CHICAGO SOUTH SUBURBAN AIRPORT SOCIAL
BENEFITS-SOCIAL COSTS ANALYSIS (2023 $)

Year	Calendar Year	Capital Costs[1] (Design/Const; 2023$)	O&M Costs[2]	Direct Tillable & Pasture Farm Acreage Lost due to Project	Farm Revenue Per Acre	Farm Ecological Value Per Acre	Farm Total Production & Ecological Loss Costs[3]	Induced Tillable & Pasture Farm Acreage Lost due to Project	Farm Revenue Per Acre	Ecological Value Per Acre	Ecological Land Loss Costs[3]	33-County IL, IN, WI Estimated Population - Actual & Low End[4]	33-County IL, IN, WI Estimated Population - High End[4]	33-County IL, IN, WI Estimated Population - Mid Range[4]	Total Air Operations Capacity (ORD, MDW, RFD, GYY)[5]	Total Air Operations - Actual & Predicted Low End (Pop.-based)	Predicted Air Operations - High End (Pop.-based)	Predicted Air Operations - Mid Range (Pop.-based)	Predicted Air Operations (FAA)	Total Enplanements (ORD, MDW, RFD, GYY)(FAA)	Passengers per Enplanement	Predicted Volume-related Delays w/o Project (actual in bold)(based on historic avg. delays per op.)	Predicted Total Minutes Delay due to Volume w/o Project (actual in bold)(based on historic avg. mins. delay per op.)	Predicted Minutes Delayed per Delayed Flight	Predicted Annual Passenger Delay Time (hours)	Value of Passenger Travel Time (all purposes)
0	2000											10,348,410				1,350,053				40,956,527	30	**4,031**	**135,718**	**34**	**68,621**	**$54.54**
0	2001											10,409,310				1,314,096				38,672,672	29	**2,765**	**94,108**	**34**	**46,159**	**$54.54**
0	2002											10,449,419				1,365,048				39,594,447	29	**6,372**	**203,150**	**32**	**98,209**	**$54.54**
0	2003											10,481,840				1,388,629				41,625,415	30	**5,197**	**160,693**	**31**	**80,282**	**$54.54**
0	2004											10,516,876				1,451,304				45,415,318	31	**7,656**	**267,630**	**35**	**139,581**	**$54.54**
0	2005											10,541,112				1,377,790				45,203,920	33	**6,213**	**159,391**	**26**	**87,158**	**$54.54**
0	2006											10,574,103				1,376,506				45,832,743	33	**5,544**	**146,297**	**26**	**81,186**	**$54.54**
0	2007											10,625,845				1,341,479				45,781,479	34	**3,285**	**97,941**	**30**	**55,708**	**$54.54**
0	2008											10,679,357				1,241,938				41,819,878	34	**2,146**	**68,390**	**32**	**38,382**	**$54.54**
0	2009											10,723,273				1,157,950				39,487,797	34	**1,005**	**20,720**	**21**	**11,776**	**$54.54**
-13	2010	**($10,054,208)**										10,763,079				1,207,971				40,789,905	34	**1,574**	**35,957**	**23**	**20,236**	**$54.54**
-12	2011	**($5,178,301)**										10,789,637				1,207,886				41,130,856	34	**1,783**	**36,934**	**21**	**20,961**	**$54.54**
-11	2012	**($3,591,703)**										10,811,913				1,197,977				41,726,037	35	**1,546**	**32,061**	**21**	**18,612**	**$54.54**
-10	2013	**($9,684,793)**										10,829,802				1,198,670				42,352,610	35	**2,919**	**61,920**	**21**	**36,464**	**$54.54**
-9	2014	**($65,015,521)**										10,835,279				1,187,595				44,273,022	37	**7,451**	**161,408**	**22**	**100,287**	**$54.54**
-8	2015	**($15,553,545)**										10,820,974				1,190,334				47,247,457	40	**4,104**	**83,072**	**20**	**54,956**	**$54.54**
-7	2016	**($9,331,273)**										10,797,280				1,180,881				48,736,965	41	**1,141**	**28,396**	**25**	**19,533**	**$54.54**
-6	2017	**($4,031,100)**										10,774,705				1,181,378				49,618,873	42	**1,441**	**30,078**	**21**	**21,055**	**$54.54**
-5	2018	**($4,324,136)**										10,742,536				1,208,709				50,659,083	42	**4,023**	**82,792**	**21**	**57,833**	**$54.54**
-4	2019	**($5,466,143)**										10,714,719				1,214,023				51,070,179	42	**5,220**	**114,577**	**22**	**80,332**	**$54.54**
-3	2020	**($3,052,124)**										10,865,158				1,292,588			1,292,588	27,245,392	21	3,847	103,102	27	36,220	$54.54
-2	2021	**($2,271,960)**										10,781,455				1,282,630			1,282,630	28,539,539	22	3,817	102,308	27	37,940	$54.54
-1	2022	**$0**										10,698,224	10,698,224	10,698,224	2,319,987	1,272,728	1,272,728	1,272,728	1,005,252	41,871,287	42	2,992	80,183	27	55,664	$54.54
0	2023	**($8,777,848)**		5,800	($766)	($4,892)	**($32,818,166)**	1,861	($766)	($4,892)	**($10,530,345)**	10,714,403	10,777,994	10,746,198	2,319,987	1,274,653	1,282,218	1,278,436	1,081,200	48,135,962	45	3,218	86,241	27	63,992	$54.54
1	2024	**($111,924,605)**		5,800	($766)	($4,892)	**($32,818,166)**	3,722	($766)	($4,892)	**($21,060,691)**	10,730,606	10,858,359	10,794,483	2,319,987	1,276,581	1,291,779	1,284,180	1,169,674	53,558,903	46	3,481	93,298	27	71,201	$54.54
2	2025	**($325,509,198)**		5,800	($766)	($4,892)	**($32,818,166)**	5,583	($766)	($4,892)	**($31,591,036)**	10,746,833	10,939,324	10,843,079	2,319,987	1,278,511	1,301,411	1,289,961	1,192,017	55,601,027	47	3,548	95,080	27	73,916	$54.54
3	2026	**($290,808,232)**		5,800	($766)	($4,892)	**($32,818,166)**	7,444	($766)	($4,892)	**($42,121,382)**	10,763,085	11,020,892	10,891,989	2,319,987	1,280,445	1,311,115	1,295,780	1,182,003	56,970,381	48	3,518	94,281	27	75,736	$54.54
4	2027	**($72,641,044)**		5,800	($766)	($4,892)	**($32,818,166)**	9,305	($766)	($4,892)	**($52,651,727)**	10,779,362	11,103,068	10,941,215	2,319,987	1,282,381	1,320,891	1,301,636	1,188,022	58,253,602	49	3,536	94,761	27	77,442	$54.54
5	2028	**($3,131,954)**		5,800	($766)	($4,892)	**($32,818,166)**	11,166	($766)	($4,892)	**($63,182,073)**	10,795,664	11,185,857	10,990,760	2,319,987	1,284,321	1,330,740	1,307,530	1,211,606	59,577,751	49	3,606	96,642	27	79,203	$54.54
6	2029	**($3,120,000)**		5,800	($766)	($4,892)	**($32,818,166)**	13,027	($766)	($4,892)	**($73,712,418)**	10,811,989	11,269,263	11,040,626	2,319,987	1,286,263	1,340,663	1,313,463	1,235,657	60,926,525	49	3,677	98,561	27	80,996	$54.54
7	2030	**($10,464,667)**	**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	14,888	($766)	($4,892)	**($84,242,763)**	10,828,340	11,353,291	11,090,816	2,319,987	1,288,208	1,350,659	1,319,434	1,259,703	62,275,400	49	3,749	100,479	27	82,789	$54.54
8	2031	**($39,854,347)**	**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	16,749	($766)	($4,892)	**($94,773,109)**	10,844,716	11,437,946	11,141,331	2,319,987	1,290,156	1,360,731	1,325,443	1,283,806	63,624,494	50	3,821	102,401	27	84,582	$54.54
9	2032	**($47,006,825)**	**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	18,610	($766)	($4,892)	**($105,303,454)**	10,861,116	11,523,232	11,192,174	2,319,987	1,292,107	1,370,877	1,331,492	1,307,796	64,968,481	50	3,892	104,315	27	86,369	$54.54
10	2033		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	20,471	($766)	($4,892)	**($115,833,800)**	10,877,541	11,609,154	11,243,347	2,319,987	1,294,061	1,381,099	1,337,580	1,331,570	66,306,380	50	3,963	106,211	27	88,148	$54.54
11	2034		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	22,333	($766)	($4,892)	**($126,364,145)**	10,893,991	11,695,717	11,294,854	2,319,987	1,296,018	1,391,397	1,343,707	1,355,514	67,658,229	50	4,034	108,121	27	89,945	$54.54
12	2035		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	24,194	($766)	($4,892)	**($136,894,491)**	10,910,465	11,782,925	11,346,695	2,319,987	1,297,978	1,401,771	1,349,875	1,380,813	69,078,223	50	4,109	110,139	27	91,832	$54.54
13	2036		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	26,055	($766)	($4,892)	**($147,424,836)**	10,926,965	11,870,783	11,398,874	2,319,987	1,299,941	1,412,224	1,356,082	1,406,578	70,523,575	50	4,186	112,194	27	93,754	$54.54
14	2037		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	27,916	($766)	($4,892)	**($157,955,182)**	10,943,489	11,959,296	11,451,393	2,319,987	1,301,907	1,422,754	1,362,330	1,431,463	71,995,678	50	4,260	114,179	27	95,711	$54.54
15	2038		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	29,777	($766)	($4,892)	**($168,485,527)**	10,960,039	12,048,470	11,504,254	2,319,987	1,303,876	1,433,362	1,368,619	1,457,400	73,499,061	50	4,337	116,248	27	97,709	$54.54
16	2039		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	31,638	($766)	($4,892)	**($179,015,872)**	10,976,613	12,138,308	11,557,461	2,319,987	1,305,847	1,444,050	1,374,949	1,482,429	75,007,544	51	4,412	118,244	27	99,715	$54.54
17	2040		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	33,499	($766)	($4,892)	**($189,546,218)**	10,993,213	12,228,816	11,611,015	2,319,987	1,307,822	1,454,817	1,381,320	1,508,977	76,550,414	51	4,491	120,362	27	101,766	$54.54
18	2041		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	35,360	($766)	($4,892)	**($200,076,563)**	11,009,838	12,319,999	11,664,918	2,319,987	1,309,800	1,465,665	1,387,733	1,534,319	78,079,642	51	4,566	122,383	27	103,799	$54.54
19	2042		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	37,221	($766)	($4,892)	**($210,606,909)**	11,026,488	12,411,862	11,719,175	2,319,987	1,311,781	1,476,594	1,394,187	1,561,408	79,654,431	51	4,647	124,544	27	105,892	$54.54
20	2043		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	39,082	($766)	($4,892)	**($221,137,254)**	11,043,163	12,504,410	11,773,786	2,319,987	1,313,765	1,487,604	1,400,684	1,587,816	81,252,408	51	4,726	126,650	27	108,017	$54.54
21	2044		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	40,943	($766)	($4,892)	**($231,667,600)**	11,059,863	12,597,648	11,828,755	2,319,987	1,315,751	1,498,696	1,407,224	1,615,686	82,877,288	51	4,809	128,873	27	110,177	$54.54
22	2045		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	42,804	($766)	($4,892)	**($242,197,945)**	11,076,589	12,691,581	11,884,085	2,319,987	1,317,741	1,509,871	1,413,806	1,644,320	84,546,419	51	4,894	131,157	27	112,396	$54.54
23	2046		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	44,665	($766)	($4,892)	**($252,728,290)**	11,093,339	12,786,214	11,939,777	2,319,987	1,319,734	1,521,129	1,420,431	1,672,496	86,249,687	52	4,978	133,405	27	114,660	$54.54
24	2047		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	46,526	($766)	($4,892)	**($263,258,636)**	11,110,115	12,881,554	11,995,835	2,319,987	1,321,730	1,532,471	1,427,100	1,702,555	88,002,522	52	5,067	135,802	27	116,990	$54.54
25	2048		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	48,387	($766)	($4,892)	**($273,788,981)**	11,126,917	12,977,604	12,052,260	2,319,987	1,323,729	1,543,898	1,433,813	1,732,938	89,783,120	52	5,157	138,226	27	119,357	$54.54
26	2049		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	50,248	($766)	($4,892)	**($284,319,327)**	11,143,744	13,074,370	12,109,057	2,319,987	1,325,730	1,555,410	1,440,570	1,764,490	91,622,848	52	5,251	140,742	27	121,803	$54.54
27	2050		**($11,741,383)**	5,800	($766)	($4,892)	**($32,818,166)**	52,109	($766)	($4,892)	**($294,849,672)**	11,160,596	13,171,858	12,166,227	**2,319,987**	**1,327,735**	**1,567,008**	**1,447,371**	**1,797,823**	93,509,437	52	5,351	143,401	27	124,311	$54.54
TOTALS		**($1,050,793,528)**	**($234,827,660)**				**($886,090,471)**				**($3,980,470,575)**															
3% Discount		**($1,014,117,737)**	**($151,579,376)**				**($634,277,719)**				**($2,562,927,723)**															
5% Discount		**($1,001,837,321)**	**($112,333,821)**				**($513,375,668)**				**($1,879,757,720)**															
7% Discount		**($999,448,246)**	**($84,774,774)**				**($426,199,968)**				**($1,412,529,764)**															

R. Arkell, AICP
7/24/2023

CHICAGO SOUTH SUBURBAN AIRPORT SOCIAL
BENEFITS-SOCIAL COSTS ANALYSIS (2023 $)

Year	Calendar Year	Potential Passenger Travel Time Value Gain w/Project Reducing Volume Delays[5]	Cargo Landed Weight (tons)	Cargo Landed Weight Trend (tons)	Total Cargo Value	Total Cargo Value Trend	Total Cargo Value Delayed [total value x (vol.# delays/total ops.)]	Potential Freight Travel Time Value Gain w/Project Reducing Volume Delays (FAA BCA p. 63 formula)[5]	Estimated Will County Population based on 2000-2022 Trend - No Build	Will County Estimated PCAVMT-No Build	Will County Estimated AVMT-No Build	Will County Induced Development Added Persons Per Acre - Build	Will County Cumulative Persons Added - Build	Will County Assumed Rate Added PCVMT	Will County Added AVMT - Build (for new pop. above avg.PCVMT)	Will County Project PCVMT	Auto VMT Variable Cost Value	Will County Project Induced Vehicle Operating Cost Increases	Auto VMT Fixed Cost Per Mile	Will County Vehicle Ownership Per Person	Cook County Vehicle Ownership Per Person	Will County Assumed Vehicle Ownership Increase Per New Person	Will County New Vehicles Added (cumuluative)	Will County Project-Induced Vehicle Fixed Cost Increases	Will County Total Variable & Fixed Vehicle Cost Increases[7]	Weighted Aircraft Variable Operating Cost per Block Hour (2023 $)	Weighted Aircraft Variable Operating Cost per Block Minute (2023 $)	Aircraft Variable Operating Costs Benefits[6]
0	2000		2,715,417	2,243,355	$271,539,078,900	$224,332,983,174	$810,763,746																					
0	2001		2,692,487	2,372,410	$269,246,369,650	$237,238,499,014	$566,523,460																					
0	2002		2,847,308	2,501,464	$284,728,102,000	$250,144,014,854	$1,329,101,589																					
0	2003		2,976,602	2,630,518	$297,657,851,700	$263,049,530,695	$1,113,996,507																					
0	2004		3,035,844	2,759,573	$303,582,072,600	$275,955,046,535	$1,601,473,122																					
0	2005		3,108,360	2,888,627	$310,833,734,500	$288,860,562,375	$1,401,672,238																					
0	2006		2,903,764	3,017,681	$290,374,349,500	$301,766,078,215	$1,169,508,446																					
0	2007		2,938,041	3,146,735	$293,802,328,250	$314,671,594,055	$719,460,124																					
0	2008		2,813,452	3,275,790	$281,343,721,600	$327,577,109,895	$486,146,351																					
0	2009		2,314,271	3,404,844	$231,425,277,000	$340,482,625,735	$200,857,035																					
-13	2010		2,906,617	3,533,898	$290,660,020,000	$353,388,141,575	$378,733,323																					
-12	2011		2,628,585	3,662,952	$262,857,118,000	$366,293,657,415	$388,011,982																					
-11	2012		2,688,667	3,792,007	$268,865,231,050	$379,199,173,255	$346,972,978																					
-10	2013		3,828,473	3,921,061	$382,846,177,900	$392,104,689,095	$932,306,634																					
-9	2014		4,165,104	4,050,115	$416,509,278,950	$405,010,204,935	$2,613,189,376																					
-8	2015		4,929,938	4,179,169	$492,992,535,950	$417,915,720,775	$1,699,725,764																					
-7	2016		5,140,868	4,308,224	$514,085,521,100	$430,821,236,615	$496,723,700																					
-6	2017		5,877,619	4,437,278	$587,760,718,650	$443,726,752,456	$716,928,194																					
-5	2018		4,418,185	4,566,332	$441,817,436,800	$456,632,268,296	$1,470,520,653																					
-4	2019		4,457,818	4,695,386	$445,780,749,000	$469,537,784,136	$1,916,747,467																					
-3	2020			4,824,441		$482,443,299,976	$1,435,818,166																					
-2	2021			4,953,495		$495,348,815,816	$1,474,226,771			9,325		1.9																
-1	2022			5,082,549		$508,254,331,656	$1,512,635,376		696,757	9,325	6,497,433,945	1.9																
0	2023			5,211,604		$521,159,847,496	$1,551,043,981		706,859	9,325	6,591,639,690	1.9	3,571	0.1	3,330,447	9,330	($0.277)	($921,646)	($0.439)	0.675	0.329	0.173	617	($252,479)	($1,174,125)			
1	2024			5,340,658		$534,065,363,336	$1,589,452,586		717,108	9,325	6,687,211,317	1.9	7,143	0.1	6,660,894	9,334	($0.277)	($1,843,291)	($0.439)	0.675	0.329	0.173	1,235	($504,959)	($2,348,250)			
2	2025			5,469,712		$546,970,879,176	$1,627,861,191		727,505	9,325	6,784,168,628	1.9	10,714	0.1	9,991,340	9,339	($0.277)	($2,764,937)	($0.439)	0.675	0.329	0.173	1,852	($757,438)	($3,522,375)			
3	2026			5,598,766		$559,876,395,016	$1,666,269,796		738,053	9,325	6,882,531,716	1.9	14,286	0.1	13,321,787	9,343	($0.277)	($3,686,583)	($0.439)	0.675	0.329	0.173	2,470	($1,009,918)	($4,696,500)			
4	2027			5,727,821		$572,781,910,856	$1,704,678,401		748,754	9,325	6,982,320,961	1.9	17,857	0.1	16,652,234	9,347	($0.277)	($4,608,228)	($0.439)	0.675	0.329	0.173	3,087	($1,262,397)	($5,870,625)			
5	2028			5,856,875		$585,687,426,696	$1,743,087,006		759,610	9,325	7,083,557,042	1.9	21,429	0.1	19,982,681	9,351	($0.277)	($5,529,874)	($0.439)	0.675	0.329	0.173	3,704	($1,514,877)	($7,044,750)			
6	2029			5,985,929		$598,592,942,536	$1,781,495,610		770,624	9,325	7,186,260,937	1.9	25,000	0.1	23,313,128	9,355	($0.277)	($6,451,520)	($0.439)	0.675	0.329	0.173	4,322	($1,767,356)	($8,218,876)			
7	2030	$4,515,298		6,114,983		$611,498,458,377	$1,819,904,215	$24,353,727	781,797	9,325	7,290,453,927	1.9	28,571	0.1	26,643,574	9,358	($0.277)	($7,373,165)	($0.439)	0.675	0.329	0.173	4,939	($2,019,835)	($9,393,001)	($9,144)	($152)	$15,312,453
8	2031	$4,613,115		6,244,038		$624,403,974,217	$1,858,312,820	$25,343,521	793,132	9,325	7,396,157,602	1.9	32,143	0.1	29,974,021	9,362	($0.277)	($8,294,811)	($0.439)	0.675	0.329	0.173	5,557	($2,272,315)	($10,567,126)	($9,157)	($153)	$15,628,801
9	2032	$4,710,561		6,373,092		$637,309,490,057	$1,896,721,425	$26,350,708	804,632	9,325	7,503,393,865	1.9	35,714	0.1	33,304,468	9,365	($0.277)	($9,216,456)	($0.439)	0.675	0.329	0.173	6,174	($2,524,794)	($11,741,251)	($9,170)	($153)	$15,943,614
10	2033	$4,807,566		6,502,146		$650,215,005,897	$1,935,130,030	$27,373,031	816,298	9,325	7,612,184,939	1.9	39,286	0.1	36,634,915	9,368	($0.277)	($10,138,102)	($0.439)	0.675	0.329	0.173	6,791	($2,777,274)	($12,915,376)	($9,183)	($153)	$16,255,451
11	2034	$4,905,582		6,631,200		$663,120,521,737	$1,973,538,635	$28,418,318	828,134	9,325	7,722,553,364	1.9	42,857	0.1	39,965,362	9,371	($0.277)	($11,059,748)	($0.439)	0.675	0.329	0.173	7,409	($3,029,753)	($14,089,501)	($9,195)	($153)	$16,569,599
12	2035	$5,008,539		6,760,255		$676,026,037,577	$2,011,947,240	$29,512,105	840,141	9,325	7,834,522,013	1.9	46,429	0.1	43,295,808	9,374	($0.277)	($11,981,393)	($0.439)	0.675	0.329	0.173	8,026	($3,282,233)	($15,263,626)	($9,207)	($153)	$16,901,645
13	2036	$5,113,335		6,889,309		$688,931,553,417	$2,050,355,845	$30,636,687	852,322	9,325	7,948,114,085	1.9	50,000	0.1	46,626,255	9,377	($0.277)	($12,903,039)	($0.439)	0.675	0.329	0.173	8,644	($3,534,712)	($16,437,751)	($9,220)	($154)	$17,239,808
14	2037	$5,220,070		7,018,363		$701,837,069,257	$2,088,764,450	$31,762,767	864,679	9,325	8,063,353,119	1.9	53,571	0.1	49,956,702	9,380	($0.277)	($13,824,685)	($0.439)	0.675	0.329	0.173	9,261	($3,787,191)	($17,611,876)	($9,231)	($154)	$17,565,803
15	2038	$5,329,074		7,147,418		$714,742,585,097	$2,127,173,055	$32,932,926	877,216	9,325	8,180,262,994	1.9	57,143	0.1	53,287,149	9,382	($0.277)	($14,746,330)	($0.439)	0.675	0.329	0.173	9,878	($4,039,671)	($18,786,001)	($9,242)	($154)	$17,905,870
16	2039	$5,438,447		7,276,472		$727,648,100,937	$2,165,581,659	$34,103,362	889,935	9,325	8,298,867,936	1.9	60,714	0.1	56,617,596	9,385	($0.277)	($15,667,976)	($0.439)	0.675	0.329	0.173	10,496	($4,292,150)	($19,960,126)	($9,252)	($154)	$18,233,466
17	2040	$5,550,313		7,405,526		$740,553,616,777	$2,203,990,264	$35,329,788	902,838	9,325	8,419,192,520	1.9	64,286	0.1	59,948,042	9,387	($0.277)	($16,589,622)	($0.439)	0.675	0.329	0.173	11,113	($4,544,630)	($21,134,251)	($9,263)	($154)	$18,581,570
18	2041	$5,661,190		7,534,580		$753,459,132,617	$2,242,398,869	$36,549,148	915,928	9,325	8,541,261,681	1.9	67,857	0.1	63,278,489	9,390	($0.277)	($17,511,267)	($0.439)	0.675	0.329	0.173	11,730	($4,797,109)	($22,308,376)	($9,272)	($155)	$18,913,153
19	2042	$5,775,371		7,663,635		$766,364,648,457	$2,280,807,474	$37,831,517	929,208	9,325	8,665,100,712	1.9	71,429	0.1	66,608,936	9,392	($0.277)	($18,432,913)	($0.439)	0.675	0.329	0.173	12,348	($5,049,589)	($23,482,502)	($9,283)	($155)	$19,268,254
20	2043	$5,891,233		7,792,689		$779,270,164,298	$2,319,216,079	$39,119,214	942,681	9,325	8,790,735,274	1.9	75,000	0.1	69,939,383	9,394	($0.277)	($19,354,559)	($0.439)	0.675	0.329	0.173	12,965	($5,302,068)	($24,656,627)	($9,292)	($155)	$19,613,894
21	2044	$6,009,045		7,921,743		$792,175,680,138	$2,357,624,684	$40,465,076	956,349	9,325	8,918,191,402	1.9	78,571	0.1	73,269,830	9,396	($0.277)	($20,276,204)	($0.439)	0.675	0.329	0.173	13,583	($5,554,547)	($25,830,752)	($9,302)	($155)	$19,979,230
22	2045	$6,130,066		8,050,797		$805,081,195,978	$2,396,033,289	$41,853,128	970,215	9,325	9,047,495,505	1.9	82,143	0.1	76,600,276	9,398	($0.277)	($21,197,850)	($0.439)	0.675	0.329	0.173	14,200	($5,807,027)	($27,004,877)	($9,312)	($155)	$20,354,645
23	2046	$6,253,562		8,179,852		$817,986,711,818	$2,434,441,894	$43,252,701	984,282	9,325	9,178,674,377	1.9	85,714	0.1	79,930,723	9,400	($0.277)	($22,119,495)	($0.439)	0.675	0.329	0.173	14,817	($6,059,506)	($28,179,002)	($9,321)	($155)	$20,723,591
24	2047	$6,380,652		8,308,906		$830,892,227,658	$2,472,850,499	$44,724,732	998,553	9,325	9,311,755,201	1.9	89,286	0.1	83,261,170	9,402	($0.277)	($23,041,141)	($0.439)	0.675	0.329	0.173	15,435	($6,311,986)	($29,353,127)	($9,330)	($156)	$21,117,766
25	2048	$6,509,755		8,437,960		$843,797,743,498	$2,511,259,103	$46,229,935	1,013,031	9,325	9,446,765,552	1.9	92,857	0.1	86,591,617	9,404	($0.277)	($23,962,787)	($0.439)	0.675	0.329	0.173	16,052	($6,564,465)	($30,527,252)	($9,340)	($156)	$21,516,191
26	2049	$6,643,145		8,567,014		$856,703,259,338	$2,549,667,708	$47,791,594	1,027,719	9,325	9,583,733,407	1.9	96,429	0.1	89,922,064	9,405	($0.277)	($24,884,432)	($0.439)	0.675	0.329	0.173	16,670	($6,816,945)	($31,701,377)	($9,349)	($156)	$21,930,087
27	2050	$6,779,933		8,696,069		$869,608,775,178	$2,588,076,313	$49,427,967	1,042,619	9,325	9,722,687,148	1.9	100,000	0.1	93,252,510	9,407	($0.277)	($25,806,078)	($0.439)	0.675	0.329	0.173	17,287	($7,069,424)	($32,875,502)	($9,359)	($156)	$22,367,901
TOTALS		$117,245,852						753,361,954										($374,188,132)						($102,506,649)	($476,694,781)			$391,922,791
3% Discount		$70,517,356						$445,935,179																	($285,764,387)			$236,102,276
5% Discount		$51,532,623						$322,484,595																	($209,591,479)			$172,717,675
7% Discount		$38,375,167						$237,720,028																	($157,495,936)			$128,746,034

R. Arkell, AICP
7/24/2023

CHICAGO SOUTH SUBURBAN AIRPORT SOCIAL
BENEFITS-SOCIAL COSTS ANALYSIS (2023 $)

Year	Calendar Year	Auto Noise Value (per VMT)	Auto Noise Costs[8]	Large Jet CO_2 Change per Minute @Idle (1,596kg/hr. or 0.0266 MT/min.)	CO_2 Value (per MT)(2023 BCA Guide Table A-6)	Undiscounted CO2 Value	NPV CO2 Benefits @ 3% Avg SCC [Undisc/(1.03^A)][9]	Large Jet NO_X Change per Minute @Idle (150g/min. or 0.00015 MT/min. EEC/SEE/2006/006)	NO_X Value (per MT)(2023 BCA Guide Table A-6)	NO_X Benefits[9]	CO_2 Increase (MT)	CO_2 Value (per MT)	Undiscounted CO2 Costs @ 3% Avg SCC	NPV CO2 Costs @ 3% Avg SCC [Undisc/(1.03^A)][10]	NO_X Change Auto (MT)	NO_X Value (per MT)	NO_X Costs[10]	$PM_{2.5}$ Change Auto (MT)	PM Value (per MT)	Auto PM Costs[10]	Auto/Light Truck VOC Change per VMT (MT)	VOC Change Auto/Light Truck (MT)	VOC Value (per MT)	VOC Costs[10]
0	2000																							
0	2001																							
0	2002																							
0	2003																							
0	2004																							
0	2005																							
0	2006																							
0	2007																							
0	2008																							
0	2009																							
-13	2010																							
-12	2011																							
-11	2012																							
-10	2013																							
-9	2014																							
-8	2015																							
-7	2016																							
-6	2017																							
-5	2018																							
-4	2019																							
-3	2020	($0.058)	$0	-0.0266	($61)	$167,293		-0.00015	($18,194)															
-2	2021	($0.058)	$0	-0.0266	($62)	$168,726		-0.00015	($18,418)															
-1	2022	($0.058)	$0	-0.0266	($63)	$134,370		-0.00015	($18,642)															
0	2023	($0.058)	($193,166)	-0.0266	($64)	$146,816		-0.00015	($18,866)		1,156	($64)	($73,963)	($73,963)	0.10	($18,866)	($1,885)	0.01	($910,175)	($9,094)	0.000001129	3.8	($2,152)	($8,090)
1	2024	($0.058)	($386,332)	-0.0266	($65)	$161,312		-0.00015	($19,091)		2,311	($65)	($150,236)	($145,861)	0.20	($19,091)	($3,815)	0.02	($925,897)	($18,502)	0.000001129	7.5	($2,152)	($16,180)
2	2025	($0.058)	($579,498)	-0.0266	($66)	$166,922		-0.00015	($19,315)		3,467	($66)	($228,822)	($215,686)	0.30	($19,315)	($5,789)	0.03	($941,955)	($28,234)	0.000001129	11.3	($2,152)	($24,271)
3	2026	($0.058)	($772,664)	-0.0266	($67)	$168,028		-0.00015	($19,652)		4,623	($67)	($309,718)	($283,436)	0.40	($19,652)	($7,854)	0.04	($956,891)	($38,242)	0.000001129	15.0	($2,152)	($32,361)
4	2027	($0.058)	($965,830)	-0.0266	($68)	$171,404		-0.00015	($20,101)		5,778	($68)	($392,926)	($349,110)	0.50	($20,101)	($10,042)	0.05	($972,051)	($48,560)	0.000001129	18.8	($2,152)	($40,451)
5	2028	($0.058)	($1,158,995)	-0.0266	($69)	$177,377		-0.00015	($20,438)		6,934	($69)	($478,445)	($412,711)	0.60	($20,438)	($12,252)	0.06	($987,548)	($59,202)	0.000001129	22.6	($2,152)	($48,541)
6	2029	($0.058)	($1,352,161)	-0.0266	($70)	$183,520		-0.00015	($20,887)		8,090	($70)	($566,276)	($474,247)	0.70	($20,887)	($14,608)	0.07	($1,003,270)	($70,168)	0.000001129	26.3	($2,152)	($56,632)
7	2030	($0.058)	($1,545,327)	-0.0266	($72)	$192,437	$156,469	-0.00015	($21,224)	$319,884	9,245	($72)	($665,663)	($541,245)	0.80	($21,224)	($16,964)	0.08	($1,019,216)	($81,467)	0.000001129	30.1	($2,152)	($64,722)
8	2031	($0.058)	($1,738,493)	-0.0266	($73)	$198,843	$156,968	-0.00015	($21,224)	$326,005	10,401	($73)	($759,272)	($599,376)	0.90	($21,224)	($19,085)	0.09	($1,019,216)	($91,650)	0.000001129	33.8	($2,152)	($72,812)
9	2032	($0.058)	($1,931,659)	-0.0266	($74)	$205,333	$157,371	-0.00015	($21,224)	$332,097	11,557	($74)	($855,192)	($655,434)	1.00	($21,224)	($21,206)	0.10	($1,019,216)	($101,833)	0.000001129	37.6	($2,152)	($80,902)
10	2033	($0.058)	($2,124,825)	-0.0266	($75)	$211,891	$157,667	-0.00015	($21,224)	$338,134	12,712	($75)	($953,424)	($709,437)	1.10	($21,224)	($23,326)	0.11	($1,019,216)	($112,017)	0.000001129	41.4	($2,152)	($88,992)
11	2034	($0.058)	($2,317,991)	-0.0266	($76)	$218,577	$157,905	-0.00015	($21,224)	$344,214	13,868	($76)	($1,053,967)	($761,408)	1.20	($21,224)	($25,447)	0.12	($1,019,216)	($122,200)	0.000001129	45.1	($2,152)	($97,083)
12	2035	($0.058)	($2,511,157)	-0.0266	($77)	$225,587	$158,222	-0.00015	($21,224)	$350,638	15,024	($77)	($1,156,821)	($811,371)	1.30	($21,224)	($27,567)	0.13	($1,019,216)	($132,383)	0.000001129	48.9	($2,152)	($105,173)
13	2036	($0.058)	($2,704,323)	-0.0266	($79)	$235,765	$160,544	-0.00015	($21,224)	$357,181	16,179	($79)	($1,278,166)	($870,369)	1.40	($21,224)	($29,688)	0.14	($1,019,216)	($142,567)	0.000001129	52.6	($2,152)	($113,263)
14	2037	($0.058)	($2,897,489)	-0.0266	($80)	$242,973	$160,634	-0.00015	($21,224)	$363,500	17,335	($80)	($1,386,798)	($916,837)	1.50	($21,224)	($31,808)	0.15	($1,019,216)	($152,750)	0.000001129	56.4	($2,152)	($121,353)
15	2038	($0.058)	($3,090,655)	-0.0266	($81)	$250,468	$160,766	-0.00015	($21,224)	$370,087	18,491	($81)	($1,497,742)	($961,344)	1.60	($21,224)	($33,929)	0.16	($1,019,216)	($162,933)	0.000001129	60.2	($2,152)	($129,444)
16	2039	($0.058)	($3,283,821)	-0.0266	($82)	$257,914	$160,724	-0.00015	($21,224)	$376,442	19,646	($82)	($1,610,997)	($1,003,920)	1.70	($21,224)	($36,050)	0.17	($1,019,216)	($173,117)	0.000001129	63.9	($2,152)	($137,534)
17	2040	($0.058)	($3,476,986)	-0.0266	($83)	$265,735	$160,774	-0.00015	($21,224)	$383,184	20,802	($83)	($1,726,564)	($1,044,599)	1.80	($21,224)	($38,170)	0.18	($1,019,216)	($183,300)	0.000001129	67.7	($2,152)	($145,624)
18	2041	($0.058)	($3,670,152)	-0.0266	($85)	$276,708	$162,537	-0.00015	($21,224)	$389,619	21,958	($85)	($1,866,399)	($1,096,313)	1.90	($21,224)	($40,291)	0.19	($1,019,216)	($193,483)	0.000001129	71.4	($2,152)	($153,714)
19	2042	($0.058)	($3,863,318)	-0.0266	($86)	$284,907	$162,478	-0.00015	($21,224)	$396,498	23,113	($86)	($1,987,744)	($1,133,583)	2.00	($21,224)	($42,411)	0.20	($1,019,216)	($203,667)	0.000001129	75.2	($2,152)	($161,804)
20	2043	($0.058)	($4,056,484)	-0.0266	($87)	$293,094	$162,279	-0.00015	($21,224)	$403,204	24,269	($87)	($2,111,400)	($1,169,031)	2.10	($21,224)	($44,532)	0.21	($1,019,216)	($213,850)	0.000001129	79.0	($2,152)	($169,895)
21	2044	($0.058)	($4,249,650)	-0.0266	($88)	$301,667	$162,161	-0.00015	($21,224)	$410,281	25,425	($88)	($2,237,368)	($1,202,695)	2.20	($21,224)	($46,652)	0.22	($1,019,216)	($224,033)	0.000001129	82.7	($2,152)	($177,985)
22	2045	($0.058)	($4,442,816)	-0.0266	($89)	$310,502	$162,049	-0.00015	($21,224)	$417,552	26,580	($89)	($2,365,646)	($1,234,613)	2.30	($21,224)	($48,773)	0.23	($1,019,216)	($234,217)	0.000001129	86.5	($2,152)	($186,075)
23	2046	($0.058)	($4,635,982)	-0.0266	($91)	$322,919	$163,621	-0.00015	($21,224)	$424,707	27,736	($91)	($2,523,972)	($1,278,876)	2.40	($21,224)	($50,893)	0.24	($1,019,216)	($244,400)	0.000001129	90.2	($2,152)	($194,165)
24	2047	($0.058)	($4,829,148)	-0.0266	($92)	$332,335	$163,487	-0.00015	($21,224)	$432,340	28,892	($92)	($2,658,030)	($1,307,574)	2.50	($21,224)	($53,014)	0.25	($1,019,216)	($254,583)	0.000001129	94.0	($2,152)	($202,255)
25	2048	($0.058)	($5,022,314)	-0.0266	($93)	$341,943	$163,314	-0.00015	($21,224)	$440,056	30,047	($93)	($2,794,398)	($1,334,620)	2.60	($21,224)	($55,135)	0.26	($1,019,216)	($264,767)	0.000001129	97.8	($2,152)	($210,346)
26	2049	($0.058)	($5,215,480)	-0.0266	($94)	$351,913	$163,180	-0.00015	($21,224)	$448,068	31,203	($94)	($2,933,078)	($1,360,053)	2.70	($21,224)	($57,255)	0.27	($1,019,216)	($274,950)	0.000001129	101.5	($2,152)	($218,436)
27	2050	($0.058)	($5,408,646)	-0.0266	($95)	$362,375	$163,137	-0.00015	($21,224)	$456,532	32,359	($95)	($3,074,069)	($1,383,912)	2.80	($21,224)	($59,376)	0.28	($1,019,216)	($285,133)	0.000001129	105.3	($2,152)	($226,526)
TOTALS			($73,016,716)	-1			$3,213,148			$7,623,691	469,200			($23,331,622)	40.56		($857,818)	4.06		($3,836,169)		1,527		($3,058,103)
3% Discount			($47,013,679)				$3,376,285			$4,873,704				($23,331,622)			($513,247)			($2,466,443)				($1,969,038)
5% Discount			($34,481,786)				$3,376,285			$3,568,161				($23,331,622)			($375,829)			($1,806,437)				($1,444,174)
7% Discount			($25,911,078)				$3,376,285			$2,661,811				($23,331,622)			($281,882)			($1,355,200)				($1,085,214)

CHICAGO SOUTH SUBURBAN AIRPORT SOCIAL
BENEFITS-SOCIAL COSTS ANALYSIS (2023 $)

Year	Calendar Year	Resource Externalities Value	Resource Consumption Costs[11]	Parking Internal + External Benefits Value	Total Parking Costs[12]	Annual Inactivity Health Care Costs Per Capita	Annual Obesity Rate Increase per PCVMT (2.16% per +365 PCVMT)	Illinois Driver/Population Ratio	Health Costs - Decreased Cardivascular Activity[13]	Barrier Effect Value-Car	Barrier Effect Benefits[14]	Transport Diversity Value	Transport Diversity Benefits-Auto[15]	Will County Crash Ratio Per 100,000 VMT	Road Accidents Increased	Total Change in Accidents	Value of Statistical Life (2023 $)	Road Death/ Crash Ratio	Deaths Increased	Deaths Increased Costs (2023 $)
0	2000																			
0	2001																			
0	2002																			
0	2003																			
0	2004																			
0	2005																			
0	2006																			
0	2007																			
0	2008																			
0	2009																			
-13	2010																			
-12	2011																			
-11	2012																			
-10	2013																			
-9	2014																			
-8	2015																			
-7	2016																			
-6	2017																			
-5	2018																			
-4	2019																			
-3	2020																			
-2	2021																			
-1	2022																			
0	2023	(0.068)	($226,470)	($0.187)	($622,794)	($786)	0.000059	0.674	$0	(0.0210)	($69,939)	(0.0135)	($44,961)	0.207	7	7	$12,700,000	0.005201	0.0	($455,683)
1	2024	(0.068)	($452,941)	($0.187)	($1,245,587)	($786)	0.000059	0.674	$0	(0.0210)	($139,879)	(0.0135)	($89,922)	0.207	14	14	$12,801,600	0.005201	0.1	($918,656)
2	2025	(0.068)	($679,411)	($0.187)	($1,868,381)	($786)	0.000059	0.674	$0	(0.0210)	($209,818)	(0.0135)	($134,883)	0.207	21	21	$12,904,013	0.005201	0.1	($1,389,008)
3	2026	(0.068)	($905,882)	($0.187)	($2,491,174)	($786)	0.000059	0.674	$0	(0.0210)	($279,758)	(0.0135)	($179,844)	0.207	28	28	$13,007,245	0.005201	0.1	($1,866,827)
4	2027	(0.068)	($1,132,352)	($0.187)	($3,113,968)	($786)	0.000059	0.674	$0	(0.0210)	($349,697)	(0.0135)	($224,805)	0.207	34	34	$13,111,303	0.005201	0.2	($2,352,201)
5	2028	(0.068)	($1,358,822)	($0.187)	($3,736,761)	($786)	0.000059	0.674	$0	(0.0210)	($419,636)	(0.0135)	($269,766)	0.207	41	41	$13,216,193	0.005201	0.2	($2,845,223)
6	2029	(0.068)	($1,585,293)	($0.187)	($4,359,555)	($786)	0.000059	0.674	($104,411)	(0.0210)	($489,576)	(0.0135)	($314,727)	0.207	48	48	$13,321,923	0.005201	0.3	($3,345,982)
7	2030	(0.068)	($1,811,763)	($0.187)	($4,982,348)	($786)	0.000059	0.674	($208,822)	(0.0210)	($559,515)	(0.0135)	($359,688)	0.207	55	55	$13,428,498	0.005201	0.3	($3,854,571)
8	2031	(0.068)	($2,038,233)	($0.187)	($5,605,142)	($786)	0.000059	0.674	($313,233)	(0.0210)	($629,454)	(0.0135)	($404,649)	0.207	62	62	$13,535,926	0.005201	0.3	($4,371,084)
9	2032	(0.068)	($2,264,704)	($0.187)	($6,227,936)	($786)	0.000059	0.674	($417,644)	(0.0210)	($699,394)	(0.0135)	($449,610)	0.207	69	69	$13,644,214	0.005201	0.4	($4,895,614)
10	2033	(0.068)	($2,491,174)	($0.187)	($6,850,729)	($786)	0.000059	0.674	($522,054)	(0.0210)	($769,333)	(0.0135)	($494,571)	0.207	76	76	$13,753,367	0.005201	0.4	($5,428,257)
11	2034	(0.068)	($2,717,645)	($0.187)	($7,473,523)	($786)	0.000059	0.674	($626,465)	(0.0210)	($839,273)	(0.0135)	($539,532)	0.207	83	83	$13,863,394	0.005201	0.4	($5,969,109)
12	2035	(0.068)	($2,944,115)	($0.187)	($8,096,316)	($786)	0.000059	0.674	($730,876)	(0.0210)	($909,212)	(0.0135)	($584,493)	0.207	90	90	$13,974,301	0.005201	0.5	($6,518,267)
13	2036	(0.068)	($3,170,585)	($0.187)	($8,719,110)	($786)	0.000059	0.674	($835,287)	(0.0210)	($979,151)	(0.0135)	($629,454)	0.207	97	97	$14,086,096	0.005201	0.5	($7,075,829)
14	2037	(0.068)	($3,397,056)	($0.187)	($9,341,903)	($786)	0.000059	0.674	($939,698)	(0.0210)	($1,049,091)	(0.0135)	($674,415)	0.207	103	103	$14,198,785	0.005201	0.5	($7,641,896)
15	2038	(0.068)	($3,623,526)	($0.187)	($9,964,697)	($786)	0.000059	0.674	($1,044,109)	(0.0210)	($1,119,030)	(0.0135)	($719,377)	0.207	110	110	$14,312,375	0.005201	0.6	($8,216,566)
16	2039	(0.068)	($3,849,997)	($0.187)	($10,587,490)	($786)	0.000059	0.674	($1,148,520)	(0.0210)	($1,188,970)	(0.0135)	($764,338)	0.207	117	117	$14,426,874	0.005201	0.6	($8,799,942)
17	2040	(0.068)	($4,076,467)	($0.187)	($11,210,284)	($786)	0.000059	0.674	($1,252,931)	(0.0210)	($1,258,909)	(0.0135)	($809,299)	0.207	124	124	$14,542,289	0.005201	0.6	($9,392,127)
18	2041	(0.068)	($4,302,937)	($0.187)	($11,833,077)	($786)	0.000059	0.674	($1,357,342)	(0.0210)	($1,328,848)	(0.0135)	($854,260)	0.207	131	131	$14,658,627	0.005201	0.7	($9,993,223)
19	2042	(0.068)	($4,529,408)	($0.187)	($12,455,871)	($786)	0.000059	0.674	($1,461,753)	(0.0210)	($1,398,788)	(0.0135)	($899,221)	0.207	138	138	$14,775,896	0.005201	0.7	($10,603,335)
20	2043	(0.068)	($4,755,878)	($0.187)	($13,078,665)	($786)	0.000059	0.674	($1,566,163)	(0.0210)	($1,468,727)	(0.0135)	($944,182)	0.207	145	145	$14,894,103	0.005201	0.8	($11,222,570)
21	2044	(0.068)	($4,982,348)	($0.187)	($13,701,458)	($786)	0.000059	0.674	($1,670,574)	(0.0210)	($1,538,666)	(0.0135)	($989,143)	0.207	152	152	$15,013,256	0.005201	0.8	($11,851,034)
22	2045	(0.068)	($5,208,819)	($0.187)	($14,324,252)	($786)	0.000059	0.674	($1,774,985)	(0.0210)	($1,608,606)	(0.0135)	($1,034,104)	0.207	159	159	$15,133,362	0.005201	0.8	($12,488,835)
23	2046	(0.068)	($5,435,289)	($0.187)	($14,947,045)	($786)	0.000059	0.674	($1,879,396)	(0.0210)	($1,678,545)	(0.0135)	($1,079,065)	0.207	166	166	$15,254,429	0.005201	0.9	($13,136,083)
24	2047	(0.068)	($5,661,760)	($0.187)	($15,569,839)	($786)	0.000059	0.674	($1,983,807)	(0.0210)	($1,748,485)	(0.0135)	($1,124,026)	0.207	172	172	$15,376,465	0.005201	0.9	($13,792,887)
25	2048	(0.068)	($5,888,230)	($0.187)	($16,192,632)	($786)	0.000059	0.674	($2,088,218)	(0.0210)	($1,818,424)	(0.0135)	($1,168,987)	0.207	179	179	$15,499,476	0.005201	0.9	($14,459,359)
26	2049	(0.068)	($6,114,700)	($0.187)	($16,815,426)	($786)	0.000059	0.674	($2,192,629)	(0.0210)	($1,888,363)	(0.0135)	($1,213,948)	0.207	186	186	$15,623,472	0.005201	1.0	($15,135,612)
27	2050	(0.068)	($6,341,171)	($0.187)	($17,438,219)	($786)	0.000059	0.674	($2,297,040)	(0.0210)	($1,958,303)	(0.0135)	($1,258,909)	0.207	193	193	$15,748,460	0.005201	1.0	($15,821,760)
TOTALS			($85,605,805)		($235,415,963)				($24,118,917)		($26,437,087)		($16,995,270)		2,801	2,801			15	($95,330,064)
3% Discount			($55,119,485)		($151,578,585)				($14,810,981)		($17,022,194)		($10,942,839)							($126,789,197)
5% Discount			($40,426,922)		($111,174,035)				($10,308,638)		($12,484,785)		($8,025,933)							($92,282,945)
7% Discount			($30,378,505)		($83,540,890)				($7,305,928)		($9,381,597)		($6,031,027)							($68,809,531)

CHICAGO SOUTH SUBURBAN AIRPORT SOCIAL
BENEFITS-SOCIAL COSTS ANALYSIS (2023 $)

Year	Calendar Year	No Injury AIS 0 0.43676 * $0	Minor AIS 1 0.41739 * 0.003 VSL	Moderate AIS 2 0.08872 * 0.047 VSL	Serious AIS 3 0.04817 * 0.105 VSL	Severe AIS 4 0.00617 * 0.266 VSL	Critical AIS 5 0.00279 * 0.593 VSL	Injuries per Accident	Vehicles per Accident	Property Damage Cost per Vehicle $5,400 (2023 $)	Injuries Prevented Benefits Accidents*∑[Pr(AIS$_x$)*Value (AIS$_x$)]	Property Damage Only	Total Accident Death/ Injury/PDO Benefits[16]	Residual Value[17]	2021 SSA Economic Impacts Report - High Case Output Total + Tax Income[18]	Discount Factor (3%)	Discount Factor (5%)	Discount Factor (7%)	NPV Costs (3% Discount)	NPV Benefits (3% Discount)	NPV Costs (5% Discount)	NPV Benefits (5% Discount)	NPV Costs (7% Discount)	NPV Benefits (7% Discount)
0	2000																							
0	2001																							
0	2002																							
0	2003																							
0	2004																							
0	2005																							
0	2006																							
0	2007																							
0	2008																							
0	2009																							
-13	2010															1.4685	1.8856	2.4098	($14,764,943)		($18,958,709)		($24,229,083)	
-12	2011															1.4258	1.7959	2.2522	($7,383,019)		($9,299,485)		($11,662,526)	
-11	2012															1.3842	1.7103	2.1049	($4,971,757)		($6,143,031)		($7,560,003)	
-10	2013															1.3439	1.6289	1.9672	($13,015,552)		($15,775,507)		($19,051,454)	
-9	2014															1.3048	1.5513	1.8385	($84,830,508)		($100,860,412)		($119,528,384)	
-8	2015															1.2668	1.4775	1.7182	($19,702,765)		($22,979,670)		($26,723,886)	
-7	2016															1.2299	1.4071	1.6058	($11,476,289)		($13,130,038)		($14,983,985)	
-6	2017															1.1941	1.3401	1.5007	($4,813,344)		($5,402,060)		($6,049,594)	
-5	2018															1.1593	1.2763	1.4026	($5,012,859)		($5,518,815)		($6,064,825)	
-4	2019															1.1255	1.2155	1.3108	($6,152,193)		($6,644,132)		($7,164,999)	
-3	2020															1.0927	1.1576	1.2250	($3,335,138)		($3,533,215)		($3,738,983)	
-2	2021															1.0609	1.1025	1.1449	($2,410,323)		($2,504,836)		($2,601,167)	
-1	2022															1.0300	1.0500	1.0700	$0		$0		$0	
0	2023	$0	$15,903	$52,957	$64,235	$20,843	$21,012	0.31	1.91	$5,400	($371,256)	($71,188)	($898,127)			1.0000	1.0000	1.0000	($55,448,973)		($55,448,973)		($55,448,973)	
1	2024	$0	$16,030	$53,381	$64,749	$21,010	$21,180	0.31	1.91	$5,400	($748,452)	($142,377)	($1,809,485)			0.9709	0.9524	0.9346	($167,441,350)		($164,254,769)		($161,187,313)	
2	2025	$0	$16,158	$53,808	$65,267	$21,178	$21,349	0.31	1.91	$5,400	($1,131,660)	($213,565)	($2,734,233)			0.9426	0.9070	0.8734	($376,976,261)		($362,760,170)		($349,333,769)	
3	2026	$0	$16,287	$54,238	$65,789	$21,348	$21,520	0.31	1.91	$5,400	($1,520,951)	($284,753)	($3,672,531)			0.9151	0.8638	0.8163	($346,961,599)		($327,526,359)		($309,517,144)	
4	2027	$0	$16,418	$54,672	$66,315	$21,519	$21,692	0.31	1.91	$5,400	($1,916,398)	($355,941)	($4,624,541)			0.8885	0.8227	0.7629	($155,382,821)		($143,903,952)		($133,468,074)	
5	2028	$0	$16,549	$55,109	$66,846	$21,691	$21,866	0.31	1.91	$5,400	($2,318,075)	($427,130)	($5,590,428)			0.8626	0.7835	0.7130	($102,917,675)		($93,520,181)		($85,137,819)	
6	2029	$0	$16,681	$55,550	$67,380	$21,864	$22,041	0.31	1.91	$5,400	($2,726,057)	($498,318)	($6,570,357)			0.8375	0.7462	0.6663	($111,681,224)		($99,561,911)		($88,955,796)	
7	2030	$0	$16,815	$55,995	$67,919	$22,039	$22,217	0.31	1.91	$5,400	($3,140,417)	($569,506)	($7,564,495)		$0	0.8131	0.7107	0.6227	($135,396,612)	$36,340,149	($118,411,362)	$31,782,756	($103,827,460)	$27,869,681
8	2031	$0	$16,949	$56,443	$68,463	$22,215	$22,395	0.31	1.91	$5,400	($3,561,233)	($640,694)	($8,573,012)		$0	0.7894	0.6768	0.5820	($165,775,281)	$36,399,885	($142,221,173)	$31,231,640	($122,378,900)	$26,877,846
9	2032	$0	$17,085	$56,894	$69,010	$22,393	$22,574	0.31	1.91	$5,400	($3,988,581)	($711,883)	($9,596,078)		$0	0.7664	0.6446	0.5439	($177,239,415)	$36,437,224	($149,174,645)	$30,671,210	($125,978,880)	$25,905,551
10	2033	$0	$17,222	$57,349	$69,562	$22,572	$22,755	0.31	1.91	$5,400	($4,422,539)	($783,071)	($10,633,867)		$0	0.7441	0.6139	0.5083	($147,608,170)	$36,450,239	($121,907,954)	$30,100,783	($101,067,558)	$24,951,988
11	2034	$0	$17,359	$57,808	$70,119	$22,753	$22,937	0.31	1.91	$5,400	($4,863,184)	($854,259)	($11,686,552)		$0	0.7224	0.5847	0.4751	($153,523,820)	$36,450,698	($124,397,050)	$29,530,856	($101,224,010)	$24,025,481
12	2035	$0	$17,498	$58,271	$70,680	$22,935	$23,120	0.31	1.91	$5,400	($5,310,597)	($925,448)	($12,754,312)		$0	0.7014	0.5568	0.4440	($158,981,841)	$36,470,712	($126,385,598)	$28,987,325	($100,941,960)	$23,146,021
13	2036	$0	$17,638	$58,737	$71,245	$23,118	$23,305	0.31	1.91	$5,400	($5,764,858)	($996,636)	($13,837,323)		$0	0.6810	0.5303	0.4150	($164,014,656)	$36,487,262	($127,926,289)	$28,451,603	($100,288,749)	$22,297,657
14	2037	$0	$17,779	$59,207	$71,815	$23,303	$23,491	0.31	1.91	$5,400	($6,226,046)	($1,067,824)	($14,935,766)		$0	0.6611	0.5051	0.3878	($168,621,226)	$36,464,028	($129,036,382)	$27,894,996	($99,293,636)	$21,456,509
15	2038	$0	$17,922	$59,680	$72,390	$23,490	$23,679	0.31	1.91	$5,400	($6,694,245)	($1,139,012)	($16,049,823)		$0	0.6419	0.4810	0.3624	($172,831,818)	$36,450,329	($129,762,618)	$27,356,489	($98,013,007)	$20,652,723
16	2039	$0	$18,065	$60,158	$72,969	$23,678	$23,869	0.31	1.91	$5,400	($7,169,536)	($1,210,201)	($17,179,679)		$0	0.6232	0.4581	0.3387	($176,665,371)	$36,398,951	($130,138,714)	$26,800,695	($96,488,143)	$19,858,722
17	2040	$0	$18,209	$60,639	$73,553	$23,867	$24,060	0.31	1.91	$5,400	($7,652,004)	($1,281,389)	($18,325,520)		$0	0.6050	0.4363	0.3166	($180,140,059)	$36,367,895	($130,196,057)	$26,270,886	($94,756,161)	$19,106,122
18	2041	$0	$18,355	$61,124	$74,141	$24,058	$24,252	0.31	1.91	$5,400	($8,141,732)	($1,352,577)	($19,487,532)		$0	0.5874	0.4155	0.2959	($183,286,222)	$36,295,006	($129,976,744)	$25,722,505	($92,863,277)	$18,362,047
19	2042	$0	$18,502	$61,613	$74,734	$24,250	$24,446	0.31	1.91	$5,400	($8,638,806)	($1,423,765)	($20,665,907)		$0	0.5703	0.3957	0.2765	($186,095,080)	$36,245,411	($129,482,415)	$25,201,215	($90,813,836)	$17,657,614
20	2043	$0	$18,650	$62,106	$75,332	$24,445	$24,642	0.31	1.91	$5,400	($9,143,313)	($1,494,954)	($21,860,837)		$0	0.5537	0.3769	0.2584	($188,595,273)	$36,166,454	($128,750,885)	$24,670,477	($88,647,130)	$16,966,632
21	2044	$0	$18,799	$62,603	$75,935	$24,640	$24,839	0.31	1.91	$5,400	($9,655,338)	($1,566,142)	($23,072,514)		$0	0.5375	0.3589	0.2415	($190,802,198)	$36,104,658	($127,805,589)	$24,162,351	($86,386,999)	$16,310,603
22	2045	$0	$18,950	$63,104	$76,542	$24,837	$25,038	0.31	1.91	$5,400	($10,174,971)	($1,637,330)	($24,301,136)		$0	0.5219	0.3418	0.2257	($192,730,621)	$36,044,972	($126,668,271)	$23,666,070	($84,054,676)	$15,681,046
23	2046	$0	$19,101	$63,609	$77,155	$25,036	$25,238	0.31	1.91	$5,400	($10,702,300)	($1,708,519)	($25,546,901)		$0	0.5067	0.3256	0.2109	($194,408,755)	$35,963,704	($125,373,154)	$23,166,719	($81,683,079)	$15,067,980
24	2047	$0	$19,254	$64,117	$77,772	$25,236	$25,440	0.31	1.91	$5,400	($11,237,415)	($1,779,707)	($26,810,008)		$0	0.4919	0.3101	0.1971	($195,822,226)	$35,905,174	($123,910,980)	$22,691,623	($79,260,972)	$14,487,271
25	2048	$0	$19,408	$64,630	$78,394	$25,438	$25,643	0.31	1.91	$5,400	($11,780,407)	($1,850,895)	($28,090,661)		$0	0.4776	0.2953	0.1842	($196,997,918)	$35,838,509	($122,312,929)	$22,221,231	($76,816,993)	$13,925,979
26	2049	$0	$19,563	$65,147	$79,021	$25,642	$25,849	0.31	1.91	$5,400	($12,331,367)	($1,922,083)	($29,389,063)		$0	0.4637	0.2812	0.1722	($197,948,302)	$35,780,914	($120,595,016)	$21,766,095	($74,364,140)	$13,390,014
27	2050	$0	$19,720	$65,669	$79,653	$25,847	$26,055	0.31	1.91	$5,400	($12,890,389)	($1,993,272)	($30,705,421)	$283,184,557	$0	0.4502	0.2678	0.1609	($198,685,328)	$163,229,217	($118,772,045)	$97,182,322	($71,913,813)	$58,454,834
TOTALS											($77,667,823)	($13,525,772)	($186,523,659)	$0	$0				($5,220,848,785)	$888,291,389	($4,140,932,095)	$629,529,847	($3,403,471,156)	$456,452,321
3% Discount											($103,298,377)	($17,326,155)		$127,486,588	$0	($4,332,557,396)			**B/C Ratio:**	0.17	**B/C Ratio:**	0.15	**B/C Ratio:**	0.13
5% Discount											($75,185,258)	($12,707,723)		$75,850,508	$0	($3,511,402,248)			**NPV:**	($4,332,557,396)	**NPV:**	($3,511,402,248)	**NPV:**	($2,947,018,836)
7% Discount											($56,060,872)	($9,549,122)		$45,572,995	$0	($2,947,018,836)								

R. Arkell, AICP
7/24/2023