.24	-
2018	18,546,000	17,385,000	35,933,000	6,227,500	2,812,000	9,039,500	44,972,500	89.95	-
2019	18,953,000	17,463,000	36,416,000	6,402,000	2,874,000	9,276,000	45,692,000	91.38	-
2020	19,365,000	17,541,000	36,906,000	6,581,000	2,936,000	9,517,000	46,423,000	92.85	-
2021	19,786,000	17,617,000	37,403,000	6,764,000	2,999,000	9,763,000	47,166,000	94.33	-
2022	20,215,000	17,690,000	37,905,000	6,952,000	3,064,000	10,016,000	47,921,000	95.84	-
2023	20,652,000	17,763,000	38,415,000	7,144,000	3,129,000	10,273,000	48,688,000	97.38	-
2024	20,989,000	17,827,000	38,816,000	7,316,000	3,189,000	10,505,000	49,321,000	98.64	-
2025	21,331,000	17,889,000	39,220,000	7,492,000	3,250,000	10,742,000	49,962,000	99.92	-
2026	21,679,000	17,950,000	39,629,000	7,671,000	3,312,000	10,983,000	50,612,000	101.22	-
2027	22,032,000	18,010,000	40,042,000	7,853,000	3,375,000	11,228,000	51,270,000	102.54	-
2028	22,391,000	18,068,000	40,459,000	8,039,000	3,439,000	11,476,000	51,937,000	103.87	-
Constrained--Phase 1 Project									
2016	18,898,000	19,220,000	38,118,000	6,135,000	2,928,000	9,063,000	47,181,000	94.36	-
2017	19,386,000	19,386,000	38,772,000	6,333,000	3,005,000	9,338,000	48,110,000	96.22	-
2018	19,887,000	19,554,000	39,441,000	6,537,000	3,084,000	9,621,000	49,062,000	98.12	-
2019	20,384,000	19,707,000	40,091,000	6,742,000	3,161,000	9,903,000	49,994,000	99.99	-
2020	20,692,000	19,858,000	40,750,000	6,953,000	3,241,000	10,194,000	50,944,000	101.89	-
2021	21,371,000	19,969,000	41,340,000	7,155,000	3,315,000	10,470,000	51,810,000	103.62	-
2022	21,859,000	20,078,000	41,937,000	7,363,000	3,391,000	10,754,000	52,691,000	105.38	-
2023	22,357,000	20,186,000	42,543,000	7,576,000	3,468,000	11,044,000	53,587,000	107.17	-
2024	22,885,000	20,292,000	43,157,000	7,795,000	3,546,000	11,341,000	54,498,000	109.00	-
2025	23,339,000	20,355,000	43,694,000	8,002,000	3,619,000	11,621,000	55,315,000	110.63	-
2026	23,820,000	20,417,000	44,237,000	8,215,000	3,693,000	11,908,000	56,145,000	112.29	-
2027	24,311,000	20,475,000	44,786,000	8,433,000	3,768,000	12,201,000	56,987,000	113.97	-
2028	24,811,000	20,532,000	45,343,000	8,655,000	3,844,000	12,499,000	57,842,000	115.68	-

Sources: Leigh Fisher Associates, FAA Terminal Area Forecast, and U.S. DOT data.

Notes:

(1): 2002 and 2003 distributions are estimated based on input from FAA and Ricondo & Associates.

(2) Unconstrained: based on 2002 TAF.

(3) Constrained-No Project:

- Data through 2018 from ORD OMP EIS.
- Data after 2018 extrapolated assuming:
  - Gradually reduced annual growth rates
  - Increasing enplaned passengers per operation (up-gauging in constrained environment)
  - Increased proportion of originating passengers

(4) Constrained-Phase 1 Project:

- Gradually reduced annual growth rates
- Increasing enplaned passengers per operation (up-gauging in constrained environment)
- Increased proportion of originating passengers

Average Seats	Average Load Factor
105	68%
106	69%
106	69%
107	70%
108	71%
109	71%
109	72%
110	72%
111	73%
112	73%
113	73%
114	74%
115	74%
116	75%
117	75%
118	75%
109	72%
111	73%
112	73%
113	74%
114	75%
116	75%
117	76%
118	77%
120	77%
121	78%
122	79%
123	79%
125	79%
127	79%
129	79%
131	79%
133	79%
134	79%
136	80%
137	80%
139	80%
141	80%
116	75%
117	76%
118	76%
120	76%
122	76%
124	77%
126	77%
127	77%
129	77%
131	78%
132	78%
134	78%
135	78%

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
Master Plan Phase I
(millions of 2001 dollars)

			Costs			Present Value						
Year	Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Aircraft Delay Savings	Passenger Delay Savings	Downstream Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	516.0	0.0	516.0	1.2250	0.0	0.0	0.0	0.0	421.2	(421.2)
2005	0.0	0.0	637.5	0.0	637.5	1.3108	0.0	0.0	0.0	0.0	486.4	(486.4)
2006	0.0	0.0	811.8	0.0	811.8	1.4026	0.0	0.0	0.0	0.0	578.8	(578.8)
2007	347.0	347.0	614.3	5.4	619.6	1.5007	0.0	231.2	0.0	231.2	412.9	(181.7)
2008	513.3	513.3	597.2	5.4	602.6	1.6058	0.0	319.6	0.0	319.6	375.3	(55.6)
2009	684.4	684.4	30.1	21.0	51.1	1.7182	0.0	398.3	0.0	398.3	29.8	368.6
2010	859.6	859.6	25.8	21.0	46.8	1.8385	0.0	467.6	0.0	467.6	25.5	442.1
2011	1,042.5	1,042.5	25.8	21.0	46.8	1.9672	0.0	530.0	0.0	530.0	23.8	506.2
2012	1,233.4	1,233.4	25.8	21.0	46.8	2.1049	0.0	586.0	0.0	586.0	22.2	563.8
2013	1,432.7	1,432.7	0.0	21.0	21.0	2.2522	0.0	636.1	0.0	636.1	9.3	626.8
2014	1,636.2	1,636.2	0.0	21.0	21.0	2.4098	0.0	679.0	0.0	679.0	8.7	670.3
2015	1,848.7	1,848.7	0.0	21.0	21.0	2.5785	0.0	716.9	0.0	716.9	8.1	708.8
2016	1,852.2	1,852.2	0.0	21.0	21.0	2.7590	0.0	671.3	0.0	671.3	7.6	663.7
2017	1,899.3	1,899.3	0.0	21.0	21.0	2.9522	0.0	643.4	0.0	643.4	7.1	636.2
2018	1,947.2	1,947.2	0.0	21.0	21.0	3.1588	0.0	616.4	0.0	616.4	6.6	609.8
2019	2,045.9	2,045.9	0.0	21.0	21.0	3.3799	0.0	605.3	0.0	605.3	6.2	599.1
2020	2,147.5	2,147.5	0.0	21.0	21.0	3.6165	0.0	593.8	0.0	593.8	5.8	588.0
2021	2,205.1	2,205.1	0.0	21.0	21.0	3.8697	0.0	569.8	0.0	569.8	5.4	564.4
2022	2,264.0	2,264.0	0.0	21.0	21.0	4.1406	0.0	546.8	0.0	546.8	5.1	541.7
2023	2,324.3	2,324.3	0.0	21.0	21.0	4.4304	0.0	524.6	0.0	524.6	4.7	519.9
2024	2,452.2	2,452.2	0.0	21.0	21.0	4.7405	0.0	517.3	0.0	517.3	4.4	512.9
2025	2,533.6	2,533.6	0.0	21.0	21.0	5.0724	0.0	499.5	0.0	499.5	4.1	495.4
2026	2,616.7	2,616.7	0.0	21.0	21.0	5.4274	0.0	482.1	0.0	482.1	3.9	478.3
2027	2,701.6	2,701.6	0.0	21.0	21.0	5.8074	0.0	465.2	0.0	465.2	3.6	461.6
2028	2,788.2	2,788.2	0.0	21.0	21.0	6.2139	0.0	448.7	0.0	448.7	3.4	445.3
2029	0.0	0.0	0.0	21.0	21.0	6.6488	0.0	0.0	0.0	0.0	3.2	(3.2)
2030	0.0	0.0	0.0	21.0	21.0	7.1143	0.0	0.0	0.0	0.0	3.0	(3.0)
2031	0.0	0.0	0.0	21.0	21.0	7.6123	0.0	0.0	0.0	0.0	2.8	(2.8)
2032	0.0	0.0	0.0	21.0	21.0	8.1451	0.0	0.0	0.0	0.0	2.6	(2.6)
Total	$39,375.7	$39,375.7	$3,428.8	$514.6	$3,943.4		$0.0	$11,749.1	$0.0	$11,749.1	$2,608.6	$9,140.5
Plus: Salvage Value		$44.6								$11,793.7	$2,608.6	$9,185.1

Benefit-Cost Ratio of Project:	**4.52**

	1	2	3	4	5	6	7	8
Source	Average Travel Time per Operation (minutes) Simulation Studies	Value of Time per Minute FAA Critical Values $27.36/hr = 0.46/min	Base Case Value of Travel Time (1) * (2)	Average Segment Money Fare DB1a Database	Base Case Full Price of Travel (3) + (4)	Base Case Total Passengers (millions) Constrained No Project	Scenario Total Passengers (millions) TAF unconstrained Constrained Phase 1	Scenario Full Price of Travel -col5*(1+x)/(1-x)
Year								-1.18
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	#DIV/0!
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	#DIV/0!
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	#DIV/0!
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	#DIV/0!
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	280.80
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	279.76
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	277.83
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	276.65
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	275.49
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	274.33
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	273.18
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	271.50
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	269.82
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	270.44
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	270.60
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	270.76
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	270.09
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	269.42
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	269.19
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	268.97
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	268.75
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	267.85
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	267.41
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	266.96
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	266.52
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	266.07
2029								
2030								
2031								
2032								

	9	10	11	12
x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil)	Benefits to Incremental Pax ($ mil)	Total Benefits ($ Mil)	PV of Total Benefits at 7 percent
x=elasticity*(col7 +col6)/(col7-col6)	((5)-(8))*(6)	0.5*((5)-(8))*(7)-(6))	(9)+(10)	PV in Year 20XX
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
-119.41	343.58	3.43159339	347.01	
-82.74	505.95	7.32501679	513.27	
-63.40	671.67	12.7460363	684.42	
-51.69	840.00	19.63552	859.64	
-43.66	1,014.34	28.1965387	1,042.54	
-37.80	1,194.92	38.5276175	1,233.44	
-33.35	1,381.97	50.7320917	1,432.70	
-29.81	1,571.41	64.8219523	1,636.23	
-26.93	1,767.62	81.0478637	1,848.66	
-27.42	1,772.45	79.7709538	1,852.22	
-27.28	1,817.09	82.2108152	1,899.30	
-27.15	1,862.52	84.6827643	1,947.21	
-26.26	1,953.95	91.9841543	2,045.93	
-25.43	2,047.79	99.7140251	2,147.50	
-25.17	2,101.59	103.462013	2,205.05	
-24.91	2,156.64	107.334736	2,263.98	
-24.65	2,212.94	111.333364	2,324.27	
-23.68	2,329.96	122.282782	2,452.25	
-23.22	2,404.77	128.825161	2,533.59	
-22.78	2,481.09	135.618473	2,616.70	
-22.36	2,558.90	142.668659	2,701.57	
-21.95	2,638.22	149.976672	2,788.19	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
Master Plan Phase 1
(millions of 2001 dollars)

			Costs			Present Value				
Year	Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	516.0	0.0	516.0	1.2250	0.0	0.0	421.2	(421.2)
2005	0.0	0.0	637.5	0.0	637.5	1.3108	0.0	0.0	486.4	(486.4)
2006	0.0	0.0	811.8	0.0	811.8	1.4026	0.0	0.0	578.8	(578.8)
2007	74.3	74.3	614.3	5.4	619.6	1.5007	49.5	49.5	412.9	(363.4)
2008	110.2	110.2	597.2	5.4	602.6	1.6058	68.7	68.7	375.3	(306.6)
2009	147.4	147.4	30.1	21.0	51.1	1.7182	85.8	85.8	29.8	56.0
2010	185.7	185.7	25.8	21.0	46.8	1.8385	101.0	101.0	25.5	75.5
2011	225.8	225.8	25.8	21.0	46.8	1.9672	114.8	114.8	23.8	91.0
2012	267.9	267.9	25.8	21.0	46.8	2.1049	127.3	127.3	22.2	105.0
2013	312.0	312.0	0.0	21.0	21.0	2.2522	138.5	138.5	9.3	129.2
2014	357.3	357.3	0.0	21.0	21.0	2.4098	148.3	148.3	8.7	139.5
2015	404.7	404.7	0.0	21.0	21.0	2.5785	157.0	157.0	8.1	148.8
2016	405.3	405.3	0.0	21.0	21.0	2.7590	146.9	146.9	7.6	139.3
2017	415.7	415.7	0.0	21.0	21.0	2.9522	140.8	140.8	7.1	133.7
2018	426.2	426.2	0.0	21.0	21.0	3.1588	134.9	134.9	6.6	128.3
2019	448.2	448.2	0.0	21.0	21.0	3.3799	132.6	132.6	6.2	126.4
2020	470.9	470.9	0.0	21.0	21.0	3.6165	130.2	130.2	5.8	124.4
2021	483.7	483.7	0.0	21.0	21.0	3.8697	125.0	125.0	5.4	119.6
2022	496.8	496.8	0.0	21.0	21.0	4.1406	120.0	120.0	5.1	114.9
2023	510.2	510.2	0.0	21.0	21.0	4.4304	115.2	115.2	4.7	110.4
2024	538.9	538.9	0.0	21.0	21.0	4.7405	113.7	113.7	4.4	109.3
2025	557.2	557.2	0.0	21.0	21.0	5.0724	109.8	109.8	4.1	105.7
2026	575.8	575.8	0.0	21.0	21.0	5.4274	106.1	106.1	3.9	102.2
2027	594.8	594.8	0.0	21.0	21.0	5.8074	102.4	102.4	3.6	98.8
2028	614.3	614.3	0.0	21.0	21.0	6.2139	98.9	98.9	3.4	95.5
2029	0.0	0.0	0.0	21.0	21.0	6.6488	0.0	0.0	3.2	(3.2)
2030	0.0	0.0	0.0	21.0	21.0	7.1143	0.0	0.0	3.0	(3.0)
2031	0.0	0.0	0.0	21.0	21.0	7.6123	0.0	0.0	2.8	(2.8)
2032	0.0	0.0	0.0	21.0	21.0	8.1451	0.0	0.0	2.6	(2.6)
Total	$8,623.5	$8,623.5	$3,428.8	$514.6	$3,943.4		$2,567.3	$2,567.3	$2,608.6	($41.3)
Plus: Salvage Value		$44.6						$2,611.9	$2,608.6	$3.2

Benefit-Cost Ratio of Project:	**1.0012**

	1	2	3	4	5	6	7	8
Source	Average Travel Time per Operation (minutes) Simulation Studies	Value of Time per Minute FAA Critical Values	Base Case Value of Travel Time (1) * (2)	Average Segment Money Fare DB1a Database	Base Case Full Price of Travel (3) + (4)	Base Case Total Passengers (millions) Constrained No Project	Scenario Total Passengers (millions) TAF unconstrained Constrained Phase 1	Scenario Full Price of Travel -col5*(1+x)/(1-x)
		$27.36/hr. 0.46/min.						
Year								-5.55
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	#DIV/0!
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	#DIV/0!
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	#DIV/0!
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	#DIV/0!
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	284.53
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	285.13
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	284.81
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	285.21
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	285.60
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	286.00
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	286.39
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	286.24
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	286.08
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	286.43
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	286.68
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	286.94
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	286.79
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	286.63
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	286.58
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	286.53
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	286.48
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	286.28
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	286.18
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	286.08
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	285.98
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	285.88
2029								
2030								
2031								
2032								

		9	10	11	12
	x=elasticity*(col7 +col6)/(col7-col6) x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil) ((5)-(8))*(6)	Benefits to Incremental Pax ($ mil) 0.5*((5)-(8))*(7)-(6))	Total Benefits ($ Mil) (9)+(10)	PV of Total Benefits at 7 percent PV in Year 20XX
Business					
[redacted]					
Personal	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]	
[redacted]	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]	
	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]	
	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]	
	-561.21	73.58	0.73493135	74.32	
	-388.88	108.67	1.57330476	110.24	
	-298.00	144.68	2.74548125	147.42	
	-242.97	181.43	4.24113035	185.68	
	-205.20	219.69	6.10691476	225.80	
	-177.67	259.50	8.3671183	267.87	
	-156.73	300.93	11.0472698	311.98	
	-140.09	343.11	14.1535975	357.26	
	-126.59	386.99	17.7443043	404.74	
	-128.86	387.86	17.4561238	405.32	
	-128.22	397.69	17.9925259	415.68	
	-127.61	407.68	18.535953	426.22	
	-123.44	428.09	20.153013	448.25	
	-119.52	449.08	21.8670637	470.94	
	-118.28	461.02	22.6960305	483.71	
	-117.06	473.24	23.5528998	496.79	
	-115.86	485.75	24.4379487	510.18	
	-111.29	512.07	26.8748712	538.95	
	-109.15	528.84	28.3303407	557.17	
	-107.08	545.96	29.8428099	575.80	
	-105.09	563.44	31.4136961	594.85	
	-103.17	581.26	33.0432827	614.30	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
Master Plan Phase 1
(millions of 2001 dollars)

	Benefits				Costs			Present Value						
Year	Aircraft Delay Savings	Consumer Surplus	Downstream Passenger Delay Savings	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Aircraft Delay Savings	Passenger Delay Savings	Downstream Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0		$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
2002	$0.0	0.0		0.0	17.1	0.0	17.1	1.0700	0.0	0.0	0.0	0.0	16.0	(16.0)
2003	$0.0	0.0		0.0	127.3	0.0	127.3	1.1449	0.0	0.0	0.0	0.0	111.2	(111.2)
2004	$0.0	0.0		0.0	516.0	0.0	516.0	1.2250	0.0	0.0	0.0	0.0	421.2	(421.2)
2005	$0.0	0.0		0.0	637.5	0.0	637.5	1.3108	0.0	0.0	0.0	0.0	486.4	(486.4)
2006	$0.0	0.0		0.0	811.8	0.0	811.8	1.4026	0.0	0.0	0.0	0.0	578.8	(578.8)
2007	$0.0	170.5		170.5	614.3	5.4	619.6	1.5007	0.0	113.6	0.0	113.6	412.9	(299.3)
2008	$0.0	332.3		332.3	597.2	5.4	602.6	1.6058	0.0	206.9	0.0	206.9	375.3	(168.3)
2009	$0.0	124.5		124.5	30.1	21.0	51.1	1.7182	0.0	72.4	0.0	72.4	29.8	42.7
2010	$0.0	285.8		285.8	25.8	21.0	46.8	1.8385	0.0	155.5	0.0	155.5	25.5	130.0
2011	$0.0	454.4		454.4	25.8	21.0	46.8	1.9672	0.0	231.0	0.0	231.0	23.8	207.2
2012	$0.0	220.1		220.1	25.8	21.0	46.8	2.1049	0.0	104.5	0.0	104.5	22.2	82.3
2013	$0.0	393.7		393.7	0.0	21.0	21.0	2.2522	0.0	174.8	0.0	174.8	9.3	165.5
2014	$0.0	357.1		357.1	0.0	21.0	21.0	2.4098	0.0	148.2	0.0	148.2	8.7	139.5
2015	$0.0	541.9		541.9	0.0	21.0	21.0	2.5785	0.0	210.1	0.0	210.1	8.1	202.0
2016	$0.0	290.8		290.8	0.0	21.0	21.0	2.7590	0.0	105.4	0.0	105.4	7.6	97.8
2017	$0.0	306.1		306.1	0.0	21.0	21.0	2.9522	0.0	103.7	0.0	103.7	7.1	96.6
2018	$0.0	321.5		321.5	0.0	21.0	21.0	3.1588	0.0	101.8	0.0	101.8	6.6	95.1
2019	$0.0	393.2		393.2	0.0	21.0	21.0	3.3799	0.0	116.3	0.0	116.3	6.2	110.1
2020	$0.0	219.0		219.0	0.0	21.0	21.0	3.6165	0.0	60.6	0.0	60.6	5.8	54.8
2021	$0.0	245.4		245.4	0.0	21.0	21.0	3.8697	0.0	63.4	0.0	63.4	5.4	58.0
2022	$0.0	272.5		272.5	0.0	21.0	21.0	4.1406	0.0	65.8	0.0	65.8	5.1	60.7
2023	$0.0	300.6		300.6	0.0	21.0	21.0	4.4304	0.0	67.8	0.0	67.8	4.7	63.1
2024	$0.0	400.6		400.6	0.0	21.0	21.0	4.7405	0.0	84.5	0.0	84.5	4.4	80.1
2025	$0.0	454.5		454.5	0.0	21.0	21.0	5.0724	0.0	89.6	0.0	89.6	4.1	85.5
2026	$0.0	509.7		509.7	0.0	21.0	21.0	5.4274	0.0	93.9	0.0	93.9	3.9	90.0
2027	$0.0	566.4		566.4	0.0	21.0	21.0	5.8074	0.0	97.5	0.0	97.5	3.6	93.9
2028	$0.0	624.3		624.3	0.0	21.0	21.0	6.2139	0.0	100.5	0.0	100.5	3.4	97.1
2029	$0.0	0.0		0.0	0.0	21.0	21.0	6.6488	0.0	0.0	0.0	0.0	3.2	(3.2)
2030	$0.0	0.0		0.0	0.0	21.0	21.0	7.1143	0.0	0.0	0.0	0.0	3.0	(3.0)
2031	$0.0	0.0		0.0	0.0	21.0	21.0	7.6123	0.0	0.0	0.0	0.0	2.8	(2.8)
2032	$0.0	0.0		0.0	0.0	21.0	21.0	8.1451	0.0	0.0	0.0	0.0	2.6	(2.6)
Total	$0.0	$7,784.9	$0.0	$7,784.9	$3,428.8	$514.6	$3,943.4		$0.0	$2,568.0	$0.0	$2,568.0	$2,608.6	($40.6)
Plus: Salvage Value				$44.6								$2,612.6	$2,608.6	$4.0

Benefit-Cost Ratio of Project:	**1.0015**

	1	2	3	4	5	6		7
	Average Travel Time per Operation (minutes)	Value of Time per Minute	Base Case Value of Travel Time	Average Segment Money Fare	Base Case Full Price of Travel	Base Case Total Passengers (millions)		Scenario Total Passengers (millions) TAF unconstrained
Source	Simulation Studies	FAA Critical Values	(1) * (2)	DB1a Database	(3) + (4)	Constrained No Project	Original Constrained Phase 1	Modified Constrained Phase 1
		$27.36/hr						
Year		0.46/min						
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	63.42
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	65.22
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	67.27
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	69.39
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	71.60
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	73.15
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	75.29
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	[redacted]
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	[redacted]
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	[redacted]
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	[redacted]
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	[redacted]
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	[redacted]
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	[redacted]
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	[redacted]
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	[redacted]
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	[redacted]
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	[redacted]
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	[redacted]
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	[redacted]
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	[redacted]
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	[redacted]
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	[redacted]
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	[redacted]
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	[redacted]
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	[redacted]
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	[redacted]
2029								
2030					Annual Average Growth Rate	1.92%	2.34%	2.01%

2031 2032	Change in 2028 Pax	-8.70%

		8		9	10	11	12
		Scenario Full Price of Travel	x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil)	Benefits to Incremental Pax ($ mil)	Total Benefits ($ Mil)	PV of Total Benefits at 7 percent
Reduced Growth Factors		-col5*(1+x)/(1-x)	x=elasticity*(col7 +col6)/(col7-col6)	((5)-(8))*(6)	0.5*((5)-(8))*(7)-(6))	(9)+(10)	PV in Year 20XX
		-1.18					
	0.00						
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	
0.99	0.02	283.20	-242.76	169.71	0.82953021	170.54	
	0.03	282.15	-127.70	329.20	3.0724683	332.27	
0.97	0.04	285.08	-347.73	124.05	0.42266476	124.47	
	0.05	283.88	-155.04	283.66	2.17691848	285.84	
	0.06	282.68	-99.88	449.05	5.37247713	454.43	
0.95	0.06	286.51	-210.88	218.83	1.23217059	220.06	
	0.07	285.31	-120.76	389.82	3.84931435	393.67	
0.94	0.08	286.11	-135.73	354.04	3.10693317	357.14	
	0.09	284.34	-91.32	534.86	7.00689667	541.87	
0.93	0.09	287.58	-173.42	288.78	1.97972158	290.76	
	0.09	287.75	-168.05	303.97	2.15088942	306.12	
	0.09	287.92	-163.29	319.15	2.32468324	321.47	
	0.09	287.21	-135.66	389.82	3.42291734	393.24	
0.92	0.10	289.12	-247.28	217.99	1.04595078	219.04	
	0.10	288.88	-224.31	244.06	1.29156315	245.35	
	0.10	288.64	-205.19	270.96	1.5682799	272.53	
	0.10	288.40	-189.05	298.69	1.87734834	300.56	
	0.10	287.44	-143.72	397.34	3.29160411	400.63	
	0.11	286.96	-128.35	450.32	4.18123087	454.50	
	0.11	286.49	-115.95	504.54	5.19070856	509.73	
	0.11	286.01	-105.74	560.03	6.32467308	566.35	
	0.11	285.53	-97.18	616.74	7.58585328	624.33	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
Master Plan Phase 1
(millions of 2001 dollars)

	Benefits				Costs			Present Value						
Year	Aircraft Delay Savings	Consumer Surplus	Downstream Passenger Delay Savings	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Aircraft Delay Savings	Passenger Delay Savings	Downstream Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0		$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
2002	$0.0	0.0		0.0	17.1	0.0	17.1	1.0700	0.0	0.0	0.0	0.0	16.0	(16.0)
2003	$0.0	0.0		0.0	127.3	0.0	127.3	1.1449	0.0	0.0	0.0	0.0	111.2	(111.2)
2004	$0.0	0.0		0.0	516.0	0.0	516.0	1.2250	0.0	0.0	0.0	0.0	421.2	(421.2)
2005	$0.0	0.0		0.0	637.5	0.0	637.5	1.3108	0.0	0.0	0.0	0.0	486.4	(486.4)
2006	$0.0	0.0		0.0	811.8	0.0	811.8	1.4026	0.0	0.0	0.0	0.0	578.8	(578.8)
2007	$0.0	347.0		347.0	614.3	5.4	619.6	1.5007	0.0	231.2	0.0	231.2	412.9	(181.7)
2008	$0.0	513.3		513.3	597.2	5.4	602.6	1.6058	0.0	319.6	0.0	319.6	375.3	(55.6)
2009	$0.0	684.4		684.4	30.1	21.0	51.1	1.7182	0.0	398.3	0.0	398.3	29.8	368.6
2010	$0.0	859.6		859.6	25.8	21.0	46.8	1.8385	0.0	467.6	0.0	467.6	25.5	442.1
2011	$0.0	1,042.5		1,042.5	25.8	21.0	46.8	1.9672	0.0	530.0	0.0	530.0	23.8	506.2
2012	$0.0	1,233.4		1,233.4	25.8	21.0	46.8	2.1049	0.0	586.0	0.0	586.0	22.2	563.8
2013	$0.0	1,432.7		1,432.7	0.0	21.0	21.0	2.2522	0.0	636.1	0.0	636.1	9.3	626.8
2014	$0.0	1,636.2		1,636.2	0.0	21.0	21.0	2.4098	0.0	679.0	0.0	679.0	8.7	670.3
2015	$0.0	1,848.7		1,848.7	0.0	21.0	21.0	2.5785	0.0	716.9	0.0	716.9	8.1	708.8
2016	$0.0	1,852.2		1,852.2	0.0	21.0	21.0	2.7590	0.0	671.3	0.0	671.3	7.6	663.7
2017	$0.0	1,899.3		1,899.3	0.0	21.0	21.0	2.9522	0.0	643.4	0.0	643.4	7.1	636.2
2018	$0.0	1,947.2		1,947.2	0.0	21.0	21.0	3.1588	0.0	616.4	0.0	616.4	6.6	609.8
2019	$0.0	2,045.9		2,045.9	0.0	21.0	21.0	3.3799	0.0	605.3	0.0	605.3	6.2	599.1
2020	$0.0	2,147.5		2,147.5	0.0	21.0	21.0	3.6165	0.0	593.8	0.0	593.8	5.8	588.0
2021	$0.0	2,205.1		2,205.1	0.0	21.0	21.0	3.8697	0.0	569.8	0.0	569.8	5.4	564.4
2022	$0.0	2,264.0		2,264.0	0.0	21.0	21.0	4.1406	0.0	546.8	0.0	546.8	5.1	541.7
2023	$0.0	2,324.3		2,324.3	0.0	21.0	21.0	4.4304	0.0	524.6	0.0	524.6	4.7	519.9
2024	$0.0	2,452.2		2,452.2	0.0	21.0	21.0	4.7405	0.0	517.3	0.0	517.3	4.4	512.9
2025	$0.0	2,533.6		2,533.6	0.0	21.0	21.0	5.0724	0.0	499.5	0.0	499.5	4.1	495.4
2026	$0.0	2,616.7		2,616.7	0.0	21.0	21.0	5.4274	0.0	482.1	0.0	482.1	3.9	478.3
2027	$0.0	2,701.6		2,701.6	0.0	21.0	21.0	5.8074	0.0	465.2	0.0	465.2	3.6	461.6
2028	$0.0	2,788.2		2,788.2	0.0	21.0	21.0	6.2139	0.0	448.7	0.0	448.7	3.4	445.3
2029	$0.0	0.0		0.0	0.0	21.0	21.0	6.6488	0.0	0.0	0.0	0.0	3.2	(3.2)
2030	$0.0	0.0		0.0	0.0	21.0	21.0	7.1143	0.0	0.0	0.0	0.0	3.0	(3.0)
2031	$0.0	0.0		0.0	0.0	21.0	21.0	7.6123	0.0	0.0	0.0	0.0	2.8	(2.8)
2032	$0.0	0.0		0.0	0.0	21.0	21.0	8.1451	0.0	0.0	0.0	0.0	2.6	(2.6)
Total	$0.0	$39,375.7	$0.0	$39,375.7	$3,428.8	$514.6	$3,943.4		$0.0	$11,749.1	$0.0	$11,749.1	$2,608.6	$9,140.5
Plus: Salvage Value				$44.6								$11,793.7	$2,608.6	$9,185.1

Benefit-Cost Ratio of Project:	**4.52**

	1	2	3	4	5	6	7	8
Source	Average Travel Time per Operation (minutes) Simulation Studies	Value of Time per Minute FAA Critical Values $27.36/hr 0.46/min	Base Case Value of Travel Time (1) * (2)	Average Segment Money Fare DB1a Database	Base Case Full Price of Travel (3) + (4)	Base Case Total Passengers (millions) Constrained No Project	Scenario Total Passengers (millions) TAF unconstrained Constrained Phase 1	Scenario Full Price of Travel -col5*(1+x)/(1-x)
Year								-1.18
2001		0.00		220.05	220.05			
2002		0.00		220.05	220.05	63.42	63.42	
2003	137.65	0.00	0.00	220.05	220.05	65.22	65.22	#DIV/0!
2004	139.76	0.00	0.00	220.05	220.05	67.27	67.27	#DIV/0!
2005	141.87	0.00	0.00	220.05	220.05	69.39	69.39	#DIV/0!
2006	143.98	0.00	0.00	220.05	220.05	71.60	71.60	#DIV/0!
2007	143.63	0.00	0.00	220.05	220.05	72.44	73.89	216.39
2008	145.95	0.00	0.00	220.05	220.05	73.91	76.05	214.79
2009	146.23	0.00	0.00	220.05	220.05	75.44	78.30	213.22
2010	148.06	0.00	0.00	220.05	220.05	76.96	80.56	211.70
2011	149.89	0.00	0.00	220.05	220.05	78.54	82.90	210.20
2012	151.73	0.00	0.00	220.05	220.05	80.15	85.32	208.71
2013	153.56	0.00	0.00	220.05	220.05	81.82	87.82	207.24
2014	154.17	0.00	0.00	220.05	220.05	83.36	90.24	205.76
2015	154.79	0.00	0.00	220.05	220.05	84.95	92.73	204.29
2016	155.40	0.00	0.00	220.05	220.05	86.57	94.36	204.56
2017	156.01	0.00	0.00	220.05	220.05	88.24	96.22	204.49
2018	156.63	0.00	0.00	220.05	220.05	89.95	98.12	204.42
2019	156.63	0.00	0.00	220.05	220.05	91.38	99.99	203.91
2020	156.63	0.00	0.00	220.05	220.05	92.85	101.89	203.40
2021	156.63	0.00	0.00	220.05	220.05	94.33	103.62	203.23
2022	156.63	0.00	0.00	220.05	220.05	95.84	105.38	203.06
2023	156.63	0.00	0.00	220.05	220.05	97.38	107.17	202.89
2024	156.63	0.00	0.00	220.05	220.05	98.64	109.00	202.22
2025	156.63	0.00	0.00	220.05	220.05	99.92	110.63	201.88
2026	156.63	0.00	0.00	220.05	220.05	101.22	112.29	201.55
2027	156.63	0.00	0.00	220.05	220.05	102.54	113.97	201.21
2028	156.63	0.00	0.00	220.05	220.05	103.87	115.68	200.88
2029								
2030								
2031								
2032								

	9	10	11	12
x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil)	Benefits to Incremental Pax ($ mil)	Total Benefits ($ Mil)	PV of Total Benefits at 7 percent PV in Year 20XX
x=elasticity*(col7 +col6)/(col7-col6)	((5)-(8))*(6)	0.5*((5)-(8))*(7)-(6))	(9)+(10)	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
-119.41	264.77	2.64448802	267.42	
-82.74	388.46	5.62407693	394.08	
-63.40	515.47	9.78192963	525.26	
-51.69	642.78	15.025453	657.81	
-43.66	773.94	21.5139632	795.46	
-37.80	909.09	29.3116238	938.40	
-33.35	1,048.37	38.4855079	1,086.85	
-29.81	1,190.93	49.1267417	1,240.05	
-26.93	1,338.34	61.3647865	1,399.70	
-27.42	1,340.71	60.3399083	1,401.05	
-27.28	1,373.16	62.125718	1,435.28	
-27.15	1,406.14	63.9323252	1,470.07	
-26.26	1,475.16	69.444602	1,544.60	
-25.43	1,546.00	75.2803659	1,621.28	
-25.17	1,586.62	78.1099567	1,664.73	
-24.91	1,628.18	81.0337184	1,709.22	
-24.65	1,670.69	84.052533	1,754.74	
-23.68	1,759.04	92.3189348	1,851.35	
-23.22	1,815.51	97.2581864	1,912.77	
-22.78	1,873.13	102.386884	1,975.51	
-22.36	1,931.88	107.709511	2,039.59	
-21.95	1,991.76	113.226788	2,104.98	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECTED AVIATION ACTIVITY

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
OMP-Phase 1 Project & Full Airfield																															
Total Aircraft Operations (thousands)	922.8	928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	892.5	900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Total Passengers (millions)	63.4	65.2	67.0	68.7	70.3	73.4	73.9	75.4	77.0	78.5	80.2	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
Full Build OMP																															
Total Aircraft Operations (thousands)	922.8	928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	892.5	900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Total Passengers (millions)	63.4	65.2	67.3	69.4	71.6	73.9	76.1	78.3	80.6	82.9	85.3	87.8	90.2	92.7	95.3	98.0	100.7	102.1	104.4	106.8	109.1	111.5	113.8	116.1	118.5	120.8	123.1	125.5	127.8	130.1	132.5

[1] Assumes "Constrained No Action Forecast" consistent with the ORD EIS, constrained at 974,000 operations after 2007.

Source: Leigh Fisher Associates, based on FAA 2002 Terminal Area Forecast, and U.S. DOT data, May 2004 as used for ORD EIS.
Prepared by: Ricondo & Associates, Inc.

DRAFT

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

DRAFT

INCREMENTAL OPERATING & MAINTENANCE EXPENSE IMPACTS (millions of 2001 dollars) [1]

		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case Phase 1 Benefit																																
Phase 1 OMP Airfield	[A]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$15.6	$0.0	$0.0	$0.0	$0.0
Supplemental Scenarios																																
Master Plan Phase 1	[B]	$0.0	$0.0	$0.0	$0.0	$0.0	$5.4	$5.4	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0	$21.0
OMP Total Airfield	[C]	0.0	0.0	0.0	0.0	0.0	4.8	4.8	15.6	15.6	15.6	15.6	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
Total Master Plan	[D]	0.0	0.0	0.0	0.0	0.0	4.2	4.2	27.8	27.8	27.8	27.8	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Incremental O&M Impact by Proposed Runway																																
Runway 9L-27R	[A,B]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8	$4.8
Runway 10L-28R Extension	[A,B]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Runway 10C-28C	[A,B]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Runway 9C-27C		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Runway 9R-27L Extension		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Runway 10R-28L		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Total Phase 1 Airfield	[C]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.8	$4.8	$15.6	$15.6	$15.6	$15.6	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7	$31.7
OMP-Phase 1 Terminal incremental O&M Impact																																
Satellite Concourse		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7	$4.7
WGP-Phase 1 Projects Incremental O&M Impact																																
Concourse K		$0.0	$0.0	$0.0	$0.0	$0.0	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)	($0.6)
Terminal 2 FIS Facility [1]		0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Total OMP & WGP-Phase 1 DBO Projects	[E]	$5.0	$0.0	$0.0	$0.0	$0.0	$0.6	$0.6	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4	$5.4
WGP Terminal Incremental O&M Impact																																
Core Terminal Area																																
Terminal 1		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Terminal 2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terminal 3		0.0	0.0	0.0	0.0	0.0	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)
Terminal 4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
East Terminal Area																																
Terminal 5		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8	$0.8
Terminal 6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Satellite Concourse (T7)		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1	$8.1
West Terminal (T7)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
Total WGP Terminal O&M Impact		$0.0	$0.0	$0.0	$0.0	$0.0	($1.2)	($1.2)	$6.0	$6.0	$6.0	$6.0	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4	$39.4
Total Incremental O&M Expense Impact	[D]	$0.0	$0.0	$0.0	$0.0	$0.0	$4.2	$4.2	$27.8	$27.8	$27.8	$27.8	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5	$76.5

[1] Totals may not add due to rounding.
[2] Source: Table 2-2 Terminal Functional Area Summary published in the Final Environmental Assessment for the World Gateway Program dated February 8, 2001.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2001 Dollars)

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	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Project Analysis (millions of dollars)														
OMP-Phase 1 Alt-Add	$0.0	$60.5	$197.0	$395.1	$684.6	$795.4	$320.3	$316.1	$30.0	$0.0	$0.0	$0.0	$0.0	$2,597.0
Supplemental Analysis (millions of dollars)														
Master Plan Phase 1	$0.0	$60.5	$197.0	$316.0	$627.5	$811.3	$614.3	$997.3	$30.1	$25.0	$25.0	$25.0	$0.0	$3,538.0
OMP Total Alt-Add	0.0	49.5	197.0	395.1	684.6	622.0	425.3	491.3	180.0	300.9	303.0	243.7	20.0	4,120.3
Total Master Plan	0.0	60.5	197.0	316.0	671.0	1,197.0	1,006.3	1,234.6	905.0	1,544.4	1,113.3	811.1	20.0	9,365.4

OMP CASH FLOWS	OMP-Phase 1 Alt-Add	Master Plan Phase 1	OMP Total Alt-Add	Total Master Plan	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Program Wide Requirements																		
Program-wide Requirements	X	X	X	X	$0	$17,300,000	$21,607,000	$10,170,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,277,000
Preliminary Engineering	X	X	X	X	0	0	33,045,000	15,291,000	4,152,000	0	0	0	0	0	0	0	0	52,488,000
Wetlands mitigation	X	X	X	X	0	0	1,942,000	22,330,000	0	0	0	0	0	0	0	0	0	24,272,000
Noise Mitigation (OMP-Phase 1)	X	X	X	X	0	0	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	0	0	0	0	140,000,000
Noise Mitigation (OMP-Phase 2)			X	X	0	0	0	0	0	0	0	0	0	20,000,000	20,000,000	20,000,000	20,000,000	80,000,000
Land Acquisition	X	X	X	X	0	31,950,000	47,132,000	73,316,000	12,324,000	48,194,000	14,563,000	9,700,000	0	0	0	0	0	238,284,000
Land/Environmental Contingency			X	X	0	0	0	0	0	77,070,000	77,070,000	67,962,000	0	0	0	0	0	222,101,000
Subtotal - Program Wide Requirements:					$0	$49,400,000	$123,726,000	$140,107,000	$136,477,000	$147,264,000	$112,133,000	$97,670,000	$20,000,000	$20,000,000	$20,000,000	$20,000,000	$20,000,000	$808,054,000
Airfield																		
Design of Runway 9L-27R	X	X	X	X	$0	$0	$25,101,000	$12,030,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$37,131,000
Construction of Runway 9L-27R	X	X	X	X	0	0	0	114,122,000	190,730,000	190,730,000	0	0	0	0	0	0	0	513,582,000
Demolition Runway 15-33			X	X	0	0	0	0	0	0	0	0	2,322,000	0	0	0	0	2,322,000
Design of Runway 9C-27C			X	X	0	0	0	0	0	1,934,000	11,607,000	5,953,000	3,977,000	0	0	0	0	23,471,000
Construction of Runway 9C-27C			X	X	0	0	0	0	0	0	0	0	122,977,000	245,794,000	184,346,000	60,079,000	0	613,196,000
Design of Runway 9R Extension			X	X	0	0	0	0	0	0	1,300,000	2,601,000	2,601,000	0	0	0	0	6,502,000
Construction of Runway 9R Extension			X	X	0	0	0	0	0	0	0	0	0	38,306,000	32,612,000	32,612,000	0	103,530,000
Design of Decommissioned Runway 14L-32R			X	X	0	0	0	0	0	0	0	0	0	0	36,000	0	0	36,000
Demolition Runway 14L-32R			X	X	0	0	0	0	0	0	0	0	0	0	0	1,364,000	0	1,364,000
Design of Runway 14L Extension	X	X	X	X	0	0	20,300,000	0	0	0	0	0	0	0	0	0	0	20,300,000
Construction of Runway 14L Extension	X	X	X	X	0	0	0	88,081,000	139,323,000	144,491,000	42,805,000	25,905,000	0	0	0	0	0	473,797,000
Design of Runway 10C-28C	X	X	X	X	0	0	30,300,000	30,300,000	0	0	0	0	0	0	0	0	0	60,777,000
Construction of Runway 10C-28C	X	X	X	X	0	0	0	121,291,000	162,600,000	169,834,000	211,763,000	300,445,000	0	0	0	0	0	967,962,000
Design of Runway 10R-28L			X	X	0	0	0	0	0	0	1,160,000	5,815,000	3,445,000	0	0	0	0	17,356,000
Construction of Runway 10R-28L			X	X	0	0	0	0	0	0	0	0	34,794,000	104,382,000	104,382,000	104,382,000	0	347,940,000
Design for Runway 14R/32L Decommissioning/Taxiway Conversion			X	X	0	0	0	0	0	0	0	0	0	2,421,000	2,421,000	0	0	4,842,000
Construction of Runway 14R/32L Decommissioning/Taxiway Conversion			X	X	0	0	0	0	0	0	0	0	0	0	0	168,315,000	0	168,315,000
Subtotal - Airfield					$0	$0	$94,970,000	$366,903,000	$492,653,000	$466,188,000	$272,635,000	$335,669,000	$169,014,000	$370,903,000	$343,780,000	$333,740,000	$0	$3,311,456,000
Western Terminal Complex																		
Design of Western Airside Concourse		X		X	$0	$0	$0	$9,722,000	$13,904,000	$8,722,000	$0	$0	$0	$0	$0	$0	$0	$32,348,000
Construction of Western Airside Concourse		X		X	0	0	0	0	0	107,697,000	217,097,000	142,762,000	0	0	0	0	0	547,473,000
Design of Energy Plant		X		X	0	0	0	1,152,000	2,704,000	0	0	0	0	0	0	0	0	3,856,000
Construction of Energy Plant		X		X	0	0	0	0	0	14,653,000	23,205,000	5,565,000	0	0	0	0	0	43,424,000
Design of Fuel Storage and Distribution Improvements		X		X	0	0	0	0	3,072,000	0	0	0	0	0	0	0	0	3,072,000
Construction of Fuel Storage and Distribution Improvements		X		X	0	0	0	0	0	17,349,000	23,200,000	17,349,000	0	0	0	0	0	57,898,000
Design of Western Terminal				X	0	0	0	0	0	0	16,203,000	13,711,000	31,711,000	0	0	0	0	59,625,000
Construction of Western Terminal				X	0	0	0	0	0	0	0	0	272,170,000	343,457,000	173,716,000	13,038,000	0	802,381,000
Design of Western Parking Facilities				X	0	0	0	0	0	0	0	0	3,456,000	3,456,000	0	0	0	6,912,000
Construction of Western Parking Facilities				X	0	0	0	0	0	0	0	0	0	0	68,795,000	68,795,000	0	137,590,000
Subtotal - Western Terminal Complex					$0	$0	$0	$10,874,000	$19,680,000	$211,420,000	$280,504,000	$179,387,000	$303,377,000	$346,913,000	$313,232,000	$81,833,000	$0	$1,724,979,000
Landside/Airside Circulation																		
Design of Peripheral				X	$0	$0	$0	$2,404,000	$2,430,000	$0	$0	$0	$0	$0	$0	$0	$0	$4,834,000
Construction of Peripheral				X	0	0	0	0	0	108,125,000	108,125,000	88,417,000	0	0	0	0	0	304,667,000
Design of Maintenance Facility				X	0	0	0	234,000	234,000	0	0	0	0	0	0	0	0	468,000
Construction of Maintenance Facility				X	0	0	0	0	0	6,003,000	7,471,000	0	0	0	0	0	0	13,474,000
Subtotal - Landside/Airside Circulation					$0	$0	$0	$2,638,000	$2,664,000	$114,128,000	$115,596,000	$88,417,000	$0	$0	$0	$0	$0	$323,443,000
Other Program Costs																		
Misc Operations Budget				X	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Program Contingency				X	0	0	0	0	0	30,450,000	31,650,000	30,034,000	29,335,000	52,052,000	39,104,000	33,235,000	0	266,858,000
Subtotal - Other Program Costs [1]					$0	$0	$0	$0	$0	$30,450,000	$31,650,000	$30,034,000	$29,335,000	$52,052,000	$39,104,000	$33,235,000	$0	$215,860,000
OMP Totals					$0	$49,400,000	$219,696,000	$504,520,000	$651,000,000	$1,069,472,000	$1,000,000,000	$727,970,000	$521,002,000	$794,000,000	$715,116,000	$468,808,000	$20,000,000	$6,480,000,000

[1] Subtotal includes approximately $2,000 adjustment for rounding and other programs.
Source: O'Hare Partners, based on cost estimate analyses by TOR, LLC, and AOR.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2001 Dollars)

WCP CASH FLOWS	OMP/Phase 1 Airfield	Master Plan Phase 1	OMP Total Airfield	Total Master Plan	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
WCP Phase 1																		
Taxiway A/B Relocation		X			$0	$0	$0	$0	$0	$0	$3,127,470	$14,790,140	$0	$0	$0	$0	$0	$17,917,610
T1/T2 Expansion		X			0	0	0	0	690,346	4,505,992	0	0	0	0	0	0	0	7,196,338
Concourse K - Allowance		X			0	0	0	0	0	7,028,901	7,028,901	56,221,391	0	0	0	0	0	70,279,193
Terminal 2 - Interior Upgrade		X			0	0	0	0	12,806,934	51,290,142	0	0	0	0	0	0	0	64,097,077
Taxiway November - Facility Relocations		X			0	0	0	0	0	0	1,080,340	22,609,016	0	0	0	0	0	24,089,364
Taxiway M		X			0	0	0	0	0	0	0	0	0	25,801,173	25,801,173	25,801,173	0	77,403,519
Taxiway November - New		X			0	0	0	0	0	0	0	2,008,200	10,146,000	0	0	0	0	12,154,200
Subtotal - WCP Phase 1					$0	$0	$0	$0	$13,497,272	$58,133,035	$11,236,000	$96,018,856	$10,146,000	$25,801,173	$25,801,173	$25,801,173	$0	$273,645,048
WCP																		
Terminal 4 Apron - Support Facility Relocations				X	$0	$0	$0	$0	$0	$0	$6,411,893	$17,403,097	$0	$0	$0	$0	$0	$23,814,990
Terminal 4 Apron - Utility Relocations				X	0	0	0	0	0	0	826,324	6,192,190	0	0	0	0	0	7,018,523
Terminal 6 - Utility Relocations				X	0	0	0	0	0	0	12,164,744	90,362,197	0	0	0	0	0	102,526,097
Terminal 2 - New Concourse - FIS Facilities				X	0	0	0	27,433,901	27,433,901	27,433,901	0	0	0	0	0	0	0	82,298,702
Terminal 4 Apron - Support Facility Relocations				X	0	0	0	0	0	0	5,669,208	30,678,575	0	0	0	0	0	36,347,783
Terminal 4 - Facility Relocations				X	0	0	0	0	0	0	16,138,462	87,548,472	0	0	0	0	0	103,686,934
Terminal 6 - Drainage Control				X	0	0	0	0	0	0	0	16,469	0	0	0	0	0	16,469
WCP - Airport Wide Off-Site spoil				X	0	0	0	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	1,972,717	0	17,754,453
Terminal 4 Apron - New (beyond 40 feet)				X	0	0	0	0	0	0	0	1,746,786	14,801,643	15,051,643	0	0	0	31,600,072
Terminal 4 Apron - Grading				X	0	0	0	0	0	0	731,726	1,039,528	983,221	324,256	324,256	0	0	3,398,975
Terminal 4 Apron - Additional Relocations/Demolitions				X	0	0	0	0	0	0	2,886,983	4,162,070	2,933,982	1,643,052	1,317,934	0	0	12,944,069
Terminal 4 Northern Extension - New Apron/Grading				X	0	0	0	0	0	0	0	0	0	627,185	10,011,765	18,198,701	0	28,837,651
Terminal 6 - New Apron (within 40 feet)				X	0	0	0	0	0	0	0	125,518	440,771	1,794,486	0	0	0	2,360,775
Terminal 6 - At-Grade Roadway				X	0	0	0	0	0	0	658,907	401,640	5,962,082	5,962,082	2,135,790	0	0	15,210,901
Terminal 6 - ATS Facilities				X	0	0	0	0	0	0	2,380,697	2,380,697	34,831,530	46,436,080	22,364,305	0	0	118,093,290
Terminal 6 - Elevated Roadway				X	0	0	0	0	0	0	4,297,136	3,198,237	30,690,397	30,690,397	20,283,063	0	0	110,049,231
Terminal 6 - Parking Structure				X	0	0	0	0	0	0	2,400,891	3,326,074	37,017,210	54,903,457	0	0	0	97,757,231
Terminal 6 - Pedestrian Bridge to Parking (2)				X	0	0	0	0	0	0	790,736	264,493	5,026,109	8,290,616	42,779	0	0	14,443,713
Terminal 6 - T5 Surface Lot Reconfiguration				X	0	0	0	0	0	0	173,816	348,975	3,477,707	3,974,722	0	0	0	7,970,820
Terminal 6 - Temporary Roadway				X	0	0	0	0	0	0	29,930	29,930	190,734	190,734	167,357	0	0	606,662
Terminal 4 - Utilities				X	0	0	0	0	0	0	439,311	3,399,433	4,654,600	4,508,171	3,033,340	0	0	14,034,964
Terminal 6 - Terminal 5 Concourse Reconfiguration				X	0	0	0	0	0	0	0	2,762,346	8,698,249	11,536,693	8,762,346	0	0	31,703,634
Terminal 6 - Special Systems				X	0	0	0	0	0	0	1,391,113	10,609,909	14,443,711	14,183,480	9,528,872	0	0	50,437,127
Terminal 6 - SPED Deicing - Northeast				X	0	0	0	0	0	0	0	0	0	7,999,903	0	0	0	7,999,903
Terminal 6 - SPED Deicing - Dulo				X	0	0	0	0	0	0	0	0	0	29,182,824	0	0	0	29,182,824
Terminal 6 - New Terminal and Concourse Building				X	0	0	0	0	0	0	13,122,901	91,240,903	127,776,839	123,730,356	83,163,819	0	0	440,074,096
Terminal 6 - Loading Bridges and Equipment				X	0	0	0	0	0	0	324,711	2,341,728	3,483,311	3,378,513	2,380,775	0	0	12,007,843
Terminal 4 - Landscaping				X	0	0	0	0	0	0	0	0	313,794	589,748	554,369	0	0	1,453,911
Terminal 4 - Baggage Systems				X	0	0	0	0	0	0	900,000	7,625,649	20,449,334	10,125,000	4,790,866	0	0	36,002,610
Terminal 4 - Apron Demolition				X	0	0	0	0	0	0	0	478,052	2,365,177	0	0	0	0	2,904,029
Terminal 4 Northern Extension - Baggage Systems				X	0	0	0	0	0	0	0	0	0	167,357	2,248,916	7,217,258	0	9,633,470
Terminal 4 Northern Extension - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	0	0	72,290	753,105	2,409,753	0	3,235,157
Terminal 4 Northern Extension - New Concourse				X	0	0	0	0	0	0	0	0	0	1,087,319	15,041,183	48,156,000	0	64,284,099
Terminal 6 Northern Extension - Special Systems				X	0	0	0	0	0	0	0	0	0	131,977	1,972,303	6,008,923	0	8,012,302
Terminal 4 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	299,433	3,033,340	3,033,340	0	0	0	6,422,113
Terminal 4 - Thermal System Tunnel				X	0	0	0	0	0	0	1,051,305	14,233,770	19,597,515	19,690,307	12,694,180	0	0	67,183,254
Terminal 4 - Realign. Hydrant Fueling gates LGDA M21				X	0	0	0	0	0	0	0	111,890	313,794	1,140,118	0	0	0	1,565,969
Terminal 4 Northern Extension - Hydrant Fueling/Fuel Pipeline Extension				X	0	0	0	0	0	0	0	125,510	0	41,030	41,030	2,269,775	0	2,478,973
Terminal 2 Apron - New				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Utilities and FAA Tower Controls				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Special Systems				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Rebuild Terminal 2 Airside				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - New Concourse (Domestic)				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Baggage Systems				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Building Demolition				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 2 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Terminal 4 Apron - New				X	0	0	0	0	0	0	0	0	0	0	30,867,726	27,603,395	0	58,471,121
Terminal 4 Apron - Grading				X	0	0	0	0	0	0	0	263,491	5,220,097	4,801,045	0	0	0	10,292,437
Terminal 4 - At-Grade Roadway				X	0	0	0	0	0	0	0	0	62,799	753,105	1,171,097	481,118	0	2,468,911
Terminal 4 - ATS Facilities				X	0	0	0	0	0	0	0	19,460	1,598,980	7,040,981	31,797,773	15,858,086	0	56,315,320
Terminal 4 - Elevated Roadway				X	0	0	0	0	0	0	0	19,460	354,340	3,198,119	9,306,340	3,347,334	0	17,214,920
Terminal 4 - Elevated Walkway				X	0	0	0	0	0	0	0	0	0	1,080,270	4,080,973	0	0	5,301,191
Terminal 4 - Utilities				X	0	0	0	0	0	0	0	3,091,660	12,806,666	9,978,043	0	0	0	26,724,775
Terminal 4 - Underground Utility Relocation				X	0	0	0	0	0	0	0	3,922,771	10,400,237	14,366,239	0	0	0	38,170,347
Terminal 4 - Underground Baggage Room Expansion				X	0	0	0	0	0	0	0	1,606,420	7,634,640	22,906,945	17,304,177	11,100,451	0	60,572,666
Terminal 4 - Temporary Roadway				X	0	0	0	0	0	0	0	0	34,379	949,173	943,980	239,119	0	1,150,977
Terminal 4 - Special Systems				X	0	0	0	0	0	0	0	1,025,000	7,490,673	22,972,404	17,133,142	11,022,680	0	59,642,603
Terminal 4 - New Terminal FIS Facilities				X	0	0	0	0	0	0	0	1,300,000	20,135,940	30,900,720	25,137,003	15,428,196	0	80,902,239
Terminal 4 - New Terminal (Domestic)				X	0	0	0	0	0	0	0	6,800,326	40,072,286	170,140,707	113,004,000	75,921,643	0	306,606,793
Terminal 4 - Loading Bridges and Equipment				X	0	0	0	0	0	0	0	200,497	1,935,062	5,026,100	4,434,695	2,040,062	0	11,596,916
Terminal 4 - Landscaping				X	0	0	0	0	0	0	0	0	0	0	0	31,379	0	31,379
Terminal 4 - Demolition and Site Preparation				X	0	0	0	0	0	0	94,130	1,265,425	4,066,600	0	0	0	0	7,426,443
Terminal 4 - Concourse L Demolition				X	0	0	0	0	0	0	0	125,910	2,227,544	0	0	0	0	2,353,454
Terminal 4 - Baggage Systems				X	0	0	0	0	0	0	0	794,944	5,005,105	17,484,775	13,363,010	8,034,526	0	46,190,609
Terminal 4 - Hydrant Fueling and Fuel Pipeline Extension				X	0	0	0	0	0	0	0	200,136	4,603,000	760,365	0	0	0	7,604,989
Subtotal - Other WCP					$0	$0	$0	$29,406,618	$29,406,618	$29,406,618	$78,834,375	$482,116,234	$449,368,000	$731,973,620	$472,339,176	$251,972,344	$0	$2,471,020,941
WCP Total					$0	$0	$0	$29,406,618	$42,903,890	$84,538,703	$90,791,383	$688,434,680	$479,516,000	$747,778,793	$498,140,349	$277,773,417	$0	$2,744,665,989

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT COST CASH FLOW SCHEDULE
(In 2005 Dollars)

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WGP Cash Flows Source: Lombardo & Associates; Project components included in OMP Master Plan selected by Rhonda & Associates, Inc.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
OMP-Phase 1 Airfield

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AIRCRAFT DELAY PER OPERATION FOR PHASE 1			2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case: Congested No Action:																																
Total Aircraft Operations (thousands)			975.7	945.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)			900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[A]		0.0	0.0	0.0	0.0	164.1	168.4	170.7	172.0	154.8	156.9	158.9	159.5	160.1	160.8	161.4	162.0	163.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	0.0	0.0	0.0	0.0
OMP-Phase 1:																																
Total Aircraft Operations (thousands)			975.7	945.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	[B]		900.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]		0.0	0.0	0.0	0.0	143.6	146.9	146.2	148.1	148.9	151.7	153.6	154.2	154.9	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
Difference in Delay per Operation between scenarios (minutes)	[D]	[A-C]	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	0.0	0.0	0.0	0.0
AIRCRAFT DELAY BENEFITS																																
Total Incremental Aircraft Travel Time Minutes (millions)	[E]	[D*B]	0.00	0.00	0.00	0.00	2.27	2.37	4.15	4.34	4.52	4.70	4.88	4.89	4.91	4.92	4.94	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	0.00	0.00	0.00	0.00
Average Aircraft Operating Savings per Minute	[F]		$0.00	$0.00	$0.00	$0.00	$29.90	$29.90	$29.89	$29.76	$29.63	$29.49	$29.36	$29.07	$29.97	$30.28	$30.38	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88
Total Aircraft Savings (millions)		[E*F]	$0.0	$0.0	$0.0	$0.0	$68.0	$87.9	$124.3	$129.1	$133.9	$138.6	$143.2	$145.1	$147.1	$149.1	$151.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$0.0	$0.0	$0.0	$0.0
PASSENGER DELAY BENEFITS																																
Total Passengers (millions)	[G]		0.0	0.0	0.0	0.0	72.4	73.0	73.4	77.0	78.5	80.3	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.8	89.9	89.9	89.9	0.0	0.0	0.0	0.0
Total Incremental Passenger Travel Time Minutes (millions)	[H]	[G*D]	0.0	0.0	0.0	0.0	177.7	181.3	328.6	362.3	388.9	413.4	438.8	447.1	455.6	464.3	473.3	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	482.4	0.0	0.0	0.0	0.0
Passenger Delay Savings per Minute [1]	[I]		$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Total Passenger Delay Savings (millions)	[J]	[H*I]	$0.0	$0.0	$0.0	$0.0	$95.1	$97.0	$181.2	$195.8	$207.0	$220.6	$234.0	$239.2	$243.7	$248.4	$253.2	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$258.1	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Downstream Savings (millions) [2]		[J*20%]	$0.0	$0.0	$0.0	$0.0	$76.1	$77.6	$144.9	$155.1	$165.6	$176.5	$187.2	$191.4	$195.0	$198.7	$202.6	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$206.5	$0.0	$0.0	$0.0	$0.0
PROJECT BENEFITS																																
Total Incremental Aircraft Delay Savings (millions)			$0.0	$0.0	$0.0	$0.0	$68.0	$87.9	$124.3	$129.1	$133.9	$138.6	$143.2	$145.1	$147.1	$149.1	$151.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$153.0	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Savings (millions)			0.0	0.0	0.0	0.0	95.1	97.0	181.2	195.8	207.0	220.6	234.0	239.2	243.7	248.4	253.2	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	258.1	0.0	0.0	0.0	0.0
Total Passenger Delay Downstream Savings (millions)			0.0	0.0	0.0	0.0	76.1	77.6	144.9	155.1	165.6	176.5	187.2	191.4	195.0	198.7	202.6	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	206.5	0.0	0.0	0.0	0.0
Total Savings (millions)			$0.0	$0.0	$0.0	$0.0	$239.1	$263.5	$450.3	$479.0	$506.3	$535.7	$565.0	$575.7	$585.0	$596.3	$606.8	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$617.6	$0.0	$0.0	$0.0	$0.0

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O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
OMP-Phase 1 AirBeld

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AIRCRAFT DELAY PER OPERATION FOR FULL AIRFIELD			2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Case: Constrained No Action:																																
Total Aircraft Operations (thousands)			928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)			892.5	903.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	(A)		137.7	139.0	141.0	144.0	146.1	148.4	150.7	152.8	154.8	156.9	158.9	159.5	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
OMP-Phase 1:																																
Total Aircraft Operations (thousands)			928.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Estimated Passenger Airline and All-Cargo Operations (thousands)	[B]		892.5	903.4	907.0	913.6	920.2	926.8	926.1	925.3	921.3	917.3	913.2	909.2	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]		137.7	139.0	141.0	144.0	143.6	145.0	146.2	148.1	149.0	151.7	151.3	151.0	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Difference in Delay per Operation between scenarios (minutes)	[D]	[A-C]	0.0	0.0	0.0	0.0	2.5	3.3	4.5	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
AIRCRAFT DELAY BENEFITS																																
Total Incremental Aircraft Travel Time Minutes (millions)	[E]	[D*B]	0.00	0.00	0.00	0.00	2.26	2.27	4.16	4.36	4.54	4.72	7.01	6.97	6.99	7.00	7.02	7.03	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	0.00	0.00	0.00	0.00
Average Aircraft Operating Savings per Minute	[F]		$0.00	$0.00	$0.00	$0.00	$29.52	$30.10	$29.59	$29.76	$29.62	$29.49	$29.36	$29.67	$29.97	$30.28	$30.58	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88
Total Aircraft Savings (millions)		[E*F]	$0.0	$0.0	$0.0	$0.0	$67.5	$68.0	$124.3	$129.6	$134.5	$139.2	$205.9	$206.9	$209.4	$212.0	$214.5	$217.1	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$0.0	$0.0	$0.0	$0.0
PASSENGER DELAY BENEFITS																																
Total Passengers (millions)	[G]		0.0	0.0	0.0	0.0	72.4	73.9	75.4	77.0	78.5	80.2	81.8	83.4	84.9	86.6	88.2	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9	89.9
Total Incremental Passenger Travel Time Minutes (millions)	[H]	[G*D]	0.0	0.0	0.0	0.0	177.7	181.3	338.6	363.3	386.9	472.4	638.5	638.4	650.9	662.4	674.2	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6	686.6
Passenger Delay Savings per Minute [1]	[I]		$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Total Passenger Delay Savings (millions)	[J]	[H*I]	$0.0	$0.0	$0.0	$0.0	$95.1	$97.0	$181.2	$195.0	$207.0	$228.6	$336.2	$342.1	$348.2	$354.4	$360.8	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3	$367.3
Total Passenger Delay Downstream Savings (millions) [1]		[J*2016]	$0.0	$0.0	$0.0	$0.0	$76.1	$77.6	$144.9	$155.1	$165.6	$176.5	$268.9	$273.7	$278.5	$283.5	$288.6	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9	$293.9
PROJECT BENEFITS																																
Total Incremental Aircraft Delay Savings (millions)			$0.0	$0.0	$0.0	$0.0	$67.5	$68.0	$124.3	$129.6	$134.5	$139.2	$205.9	$206.9	$209.4	$212.0	$214.5	$217.1	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$217.0	$0.0	$0.0	$0.0	$0.0
Total Passenger Delay Savings (millions)			0.0	0.0	0.0	0.0	95.1	97.0	181.2	195.0	207.0	228.6	336.2	342.1	348.2	354.4	360.8	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3
Total Passenger Delay Downstream Savings (millions)			0.0	0.0	0.0	0.0	76.1	77.6	144.9	155.1	165.6	176.5	268.9	273.7	278.5	283.5	288.6	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9
Total Savings (millions)			$0.0	$0.0	$0.0	$0.0	$238.6	$242.6	$450.4	$479.6	$507.0	$536.3	$811.0	$822.7	$836.1	$849.9	$863.9	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$878.3	$661.3	$661.3	$661.3	$661.3

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

PROJECT BENEFITS
OMP-Phase 1 Airfield

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AIRCRAFT DELAY PER OPERATION FOR FULL BUILD OMP																																	
Base Case: Constrained No Action:																																	
Total Aircraft Operations (thousands)			925.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Enplaned Passenger Airline and All-Cargo Operations (thousands)			900.4	907.0	913.6	920.3	926.9	926.1	925.3	921.3	917.3	913.3	909.3	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[A]		137.7	139.2	141.9	144.0	146.1	148.4	150.7	152.8	154.8	154.9	158.9	159.5	160.1	160.8	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
OMP																																	
Total Aircraft Operations (thousands)			926.7	940.0	951.3	962.7	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0	974.0
Enplaned Passenger Airline and All-Cargo Operations (thousands)	[B]		900.4	907.0	913.6	920.3	926.9	926.1	925.3	921.3	917.3	913.3	909.3	912.1	915.0	917.9	920.8	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Travel Time (minutes)	[C]		137.7	139.2	141.9	144.0	142.6	143.9	146.2	148.1	149.9	151.7	151.3	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Difference in Delay per Operation between scenarios (minutes)	[D]	(A-C)	0.0	0.0	0.0	0.0	3.5	3.5	4.5	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
AIRCRAFT DELAY BENEFITS																																	
Total Incremental Aircraft Travel Time Minutes (millions)	[E]	[D*B]	0.00	0.00	0.00	0.00	2.27	2.27	4.15	4.34	4.52	4.70	6.98	7.00	7.01	7.02	7.04	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05
Average Aircraft Operating Savings per Minute	[F]		$0.00	$0.00	$0.00	$0.00	$29.90	$29.90	$29.85	$28.76	$29.63	$29.49	$29.34	$29.67	$29.97	$30.28	$30.58	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88	$30.88
Total Aircraft Savings (millions)		[E*F]	$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.2	$128.1	$133.9	$138.6	$205.0	$207.6	$210.1	$212.6	$215.2	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8
PASSENGER DELAY BENEFITS																																	
Total Passengers (millions)	[G]		0.0	0.0	0.0	0.0	73.0	76.1	78.3	80.6	82.9	85.3	87.8	90.2	92.7	95.3	98.0	100.7	103.1	104.4	106.0	109.1	111.5	113.8	116.1	118.5	120.8	123.1	125.5	127.8	130.1	132.5
Total Incremental Passenger Travel Time Minutes (millions)	[H]	[G*D]	0.0	0.0	0.0	0.0	181.2	186.6	351.3	379.5	408.4	439.0	674.5	692.2	710.5	729.3	748.9	768.8	779.5	797.3	815.1	832.9	850.7	868.6	886.4	904.2	922.0	939.8	957.7	975.5	993.3	1,011.1
Passenger Delay Savings per Minute [1]	[I]		$0.00	$0.00	$0.00	$0.00	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54	$0.54
Total Passenger Delay Savings (millions)	[J]	[H*I]	$0.0	$0.0	$0.0	$0.0	$97.0	$99.0	$190.0	$202.9	$218.5	$234.8	$360.8	$370.3	$380.1	$390.2	$400.6	$411.4	$417.0	$426.5	$436.1	$445.6	$455.1	$464.7	$474.2	$483.7	$493.3	$502.8	$512.3	$521.9	$531.4	$540.9
Total Passenger Delay Downtown Savings (millions) [2]		[J*80%]	$0.0	$0.0	$0.0	$0.0	$77.6	$79.0	$152.4	$162.3	$174.8	$187.9	$288.7	$296.3	$304.1	$312.2	$320.5	$329.1	$333.6	$341.2	$348.9	$356.5	$364.1	$371.7	$379.4	$387.0	$394.6	$402.2	$409.9	$417.5	$425.1	$432.8
PROJECT BENEFITS																																	
Total Incremental Aircraft Delay Savings (millions)			$0.0	$0.0	$0.0	$0.0	$68.0	$67.9	$124.2	$128.1	$133.9	$138.6	$205.0	$207.6	$210.1	$212.6	$215.2	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8	$217.8
Total Passenger Delay Savings (millions)			0.0	0.0	0.0	0.0	97.0	99.0	190.0	202.9	218.5	234.8	360.8	370.3	380.1	390.2	400.6	411.4	417.0	426.5	436.1	445.6	455.1	464.7	474.2	483.7	493.3	502.8	512.3	521.9	531.4	540.9
Total Passenger Delay Downtown Savings (millions)			0.0	0.0	0.0	0.0	77.6	79.0	152.4	162.3	174.8	187.9	288.7	296.3	304.1	312.2	320.5	329.1	333.6	341.2	348.9	356.5	364.1	371.7	379.4	387.0	394.6	402.2	409.9	417.5	425.1	432.8
Total Savings (millions)			$0.0	$0.0	$0.0	$0.0	$242.5	$247.6	$462.7	$494.3	$527.2	$561.3	$854.5	$874.1	$894.3	$915.0	$936.3	$958.3	$968.4	$985.5	$1,002.7	$1,019.8	$1,037.0	$1,054.2	$1,071.3	$1,088.5	$1,105.7	$1,122.8	$1,140.0	$1,157.1	$1,174.3	$1,191.5

[1] Source: Derived from Economic Values for FAA Investment and Regulatory Decisions, A Guide. GRA, Inc. (as shown on page 1-2 of treatment of values of passenger time). Based on DOT policy.
[2] Passenger Delay Downtown Savings represents 80% of total Passenger delay savings as recommended in the report by the MIT Lincoln Laboratory, Analysis of Downtown Impacts of Air Traffic Delay, 1997.

Sources: Activity- Leigh Fisher Associates, FAA 2002 Terminal Area Forecast, and U.S. DOT data, May 2004. Travel & Delay Time- Simmons & Associates, Inc.
Prepared by: Simmons & Associates, Inc.

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)

TITLE:	Benefit-Cost Analysis
FILE NAME:	Z:\CHICAGO\ORD Financial\BCA Model Phase 1 v2 (12-22-04)
LAST USER OF FILE:	ADF
LAST UPDATE:	January 12, 2005
FILES LINKED TO:	Linked Sheets - Budget 2004 2-3-04 Full Program Operating Cost per Block Hour Results Operating Cost per Block Hour Results (constrained) Summary of Annual Enplaned Passengers May211

SWITCHES - Place '1' in cell in which to activate

		Comments
Base Case		
OMP-Phase 1 Airfield	[redacted]	Uses Phase 1 Simulation Results
Sensitivities		
Master Plan Phase 1	[redacted]	Uses Phase 1 Simulation Results
OMP Total Airfield		Uses Full Build Simulation Results
Total Master Plan		Uses Full Build Simulation Results

Assumptions:		Comments
Discount Rate	7.0%	Source: BCA Guidance, December 1999.
Base Year for Analysis	[redacted]	Basis: All OMP costs are stated in 200X dollars in EIS, Master Plan, and LOI.
First Full Year of Operation for OMP-Phase 1 Airfield	2009	
First Full Year of Operation for Total OMP Airfield	2013	
Last Full Year for Benefits and Costs for Analysis	2028	Basis: Per BCA Guidance, December 1999, use 20 years past construction completion.
Estimated Percent of Total Aircraft Operations that are Passenger Airline or All-Cargo	97.0%	Source: 2003 Aviation Activity Reports, City of Chicago Department of Aviation
1999 Consumer Price Index	166.60	
2000 Consumer Price Index	172.20	
2001 Consumer Price Index	177.10	
2002 Consumer Price Index	179.88	
2003 Consumer Price Index	183.96	
2004 Consumer Price Index	191.00	
1999 GDP Deflator	97.9	Used to inflate aircraft operating costs
2000 GDP Deflator	100.0	Source: Bureau of Economic Analysis, http://www.bea.doc.gov/bea/dn1.htm
2001 GDP Deflator	102.4	Basis for GDP use: Per BCA Guidance, December 1999, and confirmed with Kathy Lizotte, FAA APO-200.
2002 GDP Deflator	104.1	Note: 2004 Dollars through third quarter of 2004
2003 GDP Deflator	106.0	
2004 GDP Deflator	107.9	
OMP Cash Flow Rate using GDP Deflator	1.000	
WGP Cash Flow Rate using GDP Deflator	1.046	
O&M Escalation Rate	5.4%	Source: 10 year CAGR for O&M projections in Rates & Charges model
O&M Deflation from 2004 dollars to base year	94.8%	

ORD Aircraft Block Cost per Min. - Unconstrained Schedules	2004 dollars	2001 dollars		
2002 Fleet Mix	$31.76	$30.12	Aircraft Operating Cost Dollars	
2007 Fleet Mix	$31.12	$29.51	Increase (Reduction) in Aircraft Operating Costs	[redacted]
2009 Fleet Mix	$30.62	$29.04		
2013 Fleet Mix	$29.56	$28.04		
2018 Fleet Mix	$30.12	$28.56		

Source: USDOT, Form 41, Schedule P-5.2, for the calendar year 2003 including line items 5123, 5124, 5145.1, 5145.2, 5157, 5168, and 5299.
Note: Interim years between fleet mix schedule are interpolated.

ORD Aircraft Block Cost per Min. - Constrained Schedules	2004 dollars	Alt dollars
2002 Fleet Mix	$31.76	$30.12
2007 Fleet Mix	$31.53	$29.90
2009 Fleet Mix	$31.52	$29.89
2013 Fleet Mix	$30.96	$29.36
2018 Fleet Mix	$32.57	$30.88

Source: USDOT, Form 41, Schedule P-5.2, for the calendar year 2003 including line items 5123, 5124, 5145.1, 5145.2, 5157, 5168, and 5299.
Note: Interim years between fleet mix schedule are interpolated.

Value of Passenger Time (2000 Dollars)	$32.10	Source: Treatment of Passenger Time in Economic Analysis, FAA-APO-03-1, dated March 2003. Note: Per FAA-APO-03-1 dated March 2003, number should not be escalated.
Downstream Passenger Delay Cost Multiplier	80%	MIT Lincoln Labratory, Analysis of Downstream Impacts of Air Traffic Delay, 1997.
Assume arrivals equal departures in projected years.		Source: Ricondo & Associates.

Prepared by: Ricondo & Associates, Inc.

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City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

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UNIMPEDED & AVERAGE TRAVEL TIMES

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Phase 1 Scenario																														
Phase 1 OMP Airfield	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
New Phase 1 Scenario																														
Master Plan Phase 1	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	0.0	0.0	0.0	0.0
OMP Total Airfield	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Total Master Plan	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
BASE CASE:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Incremental Aircraft Travel Time Cost																														
Estimated Passenger Airline and All-Cargo Operations (thousands)	908.4	907.6	913.6	920.2	926.5	926.1	925.8	921.5	917.5	915.2	909.2	912.1	915.0	917.0	920.5	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7	923.7
Average Travel Time per Operation (with delay)																														
Arrivals					156.3		160.4				169.1					172.4														
Departures					135.5		141.0				148.7					151.5														
Average per Operation	137.7	139.8	141.9	144.0	148.1	148.4	150.7	152.0	154.5	156.9	158.9	159.5	160.1	160.5	161.4	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0	162.0
OMP-PHASE 1 TRAVEL TIMES:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Average Travel Time per Operation (with delay)																														
Arrivals					158.5		151.9				159.5																			
Departures					136.5		140.5				147.7																			
Average Travel Time In Operational Phase	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	153.6	154.2	154.8	155.4	156.0	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6	156.6				
Travel Time Savings	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4				
FULL BUILD TRAVEL TIMES:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Average Travel Time per Operation (with delay)																														
Average Arrivals					150.8		151.9				156.4					159.5														
Average Departures					136.5		140.5				146.1					148.2														
Average Travel Time In Operational Phase	137.7	139.8	141.9	144.0	143.6	145.9	146.2	148.1	149.9	151.7	151.2	151.9	152.5	153.1	153.7	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4	154.4
Travel Time Savings	0.0	0.0	0.0	0.0	2.5	2.5	4.5	4.7	4.9	5.1	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6

SUMMARY OF ANNUAL ENPLANED PASSENGERS
Chicago O'Hare International Airport

	Domestic Originating	Domestic Connecting	Domestic Total	International Originating	International Connecting	International Total	Total Enplaned Passengers		
Unconstrained									
2002	13,146,000	14,241,078	27,387,078	2,810,000	1,513,434	4,323,434	31,710,512	63.42	-
2003	13,174,000	14,855,000	28,029,000	3,023,000	1,557,000	4,580,000	32,609,000	65.22	-
2004	13,512,944	15,246,037	28,758,981	3,211,708	1,663,042	4,874,750	33,633,730	67.27	-
2005	13,860,608	15,647,368	29,507,975	3,412,196	1,776,305	5,188,502	34,696,477	69.39	-
2006	14,217,216	16,059,262	30,276,479	3,625,200	1,897,263	5,522,483	35,798,962	71.60	-
2007	14,583,000	16,482,000	31,065,000	3,851,500	2,026,500	5,878,000	36,943,000	73.89	-
2008	15,008,541	16,815,378	31,823,920	4,043,704	2,159,627	6,203,331	38,027,251	76.05	-
2009	15,446,500	17,155,500	32,602,000	4,245,500	2,301,500	6,547,000	39,149,000	78.30	-
2010	15,901,957	17,491,971	33,393,928	4,498,582	2,388,112	6,886,694	40,280,622	80.56	-
2011	16,370,843	17,835,041	34,205,884	4,766,751	2,477,983	7,244,735	41,450,619	82.90	-
2012	16,853,555	18,184,840	35,038,395	5,050,906	2,571,237	7,622,143	42,660,538	85.32	-
2013	17,350,500	18,541,500	35,892,000	5,352,000	2,668,000	8,020,000	43,912,000	87.82	-
2014	17,897,416	18,814,634	36,712,050	5,645,334	2,762,034	8,407,368	45,119,418	90.24	-
2015	18,461,573	19,091,791	37,553,363	5,954,746	2,859,382	8,814,128	46,367,491	92.73	-
2016	19,043,512	19,373,031	38,416,543	6,281,116	2,960,161	9,241,277	47,657,820	95.32	-
2017	19,643,795	19,658,413	39,302,208	6,625,374	3,064,492	9,689,866	48,992,074	97.98	-
2018	20,263,000	19,948,000	40,211,000	6,988,500	3,172,500	10,161,000	50,372,000	100.74	-
Constrained--No Project									
2007	14,536,500	15,842,500	30,379,000	3,868,000	1,972,500	5,840,500	36,219,500	72.44	-
2008	14,816,307	15,986,595	30,803,287	4,060,700	2,093,065	6,153,844	36,957,132	73.91	-
2009	15,101,500	16,132,000	31,233,500	4,263,000	2,221,000	6,484,000	37,717,500	75.44	-
2010	15,381,255	16,314,988	31,696,243	4,491,255	2,294,065	6,785,319	38,481,562	78.96	-
2011	15,666,192	16,500,051	32,166,244	4,731,731	2,369,533	7,101,264	39,267,508	78.54	-
2012	15,956,408	16,687,214	32,643,622	4,985,083	2,447,464	7,432,567	40,076,189	80.15	-
2013	16,252,000	16,876,500	33,128,500	5,252,000	2,528,000	7,780,000	40,908,500	81.82	-
2014	16,687,254	16,976,996	33,664,250	5,434,036	2,582,407	8,016,443	41,680,693	83.36	-
2015	17,134,164	17,078,090	34,212,255	5,622,382	2,637,985	8,260,367	42,472,622	84.95	-
2016	17,593,044	17,179,787	34,772,830	5,817,255	2,694,760	8,512,015	43,284,845	86.57	-
2017	18,064,212	17,282,069	35,346,301	6,018,883	2,752,756	8,771,639	44,117,940	88.24	-
2018	18,548,000	17,385,000	35,933,000	6,227,500	2,812,000	9,039,500	44,972,500	89.95	-
2019	18,953,000	17,463,000	36,416,000	6,402,000	2,874,000	9,278,000	45,692,000	91.38	-
2020	19,365,000	17,541,000	36,906,000	6,581,000	2,936,000	9,517,000	46,423,000	92.85	-
2021	19,786,000	17,617,000	37,403,000	6,764,000	2,999,000	9,763,000	47,166,000	94.33	-
2022	20,215,000	17,690,000	37,905,000	6,952,000	3,064,000	10,016,000	47,921,000	95.84	-
2023	20,652,000	17,763,000	38,415,000	7,144,000	3,129,000	10,273,000	48,688,000	97.38	-
2024	20,989,000	17,827,000	38,816,000	7,316,000	3,189,000	10,505,000	49,321,000	98.64	-
2025	21,331,000	17,889,000	39,220,000	7,492,000	3,250,000	10,742,000	49,962,000	99.92	-
2026	21,679,000	17,950,000	39,629,000	7,671,000	3,312,000	10,983,000	50,612,000	101.22	-
2027	22,032,000	18,010,000	40,042,000	7,853,000	3,375,000	11,228,000	51,270,000	102.54	-
2028	22,391,000	18,068,000	40,459,000	8,039,000	3,439,000	11,478,000	51,937,000	103.87	-
Constrained--Phase 1 Project									
2016	18,898,000	19,220,000	38,118,000	6,135,000	2,928,000	9,063,000	47,181,000	94.36	-
2017	19,386,000	19,386,000	38,772,000	6,333,000	3,005,000	9,338,000	48,110,000	96.22	-
2018	19,887,000	19,554,000	39,441,000	6,537,000	3,084,000	9,621,000	49,062,000	98.12	-
2019	20,384,000	19,707,000	40,091,000	6,742,000	3,161,000	9,903,000	49,994,000	99.99	-
2020	20,892,000	19,858,000	40,750,000	6,953,000	3,241,000	10,194,000	50,944,000	101.89	-
2021	21,371,000	19,989,000	41,340,000	7,155,000	3,315,000	10,470,000	51,810,000	103.62	-
2022	21,859,000	20,078,000	41,937,000	7,363,000	3,391,000	10,754,000	52,691,000	105.38	-
2023	22,357,000	20,186,000	42,543,000	7,576,000	3,468,000	11,044,000	53,587,000	107.17	-
2024	22,865,000	20,292,000	43,157,000	7,795,000	3,546,000	11,341,000	54,498,000	109.00	-
2025	23,339,000	20,355,000	43,694,000	8,002,000	3,619,000	11,821,000	55,315,000	110.63	-
2026	23,820,000	20,417,000	44,237,000	8,215,000	3,693,000	11,908,000	56,145,000	112.29	-
2027	24,311,000	20,475,000	44,786,000	8,433,000	3,768,000	12,201,000	56,987,000	113.97	-
2028	24,811,000	20,532,000	45,343,000	8,655,000	3,844,000	12,499,000	57,842,000	115.68	-

Sources: Leigh Fisher Associates, FAA Terminal Area Forecast, and U.S. DOT data.

Notes:

(1): 2002 and 2003 distributions are estimated based on input from FAA and Ricondo & Associates.

(2) Unconstrained: based on 2002 TAF.

(3) Constrained-No Project:

Data through 2018 from ORD OMP EIS.

Data after 2018 extrapolated assuming:

Gradually reduced annual growth rates

Increasing enplaned passengers per operation (up-gauging in constrained environment)

Increased proportion of originating passengers

(4) Constrained-Phase 1 Project:

Gradually reduced annual growth rates

Increasing enplaned passengers per operation (up-gauging in constrained environment)

Increased proportion of originating passengers

Average Seats	Average Load Factor
105	68%
106	69%
106	69%
107	70%
108	71%
109	71%
109	72%
110	72%
111	73%
112	73%
113	73%
114	74%
115	74%
116	75%
117	75%
118	75%
109	72%
111	73%
112	73%
113	74%
114	75%
116	75%
117	76%
118	77%
120	77%
121	78%
122	79%
123	79%
125	79%
127	79%
129	79%
131	79%
133	79%
134	79%
136	80%
137	80%
139	80%
141	80%
116	75%
117	76%
118	76%
120	76%
122	76%
124	77%
126	77%
127	77%
129	77%
131	78%
132	78%
134	78%
135	78%

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
OMP-Phase 1 Airfield
(millions of 2001 dollars)

			Costs			Present Value				
Year	Benefits from Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	505.1	0.0	505.1	1.2250	0.0	0.0	412.3	(412.3)
2005	0.0	0.0	604.6	0.0	604.6	1.3108	0.0	0.0	461.3	(461.3)
2006	0.0	0.0	535.4	0.0	535.4	1.4026	0.0	0.0	381.8	(381.8)
2007	347.0	347.0	329.2	4.8	334.0	1.5007	231.2	231.2	222.5	8.7
2008	513.3	513.3	316.1	4.8	320.9	1.6058	319.6	319.6	199.8	119.8
2009	684.4	684.4	20.0	15.6	35.6	1.7182	398.3	398.3	20.7	377.6
2010	859.6	859.6	0.0	15.6	15.6	1.8385	467.6	467.6	8.5	459.1
2011	1,042.5	1,042.5	0.0	15.6	15.6	1.9672	530.0	530.0	7.9	522.0
2012	1,233.4	1,233.4	0.0	15.6	15.6	2.1049	586.0	586.0	7.4	578.6
2013	1,432.7	1,432.7	0.0	15.6	15.6	2.2522	636.1	636.1	6.9	629.2
2014	1,636.2	1,636.2	0.0	15.6	15.6	2.4098	679.0	679.0	6.5	672.5
2015	1,848.7	1,848.7	0.0	15.6	15.6	2.5785	716.9	716.9	6.1	710.9
2016	1,852.2	1,852.2	0.0	15.6	15.6	2.7590	671.3	671.3	5.7	665.7
2017	1,899.3	1,899.3	0.0	15.6	15.6	2.9522	643.4	643.4	5.3	638.1
2018	1,947.2	1,947.2	0.0	15.6	15.6	3.1588	616.4	616.4	4.9	611.5
2019	2,045.9	2,045.9	0.0	15.6	15.6	3.3799	605.3	605.3	4.6	600.7
2020	2,147.5	2,147.5	0.0	15.6	15.6	3.6165	593.8	593.8	4.3	589.5
2021	2,205.1	2,205.1	0.0	15.6	15.6	3.8697	569.8	569.8	4.0	565.8
2022	2,264.0	2,264.0	0.0	15.6	15.6	4.1406	546.8	546.8	3.8	543.0
2023	2,324.3	2,324.3	0.0	15.6	15.6	4.4304	524.6	524.6	3.5	521.1
2024	2,452.2	2,452.2	0.0	15.6	15.6	4.7405	517.3	517.3	3.3	514.0
2025	2,533.6	2,533.6	0.0	15.6	15.6	5.0724	499.5	499.5	3.1	496.4
2026	2,616.7	2,616.7	0.0	15.6	15.6	5.4274	482.1	482.1	2.9	479.2
2027	2,701.6	2,701.6	0.0	15.6	15.6	5.8074	465.2	465.2	2.7	462.5
2028	2,788.2	2,788.2	0.0	15.6	15.6	6.2139	448.7	448.7	2.5	446.2
2029	0.0	0.0	0.0	0.0	0.0	6.6488	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	7.1143	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	7.6123	0.0	0.0	0.0	0.0
2032	0.0	0.0	0.0	0.0	0.0	8.1451	0.0	0.0	0.0	0.0
Total	$39,375.7	$39,375.7	$2,454.9	$322.1	$2,777.0		$11,749.1	$11,749.1	$1,919.6	$9,829.5
Plus: Salvage Value		$44.6						$11,793.7	$1,919.6	$9,874.0

Benefit-Cost Ratio of Project:	**6.14**

	1	2	3	4	5	6	7	8
Source	Average Travel Time per Operation (minutes) Simulation Studies	Value of Time per Minute FAA Critical Values	Base Case Value of Travel Time (1) * (2)	Average Segment Money Fare DB1a Database	Base Case Full Price of Travel (3) + (4)	Base Case Total Passengers (millions) Constrained No Project	Scenario Total Passengers (millions) TAF unconstrained Constrained Phase 1	Scenario Full Price of Travel -col5*(1+x)/(1-x)
		$22/49 in 0.46/min						
Year								-1.18
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	#DIV/0!
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	#DIV/0!
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	#DIV/0!
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	#DIV/0!
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	280.80
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	279.76
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	277.83
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	276.65
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	275.49
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	274.33
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	273.18
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	271.50
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	269.82
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	270.44
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	270.60
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	270.76
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	270.09
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	269.42
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	269.19
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	268.97
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	268.75
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	267.85
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	267.41
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	266.96
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	266.52
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	266.07
2029								
2030								
2031								
2032								

	9	10	11	12
x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil)	Benefits to Incremental Pax ($ mil)	Total Benefits ($ Mil)	PV of Total Benefits at 7 percent PV in Year 20XX
x=elasticity*(col7 +col6)/(col7-col6)	((5)-(8))*(6)	0.5*((5)-(8))*(7)-(6))	(9)+(10)	
#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
-119.41	343.58	3.43159339	347.01	
-82.74	505.95	7.32501679	513.27	
-63.40	671.67	12.7460363	684.42	
-51.69	840.00	19.63552	859.64	
-43.66	1,014.34	28.1965387	1,042.54	
-37.80	1,194.92	38.5276175	1,233.44	
-33.35	1,381.97	50.7320917	1,432.70	
-29.81	1,571.41	64.8219523	1,636.23	
-26.93	1,767.62	81.0478637	1,848.66	
-27.42	1,772.45	79.7709538	1,852.22	
-27.28	1,817.09	82.2108152	1,899.30	
-27.15	1,862.52	84.6827643	1,947.21	
-26.26	1,953.95	91.9841543	2,045.93	
-25.43	2,047.79	99.7140251	2,147.50	
-25.17	2,101.59	103.462013	2,205.05	
-24.91	2,156.64	107.334736	2,263.98	
-24.65	2,212.94	111.333364	2,324.27	
-23.68	2,329.96	122.282782	2,452.25	
-23.22	2,404.77	128.825161	2,533.59	
-22.78	2,481.09	135.618473	2,616.70	
-22.36	2,558.90	142.668659	2,701.57	
-21.95	2,638.22	149.976672	2,788.19	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
OMP-Phase I Airfield
(millions of 2001 dollars)

			Costs			Present Value				
Year	Benefits from Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	505.1	0.0	505.1	1.2250	0.0	0.0	412.3	(412.3)
2005	0.0	0.0	604.6	0.0	604.6	1.3108	0.0	0.0	461.3	(461.3)
2006	0.0	0.0	535.4	0.0	535.4	1.4026	0.0	0.0	381.8	(381.8)
2007	54.3	54.3	329.2	4.8	334.0	1.5007	36.2	36.2	222.5	(186.4)
2008	80.5	80.5	316.1	4.8	320.9	1.6058	50.2	50.2	199.8	(149.7)
2009	107.7	107.7	20.0	15.6	35.6	1.7182	62.7	62.7	20.7	42.0
2010	135.7	135.7	0.0	15.6	15.6	1.8385	73.8	73.8	8.5	65.3
2011	165.1	165.1	0.0	15.6	15.6	1.9672	83.9	83.9	7.9	76.0
2012	195.9	195.9	0.0	15.6	15.6	2.1049	93.1	93.1	7.4	85.6
2013	228.2	228.2	0.0	15.6	15.6	2.2522	101.3	101.3	6.9	94.4
2014	261.3	261.3	0.0	15.6	15.6	2.4098	108.4	108.4	6.5	102.0
2015	296.1	296.1	0.0	15.6	15.6	2.5785	114.8	114.8	6.1	108.8
2016	296.5	296.5	0.0	15.6	15.6	2.7590	107.5	107.5	5.7	101.8
2017	304.1	304.1	0.0	15.6	15.6	2.9522	103.0	103.0	5.3	97.7
2018	311.8	311.8	0.0	15.6	15.6	3.1588	98.7	98.7	4.9	93.8
2019	328.0	328.0	0.0	15.6	15.6	3.3799	97.0	97.0	4.6	92.4
2020	344.6	344.6	0.0	15.6	15.6	3.6165	95.3	95.3	4.3	91.0
2021	354.0	354.0	0.0	15.6	15.6	3.8697	91.5	91.5	4.0	87.4
2022	363.5	363.5	0.0	15.6	15.6	4.1406	87.8	87.8	3.8	84.0
2023	373.3	373.3	0.0	15.6	15.6	4.4304	84.3	84.3	3.5	80.7
2024	394.4	394.4	0.0	15.6	15.6	4.7405	83.2	83.2	3.3	79.9
2025	407.8	407.8	0.0	15.6	15.6	5.0724	80.4	80.4	3.1	77.3
2026	421.4	421.4	0.0	15.6	15.6	5.4274	77.7	77.7	2.9	74.8
2027	435.4	435.4	0.0	15.6	15.6	5.8074	75.0	75.0	2.7	72.3
2028	449.7	449.7	0.0	15.6	15.6	6.2139	72.4	72.4	2.5	69.8
2029	0.0	0.0	0.0	0.0	0.0	6.6488	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	7.1143	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	7.6123	0.0	0.0	0.0	0.0
2032	0.0	0.0	0.0	0.0	0.0	8.1451	0.0	0.0	0.0	0.0
Total	$6,309.5	$6,309.5	$2,454.9	$322.1	$2,777.0		$1,878.1	$1,878.1	$1,919.6	($41.6)
Plus: Salvage Value		$44.6						$1,922.6	$1,919.6	$3.0

Benefit-Cost Ratio of Project:	**1.00**

	1	2	3	4	5	6	7	8
	Average Travel Time per Operation (minutes)	Value of Time per Minute FAA	Base Case Value of Travel Time	Average Segment Money Fare DB1a	Base Case Full Price of Travel	Base Case Total Passengers (millions)	Scenario Total Passengers (millions) TAF unconstrained	Scenario Full Price of Travel
Source	Simulation Studies	Critical Values	(1) * (2)	Database	(3) + (4)	Constrained No Project	Constrained Phase 1	-col5*(1+x)/(1-x)
		$27.36/hr						
		0.46/min						
Year								
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	#DIV/0!
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	#DIV/0!
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	#DIV/0!
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	#DIV/0!
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	284.80
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	285.53
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	285.33
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	285.84
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	286.36
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	286.87
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	287.38
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	287.34
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	287.30
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	287.63
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	287.89
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	288.16
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	288.04
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	287.93
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	287.90
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	287.86
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	287.82
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	287.67
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	287.60
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	287.52
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	287.45
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	287.38
2029								
2030								
2031								
2032								

	9	10	11	12
x=elasticity*(col7 +col6)/(col7-col6) x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil) ((5)-(8))*(6)	Benefits to Incremental Pax ($ mil) 0.5*((5)-(8))*(7)-(6))	Total Benefits ($ Mil) (9)+(10)	PV of Total Benefits at 7 percent PV in Year 20XX
Business				
[redacted]				
Personal	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]
[redacted]	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]
	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]
	#DIV/0!	#DIV/0!	#DIV/0!	[redacted]
	-768.68	53.75	0.53682896	54.29
	-532.64	79.39	1.14946097	80.54
	-408.17	105.72	2.00627889	107.73
	-332.79	132.61	3.09986633	135.71
	-281.05	160.60	4.46448452	165.07
	-243.36	189.75	6.11805061	195.87
	-214.67	220.09	8.07940492	228.17
	-191.87	250.98	10.3533065	261.34
	-173.38	283.14	12.9825286	296.13
	-176.50	283.77	12.7712088	296.54
	-175.61	290.96	13.1637871	304.12
	-174.79	298.27	13.5615052	311.84
	-169.07	313.23	14.7456388	327.98
	-163.71	328.60	16.0009124	344.61
	-162.01	337.35	16.6078855	353.96
	-160.33	346.30	17.2353063	363.54
	-158.69	355.46	17.8833788	373.35
	-152.44	374.76	19.6685391	394.43
	-149.50	387.05	20.7347074	407.79
	-146.67	399.60	21.8426951	421.45
	-143.94	412.41	22.9935457	435.41
	-141.32	425.48	24.1874709	449.67

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
OMP-Phase I Airfield
(millions of 2001 dollars)

			Costs			Present Value				
Year	Benefits from Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	505.1	0.0	505.1	1.2250	0.0	0.0	412.3	(412.3)
2005	0.0	0.0	604.6	0.0	604.6	1.3108	0.0	0.0	461.3	(461.3)
2006	0.0	0.0	535.4	0.0	535.4	1.4026	0.0	0.0	381.8	(381.8)
2007	170.5	170.5	329.2	4.8	334.0	1.5007	113.6	113.6	222.5	(108.9)
2008	332.3	332.3	316.1	4.8	320.9	1.6058	206.9	206.9	199.8	7.1
2009	124.5	124.5	20.0	15.6	35.6	1.7182	72.4	72.4	20.7	51.7
2010	285.8	285.8	0.0	15.6	15.6	1.8385	155.5	155.5	8.5	147.0
2011	454.4	454.4	0.0	15.6	15.6	1.9672	231.0	231.0	7.9	223.1
2012	12.1	12.1	0.0	15.6	15.6	2.1049	5.8	5.8	7.4	(1.7)
2013	180.5	180.5	0.0	15.6	15.6	2.2522	80.1	80.1	6.9	73.2
2014	137.5	137.5	0.0	15.6	15.6	2.4098	57.1	57.1	6.5	50.6
2015	317.5	317.5	0.0	15.6	15.6	2.5785	123.1	123.1	6.1	117.1
2016	59.9	59.9	0.0	15.6	15.6	2.7590	21.7	21.7	5.7	16.0
2017	70.6	70.6	0.0	15.6	15.6	2.9522	23.9	23.9	5.3	18.6
2018	81.1	81.1	0.0	15.6	15.6	3.1588	25.7	25.7	4.9	20.7
2019	148.9	148.9	0.0	15.6	15.6	3.3799	44.1	44.1	4.6	39.4
2020	219.0	219.0	0.0	15.6	15.6	3.6165	60.6	60.6	4.3	56.2
2021	245.4	245.4	0.0	15.6	15.6	3.8697	63.4	63.4	4.0	59.4
2022	272.5	272.5	0.0	15.6	15.6	4.1406	65.8	65.8	3.8	62.0
2023	300.6	300.6	0.0	15.6	15.6	4.4304	67.8	67.8	3.5	64.3
2024	400.6	400.6	0.0	15.6	15.6	4.7405	84.5	84.5	3.3	81.2
2025	454.5	454.5	0.0	15.6	15.6	5.0724	89.6	89.6	3.1	86.5
2026	509.7	509.7	0.0	15.6	15.6	5.4274	93.9	93.9	2.9	91.0
2027	566.4	566.4	0.0	15.6	15.6	5.8074	97.5	97.5	2.7	94.8
2028	624.3	624.3	0.0	15.6	15.6	6.2139	100.5	100.5	2.5	98.0
2029	0.0	0.0	0.0	0.0	0.0	6.6488	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	7.1143	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	7.6123	0.0	0.0	0.0	0.0
2032	0.0	0.0	0.0	0.0	0.0	8.1451	0.0	0.0	0.0	0.0
Total	$5,968.6	$5,968.6	$2,454.9	$322.1	$2,777.0		$1,884.6	$1,884.6	$1,919.6	($35.1)
Plus: Salvage Value		$44.6						$1,929.1	$1,919.6	$9.5

Benefit-Cost Ratio of Project:	**1.0050**

	1	2	3	4	5	6		7
	Average Travel Time per Operation (minutes)	Value of Time per Minute	Base Case Value of Travel Time	Average Segment Money Fare	Base Case Full Price of Travel	Base Case Total Passengers (millions)		Scenario Total Passengers (millions) TAF unconstrained
Source	Simulation Studies	FAA Critical Values	(1) * (2)	DB1a Database	(3) + (4)	Constrained No Project	Original Constrained Phase 1	Modified Constrained Phase 1
Year								
2001		0.46		220.05	220.05			
2002		0.46		220.05	220.05	63.42	63.42	63.42
2003	137.65	0.46	62.77	220.05	282.82	65.22	65.22	65.22
2004	139.76	0.46	63.73	220.05	283.78	67.27	67.27	67.27
2005	141.87	0.46	64.69	220.05	284.74	69.39	69.39	69.39
2006	143.98	0.46	65.65	220.05	285.70	71.60	71.60	71.60
2007	143.63	0.46	65.50	220.05	285.55	72.44	73.89	73.15
2008	145.95	0.46	66.55	220.05	286.60	73.91	76.05	75.29
2009	146.23	0.46	66.68	220.05	286.73	75.44	78.30	[redacted]
2010	148.06	0.46	67.52	220.05	287.57	76.96	80.56	[redacted]
2011	149.89	0.46	68.35	220.05	288.40	78.54	82.90	[redacted]
2012	151.73	0.46	69.19	220.05	289.24	80.15	85.32	[redacted]
2013	153.56	0.46	70.02	220.05	290.07	81.82	87.82	[redacted]
2014	154.17	0.46	70.30	220.05	290.35	83.36	90.24	[redacted]
2015	154.79	0.46	70.58	220.05	290.63	84.95	92.73	[redacted]
2016	155.40	0.46	70.86	220.05	290.91	86.57	94.36	[redacted]
2017	156.01	0.46	71.14	220.05	291.19	88.24	96.22	[redacted]
2018	156.63	0.46	71.42	220.05	291.47	89.95	98.12	[redacted]
2019	156.63	0.46	71.42	220.05	291.47	91.38	99.99	[redacted]
2020	156.63	0.46	71.42	220.05	291.47	92.85	101.89	[redacted]
2021	156.63	0.46	71.42	220.05	291.47	94.33	103.62	[redacted]
2022	156.63	0.46	71.42	220.05	291.47	95.84	105.38	[redacted]
2023	156.63	0.46	71.42	220.05	291.47	97.38	107.17	[redacted]
2024	156.63	0.46	71.42	220.05	291.47	98.64	109.00	[redacted]
2025	156.63	0.46	71.42	220.05	291.47	99.92	110.63	[redacted]
2026	156.63	0.46	71.42	220.05	291.47	101.22	112.29	[redacted]
2027	156.63	0.46	71.42	220.05	291.47	102.54	113.97	[redacted]
2028	156.63	0.46	71.42	220.05	291.47	103.87	115.68	[redacted]
2029								
2030					Annual Average Growth Rate	1.9%	2.3%	2.0%

2031	Change in 2028 pax	-8.70%
2032		

		8		9	10	11	12
		Scenario Full Price of Travel	x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil)	Benefits to Incremental Pax ($ mil)	Total Benefits ($ Mil)	PV of Total Benefits at 7 percent
Reduced Growth Factors		-col5*(1+x)/(1-x)	x=elasticity*(col7 +col6)/(col7-col6)	((5)-(8))*(6)	0.5*((5)-(8))*(7)-(6))	(9)+(10)	PV in Year 20XX
		-1.18					
	0.00						
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	[illegible]
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	[illegible]
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	[illegible]
	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	[illegible]
0.99	0.02	283.20	-242.76	169.71	0.82953021	170.54	
	0.03	282.15	-127.70	329.20	3.0724683	332.27	
0.97	0.04	285.08	-347.73	124.05	0.42266476	124.47	
	0.05	283.88	-155.04	283.66	2.17691848	285.84	
	0.06	282.68	-99.88	449.05	5.37247713	454.43	
0.94	0.06	289.09	-3,830.34	12.10	0.00373183	12.11	
	0.07	287.88	-263.15	179.69	0.80993734	180.50	
0.93	0.08	288.71	-352.27	137.03	0.46086725	137.49	
	0.09	286.92	-155.70	315.10	2.4079948	317.51	
0.92	0.09	290.22	-841.30	59.80	0.08404738	59.88	
	0.09	290.39	-728.45	70.45	0.11437591	70.56	
	0.09	290.57	-646.66	80.96	0.14809851	81.11	
	0.09	289.85	-357.92	148.42	0.49127638	148.91	
	0.10	289.12	-247.28	217.99	1.04595078	219.04	
	0.10	288.88	-224.31	244.06	1.29156315	245.35	
	0.10	288.64	-205.19	270.96	1.5682799	272.53	
	0.10	288.40	-189.05	298.69	1.87734834	300.56	
	0.10	287.44	-143.72	397.34	3.29160411	400.63	
	0.11	286.96	-128.35	450.32	4.18123087	454.50	
	0.11	286.49	-115.95	504.54	5.19070856	509.73	
	0.11	286.01	-105.74	560.03	6.32467308	566.35	
	0.11	285.53	-97.18	616.74	7.58585328	624.33	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
OMP-Phase 1 Airfield
(millions of 2001 dollars)

			Costs			Present Value				
Year	Benefits from Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	505.1	0.0	505.1	1.2250	0.0	0.0	412.3	(412.3)
2005	0.0	0.0	604.6	0.0	604.6	1.3108	0.0	0.0	461.3	(461.3)
2006	0.0	0.0	535.4	0.0	535.4	1.4026	0.0	0.0	381.8	(381.8)
2007	267.4	267.4	329.2	4.8	334.0	1.5007	178.2	178.2	222.5	(44.3)
2008	394.1	394.1	316.1	4.8	320.9	1.6058	245.4	245.4	199.8	45.6
2009	525.3	525.3	20.0	15.6	35.6	1.7182	305.7	305.7	20.7	285.0
2010	657.8	657.8	0.0	15.6	15.6	1.8385	357.8	357.8	8.5	349.3
2011	795.5	795.5	0.0	15.6	15.6	1.9672	404.4	404.4	7.9	396.4
2012	938.4	938.4	0.0	15.6	15.6	2.1049	445.8	445.8	7.4	438.4
2013	1,086.9	1,086.9	0.0	15.6	15.6	2.2522	482.6	482.6	6.9	475.6
2014	1,240.1	1,240.1	0.0	15.6	15.6	2.4098	514.6	514.6	6.5	508.1
2015	1,399.7	1,399.7	0.0	15.6	15.6	2.5785	542.8	542.8	6.1	536.8
2016	1,401.0	1,401.0	0.0	15.6	15.6	2.7590	507.8	507.8	5.7	502.1
2017	1,435.3	1,435.3	0.0	15.6	15.6	2.9522	486.2	486.2	5.3	480.9
2018	1,470.1	1,470.1	0.0	15.6	15.6	3.1588	465.4	465.4	4.9	460.4
2019	1,544.6	1,544.6	0.0	15.6	15.6	3.3799	457.0	457.0	4.6	452.4
2020	1,621.3	1,621.3	0.0	15.6	15.6	3.6165	448.3	448.3	4.3	444.0
2021	1,664.7	1,664.7	0.0	15.6	15.6	3.8697	430.2	430.2	4.0	426.2
2022	1,709.2	1,709.2	0.0	15.6	15.6	4.1406	412.8	412.8	3.8	409.0
2023	1,754.7	1,754.7	0.0	15.6	15.6	4.4304	396.1	396.1	3.5	392.5
2024	1,851.4	1,851.4	0.0	15.6	15.6	4.7405	390.5	390.5	3.3	387.2
2025	1,912.8	1,912.8	0.0	15.6	15.6	5.0724	377.1	377.1	3.1	374.0
2026	1,975.5	1,975.5	0.0	15.6	15.6	5.4274	364.0	364.0	2.9	361.1
2027	2,039.6	2,039.6	0.0	15.6	15.6	5.8074	351.2	351.2	2.7	348.5
2028	2,105.0	2,105.0	0.0	15.6	15.6	6.2139	338.8	338.8	2.5	336.2
2029	0.0	0.0	0.0	0.0	0.0	6.6488	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	7.1143	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	7.6123	0.0	0.0	0.0	0.0
2032	0.0	0.0	0.0	0.0	0.0	8.1451	0.0	0.0	0.0	0.0
Total	$29,790.2	$29,790.2	$2,454.9	$322.1	$2,777.0		$8,902.6	$8,902.6	$1,919.6	$6,983.0
Plus: Salvage Value		$44.6						$8,947.2	$1,919.6	$7,027.5

Benefit-Cost Ratio of Project:	**4.66**

Source Year	1 Average Travel Time per Operation (minutes) Simulation Studies	2 Value of Time per Minute FAA Critical Values 27.36/hr	3 Base Case Value of Travel Time (1) * (2)	4 Average Segment Money Fare DB1a Database	5 Base Case Full Price of Travel (3) + (4)	6 Base Case Total Passengers (millions) Constrained No Project	7 Scenario Total Passengers (millions) TAF unconstrained Constrained Phase 1
2001		0.00		220.05	220.05		
2002		0.00		220.05	220.05	63.42	63.42
2003	137.65	0.00	0.00	220.05	220.05	65.22	65.22
2004	139.76	0.00	0.00	220.05	220.05	67.27	67.27
2005	141.87	0.00	0.00	220.05	220.05	69.39	69.39
2006	143.98	0.00	0.00	220.05	220.05	71.60	71.60
2007	143.63	0.00	0.00	220.05	220.05	72.44	73.89
2008	145.95	0.00	0.00	220.05	220.05	73.91	76.05
2009	146.23	0.00	0.00	220.05	220.05	75.44	78.30
2010	148.06	0.00	0.00	220.05	220.05	76.96	80.56
2011	149.89	0.00	0.00	220.05	220.05	78.54	82.90
2012	151.73	0.00	0.00	220.05	220.05	80.15	85.32
2013	153.56	0.00	0.00	220.05	220.05	81.82	87.82
2014	154.17	0.00	0.00	220.05	220.05	83.36	90.24
2015	154.79	0.00	0.00	220.05	220.05	84.95	92.73
2016	155.40	0.00	0.00	220.05	220.05	86.57	94.36
2017	156.01	0.00	0.00	220.05	220.05	88.24	96.22
2018	156.63	0.00	0.00	220.05	220.05	89.95	98.12
2019	156.63	0.00	0.00	220.05	220.05	91.38	99.99
2020	156.63	0.00	0.00	220.05	220.05	92.85	101.89
2021	156.63	0.00	0.00	220.05	220.05	94.33	103.62
2022	156.63	0.00	0.00	220.05	220.05	95.84	105.38
2023	156.63	0.00	0.00	220.05	220.05	97.38	107.17
2024	156.63	0.00	0.00	220.05	220.05	98.64	109.00
2025	156.63	0.00	0.00	220.05	220.05	99.92	110.63
2026	156.63	0.00	0.00	220.05	220.05	101.22	112.29
2027	156.63	0.00	0.00	220.05	220.05	102.54	113.97
2028	156.63	0.00	0.00	220.05	220.05	103.87	115.68
2029							
2030							
2031							
2032							

8		9	10	11	12
Scenario Full Price of Travel -col5*(1+x)/(1-x) -1.18	x=elasticity*(col7 +col6)/(col7-col6) x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil) ((5)-(8))*(6)	Benefits to Incremental Pax ($ mil) 0.5*((5)-(8))*(7)-(6))	Total Benefits ($ Mil) (9)+(10)	PV of Total Benefits at 7 percent PV in Year 20XX
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	[illegible]	
216.39	-119.41	264.77	2.64448802	267.42	
214.79	-82.74	388.46	5.62407693	394.08	
213.22	-63.40	515.47	9.78192963	525.26	
211.70	-51.69	642.78	15.025453	657.81	
210.20	-43.66	773.94	21.5139632	795.46	
208.71	-37.80	909.09	29.3116238	938.40	
207.24	-33.35	1,048.37	38.4855079	1,086.85	
205.76	-29.81	1,190.93	49.1267417	1,240.05	
204.29	-26.93	1,338.34	61.3647865	1,399.70	
204.56	-27.42	1,340.71	60.3399083	1,401.05	
204.49	-27.28	1,373.16	62.125718	1,435.28	
204.42	-27.15	1,406.14	63.9323252	1,470.07	
203.91	-26.26	1,475.16	69.444602	1,544.60	
203.40	-25.43	1,546.00	75.2803659	1,621.28	
203.23	-25.17	1,586.62	78.1099567	1,664.73	
203.06	-24.91	1,628.18	81.0337184	1,709.22	
202.89	-24.65	1,670.69	84.052533	1,754.74	
202.22	-23.68	1,759.04	92.3189348	1,851.35	
201.88	-23.22	1,815.51	97.2581864	1,912.77	
201.55	-22.78	1,873.13	102.386884	1,975.51	
201.21	-22.36	1,931.88	107.709511	2,039.59	
200.88	-21.95	1,991.76	113.226788	2,104.98	

City of Chicago
O'Hare International Airport
O'Hare Modernization Program (OMP)
Benefit-Cost Analysis

BENEFIT-COST ANALYSIS SUMMARY
OMP-Phase 1 Airfield
(millions of 2001 dollars)

			Costs			Present Value				
Year	Benefits from Consumer Surplus	Total Project Benefits	Project Construction Costs	Incremental O&M Expenses	Total Project Costs	Discount Rate Factor	Passenger Delay Savings	Total Project Benefits	Total Project Costs	Annual Net Present Value (Benefits-Costs)
2001	$0.0	$0.0	$0.0	$0.0	$0.0	1.0000	$0.0	$0.0	$0.0	$0.0
2002	0.0	0.0	17.1	0.0	17.1	1.0700	0.0	0.0	16.0	(16.0)
2003	0.0	0.0	127.3	0.0	127.3	1.1449	0.0	0.0	111.2	(111.2)
2004	0.0	0.0	505.1	0.0	505.1	1.2250	0.0	0.0	412.3	(412.3)
2005	0.0	0.0	604.6	0.0	604.6	1.3108	0.0	0.0	461.3	(461.3)
2006	0.0	0.0	535.4	0.0	535.4	1.4026	0.0	0.0	381.8	(381.8)
2007	201.1	201.1	329.2	4.8	334.0	1.5007	134.0	134.0	222.5	(88.5)
2008	298.3	298.3	316.1	4.8	320.9	1.6058	185.8	185.8	199.8	(14.1)
2009	397.9	397.9	20.0	15.6	35.6	1.7182	231.6	231.6	20.7	210.8
2010	500.8	500.8	0.0	15.6	15.6	1.8385	272.4	272.4	8.5	263.9
2011	608.6	608.6	0.0	15.6	15.6	1.9672	309.4	309.4	7.9	301.4
2012	721.5	721.5	0.0	15.6	15.6	2.1049	342.8	342.8	7.4	335.4
2013	839.8	839.8	0.0	15.6	15.6	2.2522	372.9	372.9	6.9	365.9
2014	959.7	959.7	0.0	15.6	15.6	2.4098	398.2	398.2	6.5	391.8
2015	1,085.0	1,085.0	0.0	15.6	15.6	2.5785	420.8	420.8	6.1	414.7
2016	1,087.9	1,087.9	0.0	15.6	15.6	2.7590	394.3	394.3	5.7	388.6
2017	1,116.3	1,116.3	0.0	15.6	15.6	2.9522	378.1	378.1	5.3	372.8
2018	1,145.2	1,145.2	0.0	15.6	15.6	3.1588	362.5	362.5	4.9	357.6
2019	1,203.3	1,203.3	0.0	15.6	15.6	3.3799	356.0	356.0	4.6	351.4
2020	1,263.0	1,263.0	0.0	15.6	15.6	3.6165	349.2	349.2	4.3	344.9
2021	1,296.8	1,296.8	0.0	15.6	15.6	3.8697	335.1	335.1	4.0	331.1
2022	1,331.5	1,331.5	0.0	15.6	15.6	4.1406	321.6	321.6	3.8	317.8
2023	1,367.0	1,367.0	0.0	15.6	15.6	4.4304	308.5	308.5	3.5	305.0
2024	1,442.2	1,442.2	0.0	15.6	15.6	4.7405	304.2	304.2	3.3	300.9
2025	1,490.1	1,490.1	0.0	15.6	15.6	5.0724	293.8	293.8	3.1	290.7
2026	1,538.9	1,538.9	0.0	15.6	15.6	5.4274	283.5	283.5	2.9	280.7
2027	1,588.9	1,588.9	0.0	15.6	15.6	5.8074	273.6	273.6	2.7	270.9
2028	1,639.8	1,639.8	0.0	15.6	15.6	6.2139	263.9	263.9	2.5	261.4
2029	0.0	0.0	0.0	0.0	0.0	6.6488	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	7.1143	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	7.6123	0.0	0.0	0.0	0.0
2032	0.0	0.0	0.0	0.0	0.0	8.1451	0.0	0.0	0.0	0.0
Total	$23,123.4	$23,123.4	$2,454.9	$322.1	$2,777.0		$6,892.2	$6,892.2	$1,919.6	$4,972.6
Plus: Salvage Value		$44.6						$6,936.8	$1,919.6	$5,017.2

Benefit-Cost Ratio of Project:	**3.61**

	1	2	3	4	5	6	7	8
	Average Travel Time per Operation (minutes)	Value of Time per Minute	Base Case Value of Travel Time	Average Segment Money Fare	Base Case Full Price of Travel	Base Case Total Passengers (millions)	Scenario Total Passengers (millions) TAF unconstrained	Scenario Full Price of Travel
Source	Simulation Studies	FAA Critical Values	(1) * (2)	DB1a Database	(3) + (4)	Constrained No Project	Constrained Phase 1	-col5*(1+x)/(1-x)
		$27.36/hr						
Year		0.46/min		orig fare 220.05				-1.18
2001		0.46		100	100.00			
2002		0.46		100	100.00	63.42	63.42	
2003	137.65	0.46	62.77	100	162.77	65.22	65.22	#DIV/0!
2004	139.76	0.46	63.73	100	163.73	67.27	67.27	#DIV/0!
2005	141.87	0.46	64.69	100	164.69	69.39	69.39	#DIV/0!
2006	143.98	0.46	65.65	100	165.65	71.60	71.60	#DIV/0!
2007	143.63	0.46	65.50	100	165.50	72.44	73.89	162.75
2008	145.95	0.46	66.55	100	166.55	73.91	76.05	162.57
2009	146.23	0.46	66.68	100	166.68	75.44	78.30	161.50
2010	148.06	0.46	67.52	100	167.52	76.96	80.56	161.16
2011	149.89	0.46	68.35	100	168.35	78.54	82.90	160.81
2012	151.73	0.46	69.19	100	169.19	80.15	85.32	160.47
2013	153.56	0.46	70.02	100	170.02	81.82	87.82	160.12
2014	154.17	0.46	70.30	100	170.30	83.36	90.24	159.25
2015	154.79	0.46	70.58	100	170.58	84.95	92.73	158.37
2016	155.40	0.46	70.86	100	170.86	86.57	94.36	158.84
2017	156.01	0.46	71.14	100	171.14	88.24	96.22	159.04
2018	156.63	0.46	71.42	100	171.42	89.95	98.12	159.24
2019	156.63	0.46	71.42	100	171.42	91.38	99.99	158.85
2020	156.63	0.46	71.42	100	171.42	92.85	101.89	158.45
2021	156.63	0.46	71.42	100	171.42	94.33	103.62	158.32
2022	156.63	0.46	71.42	100	171.42	95.84	105.38	158.19
2023	156.63	0.46	71.42	100	171.42	97.38	107.17	158.06
2024	156.63	0.46	71.42	100	171.42	98.64	109.00	157.53
2025	156.63	0.46	71.42	100	171.42	99.92	110.63	157.27
2026	156.63	0.46	71.42	100	171.42	101.22	112.29	157.01
2027	156.63	0.46	71.42	100	171.42	102.54	113.97	156.74
2028	156.63	0.46	71.42	100	171.42	103.87	115.68	156.48
2029								
2030								
2031								
2032								

	9	10	11	12
x=elasticity*(col7 +col6)/(col7-col6) x=elasticity*(col7 +col6)/(col7-col6)	Benefits to Existing Passengers ($ mil) ((5)-(8))*(6)	Benefits to Incremental Pax ($ mil) 0.5*((5)-(8))*(7)-(6))	Total Benefits ($ Mil) (9)+(10)	PV of Total Benefits at 7 percent PV in Year 20XX
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	0.00	
-119.41	199.13	1.98887225	201.12	
-82.74	294.02	4.2567576	298.28	
-63.40	390.45	7.40942804	397.86	
-51.69	489.32	11.4382665	500.76	
-43.66	592.11	16.4594277	608.57	
-37.80	698.96	22.5364317	721.49	
-33.35	810.03	29.7360215	839.76	
-29.81	921.69	38.0204738	959.71	
-26.93	1,037.48	47.569824	1,085.04	
-27.42	1,041.02	46.8520445	1,087.87	
-27.28	1,067.96	48.3176434	1,116.28	
-27.15	1,095.40	49.8039838	1,145.20	
-26.26	1,149.16	54.098108	1,203.26	
-25.43	1,204.35	58.6442322	1,263.00	
-25.17	1,236.00	60.8485146	1,296.84	
-24.91	1,268.37	63.1261571	1,331.50	
-24.65	1,301.48	65.4778468	1,366.96	
-23.68	1,370.31	71.9174646	1,442.23	
-23.22	1,414.30	75.7651959	1,490.07	
-22.78	1,459.19	79.7605075	1,538.95	
-22.36	1,504.95	83.9068925	1,588.86	
-21.95	1,551.60	88.2049119	1,639.80	