

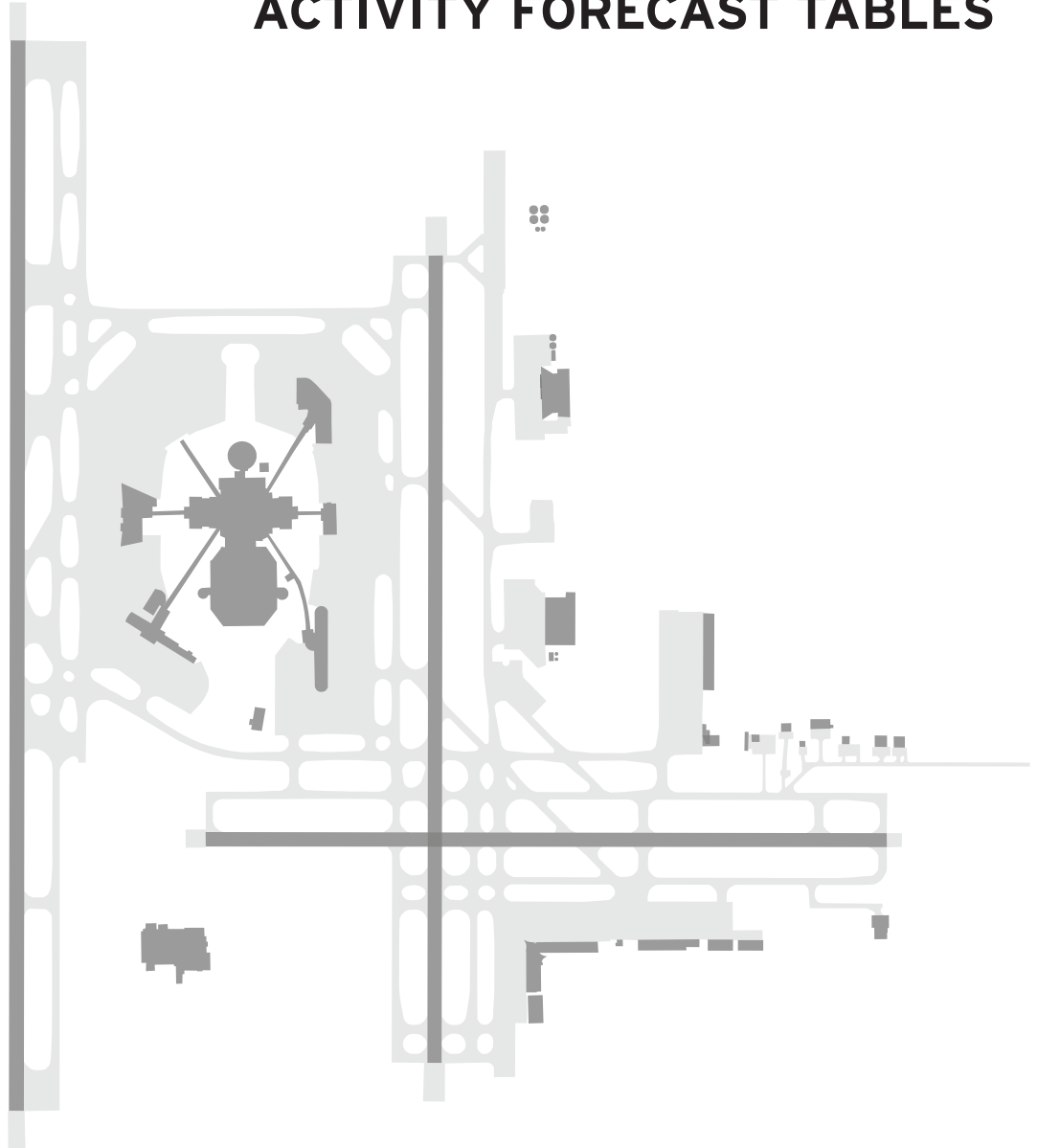


2012 AIRPORT MASTER PLAN UPDATE

BOARD APPROVAL DATE: APRIL 4, 2013

VOLUME 3A CONTENTS
APPENDIX A THROUGH K

APPENDIX A - AVIATION ACTIVITY FORECAST TABLES



APPENDIX A:

Aviation Activity Forecast Tables

Table A- 1: TPA 2005 Master Plan Update Passenger Enplanements Forecast

2005 Airport Master Plan Passenger Enplanements Forecast				
Year	Domestic Mainline	Regional/ Commuter	International Carrier	Total
2005	8,211,385	407,697	195,395	8,814,477
2010	9,479,987	470,689	248,199	10,198,875
2015	10,748,589	533,681	301,003	11,583,273
2020	12,017,191	596,673	353,807	12,967,671
2025	13,285,793	659,666	406,611	14,352,070

Average Annual Growth Factor				
Year Range	Domestic Mainline	Regional/ Commuter	International Carrier	Total
2005-2010	2.91%	2.92%	4.90%	2.96%
2005-2015	2.73%	2.73%	4.42%	2.77%
2005-2025	2.44%	2.44%	3.73%	2.47%

Source: 2005 Airport Master Plan Update.

Table A- 2: TPA 2005 Master Plan Update Cargo Volumes Forecast (Enplaned in pounds)

2005 Airport Master Plan Cargo Forecast						
Year	Belly Cargo			All-Cargo Carrier	Grand Total	All-Cargo Share
	Domestic	International	Total			
2005	15,698,161	2,940,925	18,639,086	53,474,766	72,113,852	74.15%
2010	17,332,038	3,825,489	21,157,527	64,748,040	85,905,568	75.37%
2015	19,135,971	4,976,111	24,112,082	78,397,889	102,509,970	76.48%
2020	21,127,658	6,472,814	27,600,472	94,925,327	122,525,799	77.47%
2025	23,326,642	8,419,691	31,746,333	114,936,996	146,683,328	78.36%
Average Annual Growth Factor						
2005-2010	2.00%	5.40%	2.57%	3.90%	3.56%	0.33%
2005-2015	2.00%	5.40%	2.61%	3.90%	3.58%	0.31%
2005-2025	2.00%	5.40%	2.70%	3.90%	3.61%	0.28%

Source: 2005 Airport Master Plan Update.

Table A- 3: TPA 2005 Master Plan Update Operations Forecast Summary

2005 Airport Master Plan Operations Forecast							
Year	Domestic Carrier	Regional/ Commuter	International Carrier	All-Cargo	General Aviation	Military	Total
2005	145,029	41,548	3,178	11,406	41,032	753	242,946
2010	183,727	41,161	3,675	13,224	44,176	753	286,716
2015	203,245	41,826	4,238	15,330	47,360	753	312,752
2020	220,659	44,680	4,742	17,771	50,544	753	339,149
2025	241,698	47,976	5,327	20,601	54,325	753	370,680
Average Annual Growth Factor							
2005-2010	4.84%	-0.19%	2.95%	3.00%	1.49%	0.00%	3.37%
2005-2015	3.43%	0.07%	2.92%	3.00%	1.44%	0.00%	2.56%
2005-2025	2.59%	0.72%	2.62%	3.00%	1.41%	0.00%	2.13%

Source: 2005 Airport Master Plan Update.

Table A- 4: FAA TAF Passenger Enplanements Forecast

FAA TAF Passenger Enplanements Forecast					
Fiscal Year	Domestic			International	Total
	Air Carrier	Air Taxi	Commuter		
2011	7,870,736	259	145,078	222,739	8,238,812
2016	8,600,804	259	176,913	282,440	9,060,416
2021	9,778,581	259	201,139	335,451	10,315,430
2031	12,640,070	259	259,999	473,187	13,373,515
Average Annual Growth Factor					
2011-2016	1.79%	0.00%	4.05%	4.86%	1.92%
2011-2021	2.19%	0.00%	3.32%	4.18%	2.27%
2011-2031	2.40%	0.00%	2.96%	3.84%	2.45%

Sources: FAA TAF and HNTB Analysis.

Table A- 5: FAA TAF Operations Forecast

FAA TAF Operations Forecast							
Fiscal Year	Air Carrier	Air Taxi	General Aviation		Military		Total
			Itinerant	Local	Itinerant	Local	
2011	146,599	20,771	24,447	302	562	10	192,691
2016	154,853	21,780	23,228	216	562	10	200,649
2021	175,201	22,666	23,198	216	562	10	221,853
2031	224,272	24,545	23,138	216	562	10	272,743
Average Annual Growth Factor							
2011-2016	1.10%	0.95%	-1.02%	-6.48%	0.00%	0.00%	0.81%
2011-2021	1.80%	0.88%	-0.52%	-3.30%	0.00%	0.00%	1.42%
2011-2031	2.15%	0.84%	-0.27%	-1.66%	0.00%	0.00%	1.75%

Sources: FAA TAF and HNTB Analysis.

Table A- 6: Airport Bonds Forecast – Enplanements

TPA Bond Forecast Projected Enplanements			
Fiscal Year	Majors/Nationals	Regionals/Commuters	Total
Historical			
2002	7,506,777	111,821	7,618,598
Projected			
2003	7,864,300	121,600	7,985,900
2004	8,146,100	130,000	8,276,100
2005	8,423,700	138,200	8,570,900
2006	8,709,800	146,200	8,856,000
2007	8,980,400	153,800	9,134,200
2008	9,263,800	161,500	9,425,300
2009	9,559,900	169,800	9,729,700
2010	9,877,600	178,000	10,055,600
2011	10,211,300	186,700	10,398,000
2012	10,652,100	195,600	10,757,700

Sources: 2002 Airport Bond Forecast, 2005 Airport Master Plan Update.

Table A- 7: Airport Bonds Forecast – Operations

TPA Bond Forecast								
Fiscal Year	Majors/ Nationals	Regional Commuter	Airlines Total	General Aviation	All Cargo	Air Taxi	Military	Total Operations
Historical								
2002	165,920	22,042	187,962	40,506	10,360	5,484	959	245,271
Projected								
2003	170,800	23,600	194,400	41,900	11,200	5,600	800	253,900
2004	173,800	24,600	198,400	42,500	11,500	5,700	800	258,900
2005	177,000	25,600	202,600	43,100	11,700	5,800	800	264,000
2006	179,600	26,400	206,000	43,800	12,000	6,000	800	268,600
2007	182,200	27,200	209,400	44,400	12,300	6,200	800	273,100
2008	184,800	28,000	212,800	45,000	12,500	6,400	800	277,500
2009	187,600	28,800	216,400	45,500	12,800	6,600	800	282,100
2010	190,600	29,600	220,200	46,300	13,100	6,800	800	287,200
2011	194,000	30,400	224,400	46,900	13,500	7,000	800	292,600
2012	197,400	31,200	228,600	47,600	13,900	7,200	800	298,100

Sources: 2002 TPA Bond Forecast, 2005 Airport Master Plan Update.

Table A- 8: Passenger Enplanements and Deplanements from Airport Counts

HCAA Passenger Enplanements and Deplanements Count							
Calendar Year	Enplanements			Deplanements			Grand Total
	Domestic	International	Total	Domestic	International	Total	
1952			148,734			144,272	293,006
1953			170,281			165,173	335,454
1954			216,294			209,805	426,099
1955			252,640			244,761	497,401
1956			285,119			277,747	562,866
1957			351,915			341,358	693,273
1958			392,154			371,443	763,597
1959			478,038			467,685	945,723
1960			463,882			465,864	929,746
1961			495,900			491,353	496,391
1962			548,796			541,763	1,090,559
1963			629,439			624,628	1,254,067
1964			732,215			730,893	1,463,108
1965			910,278			905,802	1,816,080
1966			1,007,204			1,013,052	2,020,256
1967			1,161,656			1,166,250	2,327,906
1968			1,412,079			1,445,430	2,857,509
1969			1,528,621			1,535,247	3,063,868
1970			1,526,373			1,534,649	3,061,022
1971			1,713,002			1,725,516	3,438,518
1972			2,145,498			2,103,768	4,249,266
1973			2,441,203			2,407,442	4,848,645
1974			2,544,782			2,530,063	5,074,845
1975			2,577,972			2,588,312	5,166,284
1976			2,738,623			2,738,089	5,476,712
1977			2,925,955			2,929,969	5,855,924
1978			3,502,874			3,481,163	6,984,037
1979			4,117,095			4,081,484	8,198,579
1980			3,850,290			3,819,109	7,669,399
1981			3,544,029			3,529,592	7,073,621
1982			3,884,759			3,857,433	7,742,192
1983			4,127,601			4,100,448	8,228,049
1984			4,192,525			4,149,258	8,341,783
1985			4,452,089			4,421,443	8,873,532
1986			4,868,307			4,858,850	9,727,157
1987			5,013,313			4,994,776	10,008,089

HCAA Passenger Enplanements and Deplanements Count

Calendar Year	Enplanements			Deplanements			Grand Total
	Domestic	International	Total	Domestic	International	Total	
1988			4,891,903			4,828,073	9,719,976
1989			4,881,013			4,811,962	9,692,975
1990	4,950,697	359,408	5,310,105	4,885,822	393,633	5,279,455	10,589,560
1991			4,768,908			4,719,229	9,488,137
1992	4,490,827	306,818	4,797,645	4,443,300	321,894	4,765,194	9,562,839
1993	4,733,570	301,129	5,034,699	4,672,244	311,290	4,983,534	10,018,233
1994	5,715,825	299,134	6,014,959	5,723,728	303,831	6,027,559	12,042,518
1995	5,423,858	316,798	5,740,656	5,348,534	306,940	5,655,474	11,396,130
1996	6,224,005	307,491	6,531,496	6,163,911	305,684	6,469,595	13,001,091
1997	6,412,971	290,142	6,703,113	6,371,321	296,196	6,667,517	13,370,630
1998	6,697,214	258,591	6,955,805	6,608,688	266,498	6,875,186	13,830,991
1999	7,307,014	259,818	7,566,832	7,287,616	267,878	7,555,494	15,122,326
2000	7,808,341	229,093	8,037,434	7,758,502	247,447	8,005,949	16,043,383
2001	7,736,198	227,772	7,963,970	7,690,266	234,200	7,924,466	15,888,436
2002	7,542,492	218,336	7,760,828	7,519,851	213,989	7,733,840	15,494,668
2003	7,543,876	217,378	7,761,254	7,550,605	211,709	7,762,314	15,523,568
2004	8,462,710	239,503	8,702,213	8,465,107	229,516	8,694,623	17,396,836
2005	9,290,275	248,482	9,538,757	9,261,062	245,571	9,506,633	19,045,390
2006	9,186,106	251,983	9,438,089	9,172,690	256,762	9,429,452	18,867,541
2007	9,392,017	187,012	9,579,029	9,390,160	185,768	9,575,928	19,154,957
2008	8,952,839	190,040	9,142,879	8,931,266	188,789	9,120,055	18,262,934
2009	8,311,624	199,616	8,511,240	8,254,180	200,125	8,454,305	16,965,545
2010	8,173,460	195,039	8,368,499	8,081,391	195,875	8,277,266	16,645,765
2011	8,197,942	211,705	8,409,647	8,107,618	214,786	8,322,404	16,732,051

Source: HCAA Monthly Activity Count.

Table A- 9: Passenger Enplanements from the FAA TAF

Historical Enplanements at TPA from the FAA TAF					
Fiscal Year	Domestic			International	Total
	Air Carrier	Air Taxi	Commuter		
1976	2,500,518	571	75,445	86,941	2,663,475
1977	2,633,540	2,307	68,224	140,213	2,844,284
1978	3,067,796	4,648	95,621	141,099	3,309,164
1979	3,635,224	4,648	123,220	98	3,763,190
1980	3,667,862	26,864	100,760	178,115	3,973,601
1981	3,247,428	4,265	101,478	31,156	3,384,327
1982	3,429,528	1,119	96,177	250,910	3,777,734
1983	3,694,513	927	140,618	2,046	3,838,104
1984	3,678,905	1,278	173,383	2,384	3,855,950
1985	3,992,440	540	144,400	221,327	4,358,707
1986	4,451,449	2,604	71,444	204,350	4,729,847
1987	4,658,949	399	35,935	14,325	4,709,608
1988	4,504,345	450	83,653	78,648	4,667,096
1989	4,430,871	437	85,077	69,414	4,585,799
1990	4,799,647	3,075	190,147	313,906	5,306,775
1991	4,380,432	-	213,003	344,011	4,937,446
1992	4,298,679	-	209,290	317,970	4,825,939
1993	4,233,514	-	281,099	345,338	4,859,951
1994	5,224,376	-	365,044	336,722	5,926,142
1995	4,869,703	9	510,361	295,041	5,675,114
1996	5,391,553	9	630,275	244,317	6,266,154
1997	5,782,551	9	566,037	236,155	6,584,752
1998	6,027,670	-	522,146	202,163	6,751,979
1999	6,588,761	18	549,570	209,763	7,348,112
2000	7,237,975	18	454,738	191,689	7,884,420
2001	7,550,713	18	403,234	191,135	8,145,100
2002	7,080,410	180	317,492	148,055	7,546,137
2003	7,149,539	180	301,606	163,384	7,614,709
2004	7,751,594	180	273,956	158,283	8,184,013
2005	8,502,679	180	557,775	162,087	9,222,721
2006	8,588,277	180	382,402	188,293	9,159,152
2007	8,925,565	157	230,169	183,923	9,339,814
2008	8,670,293	457	215,960	187,338	9,074,048
2009	7,959,731	136	154,668	198,869	8,313,404
2010	7,808,270	259	92,465	204,723	8,105,717

Source: FAA TAF 2011.

Table A- 10: Passenger Statistics from the BTS T100

BTS T100 Passenger Statistics			
Calendar Year	Enplanements	Deplanements	Total
1990	5,382,901	5,465,367	10,848,268
1991	4,882,430	4,925,127	9,807,557
1992	4,879,197	4,918,475	9,797,672
1993	5,064,389	5,108,553	10,172,942
1994	6,060,941	6,084,296	12,145,237
1995	5,328,796	5,355,173	10,683,969
1996	6,210,822	6,266,136	12,476,958
1997	6,431,608	6,463,250	12,894,858
1998	6,725,387	6,778,812	13,504,199
1999	7,385,726	7,418,264	14,803,990
2000	7,910,385	7,928,484	15,838,869
2001	7,880,909	7,904,899	15,785,808
2002	7,790,482	7,810,581	15,601,063
2003	7,888,169	7,888,100	15,776,269
2004	8,582,643	8,624,865	17,207,508
2005	9,439,188	9,462,465	18,901,653
2006	9,388,599	9,385,314	18,773,913
2007	9,524,655	9,529,674	19,054,329
2008	9,087,221	9,089,261	18,176,482
2009	8,410,791	8,449,246	16,860,037
2010	8,300,153	8,332,106	16,632,259

Source: BTS T100.

Table A- 11: Operation Counts from the Airport Monthly Activity Report

HCAA Operation Counts					
Calendar Year	Domestic	International	GA	Military	Total
1990	180,856	5,904	49,938	1,948	238,646
1991					
1992	174,256	7,240	48,261	2,389	232,146
1993	191,222	6,966	48,349	1,806	248,343
1994	211,611	7,858	44,687	1,531	265,687
1995	211,616	6,592	42,263	2,109	262,580
1996	213,825	6,158	44,545	3,485	268,013
1997	203,731	5,962	32,892	3,229	245,814
1998	210,189	5,638	37,272	1,843	254,942
1999	217,361	5,154	48,696	750	271,961
2000	225,128	5,730	46,190	815	277,863
2001	212,621	5,150	42,438	652	260,861
2002	198,439	4,166	40,422	923	243,950
2003	190,200	3,950	38,976	475	233,601
2004	199,946	3,624	40,686	604	244,860
2005	223,121	4,270	42,228	505	270,124
2006	213,212	3,474	39,784	601	257,071
2007	217,134	3,001	37,539	675	258,349
2008	202,123	2,920	32,223	619	237,885
2009	168,539	3,142	27,632	647	199,960
2010	166,167	2,950	25,575	667	195,359
2011	163,373	3,170	24,201	571	191,315

Source: HCAA Monthly Operation Counts.

Table A- 12: Traffic Counts from the FAA TAF

FAA TAF Operations Forecast							
Fiscal Year	Itinerant				Local		Total Operations
	Air Carrier	Air Taxi	General Aviation	Military	Civil	Military	
1990	132,005	45,814	46,980	1,826	111	-	226,736
1991	124,832	56,309	50,119	2,351	35	4	233,650
1992	120,479	58,170	48,291	2,468	32	30	229,470
1993	118,491	71,420	48,569	1,921	22	2	240,425
1994	140,421	75,975	45,537	1,608	-	-	263,541
1995	117,171	100,603	42,227	1,616	-	-	261,617
1996	115,910	109,335	44,186	3,351	-	-	272,782
1997	118,796	89,498	38,084	3,381	288	-	250,047
1998	121,823	90,826	32,075	2,291	400	-	247,415
1999	134,339	86,938	50,049	824	180	-	272,330
2000	146,614	83,433	46,229	839	773	-	277,888
2001	154,188	71,118	43,833	667	142	-	269,948
2002	145,968	57,801	40,452	956	47	1	245,225
2003	142,910	49,537	38,738	479	571	-	232,235
2004	145,445	52,306	39,812	522	544	-	238,629
2005	157,715	68,431	42,204	569	535	-	269,454
2006	158,731	58,325	40,160	543	147	-	257,906
2007	170,207	51,271	38,144	701	443	-	260,766
2008	168,519	45,394	34,081	637	439	-	249,070
2009	152,164	23,453	28,030	639	368	-	204,654
2010	145,249	22,989	26,317	695	917	-	196,167

Source: FAA TAF.

Table A- 13: Traffic Counts from the FAA Air Traffic Activity Data System (ATADS)

FAA ATADS Operations Count							
Calendar Year	Itinerant				Local		Total Operations
	Air Carrier	Air Taxi	General Aviation	Military	Civil	Military	
1990	134,896	51,863	49,830	1,948	109	-	238,646
1991	120,159	52,092	49,351	2,433	46	4	224,085
1992	119,569	61,561	48,261	2,359	28	30	231,808
1993	124,419	73,755	48,349	1,804	14	2	248,343
1994	139,482	79,987	44,687	1,531	-	-	265,687
1995	111,694	106,514	42,263	2,109	-	-	262,580
1996	115,634	104,349	44,545	3,485	-	-	268,013
1997	120,803	88,674	34,200	3,225	288	-	247,190
1998	124,638	90,789	37,272	1,843	400	-	254,942
1999	137,145	85,168	48,696	744	243	-	271,996
2000	148,864	81,988	46,134	814	832	-	278,632
2001	151,124	66,545	42,469	653	67	1	260,859
2002	147,306	54,986	40,302	916	115	-	243,625
2003	142,442	51,572	38,912	476	490	-	233,892
2004	148,102	55,486	40,560	601	526	-	245,275
2005	158,712	68,035	41,907	493	519	-	269,666
2006	161,690	55,082	39,575	590	256	-	257,193
2007	169,973	50,175	37,493	674	430	-	258,745
2008	165,448	39,595	32,223	619	373	-	238,258
2009	148,695	22,994	27,675	647	610	-	200,621
2010	145,617	23,000	25,580	667	831	10	195,705
2011	146,440	19,967	24,201	571	136	-	191,315

Source: FAA Air Traffic Activity Data System (ATADS).

Table A- 14: Cargo volume from Airport Monthly Activity Report

Cargo Volume from HCAA Airport Monthly Activity Report							
Calendar Year	Cargo		Mail		Total		Grand Total
	Enplaned	Deplaned	Enplaned	Deplaned	Enplaned	Deplaned	
1990	31,651	26,880	17,872	20,852	49,523	47,733	97,255
1991	-	-	-	-	-	-	-
1992	33,261	28,318	20,655	23,130	53,916	51,447	105,364
1993	33,950	30,899	21,024	24,870	54,974	55,769	110,743
1994	37,484	35,053	21,655	25,095	59,140	60,148	119,288
1995	39,069	39,493	21,715	25,084	60,784	64,577	125,361
1996	41,129	45,539	22,400	27,023	63,529	72,562	136,091
1997	44,684	46,992	20,817	25,762	65,501	72,754	138,255
1998	49,181	49,727	14,043	15,360	63,225	65,087	128,312
1999	48,063	49,577	11,963	12,290	60,026	61,867	121,893
2000	45,979	45,850	10,141	11,629	56,120	57,479	113,599
2001	34,778	36,136	7,748	9,424	42,526	45,559	88,086
2002	34,501	49,301	8,496	8,761	42,997	58,062	101,059
2003	33,715	51,848	10,544	6,931	44,258	58,778	103,037
2004	35,290	47,024	9,898	8,132	45,189	55,156	100,344
2005	36,623	49,674	6,696	7,464	43,318	57,137	100,456
2006	45,451	62,718	5,452	6,695	50,903	69,413	120,317
2007	43,305	58,159	2,913	3,687	46,218	61,846	108,064
2008	47,185	58,242	2,709	5,015	49,894	63,257	113,151
2009	40,099	47,744	2,561	3,954	42,660	51,699	94,359
2010	40,681	50,206	1,990	4,013	42,671	54,219	96,890
2011	40,890	49,303	1,689	4,010	42,579	53,313	95,892

Source: HCAA Airport Monthly Activity Report.

Table A- 15: Cargo volume from BTS T100

BTS T100 Cargo Volume			
Calendar Year	Tonnage		Grand Total
	Inbound	Outbound	
1990	13,676	22,331	36,007
1991	13,778	21,361	35,139
1992	13,471	21,382	34,853
1993	13,372	20,210	33,582
1994	14,724	20,144	34,868
1995	11,752	16,903	28,655
1996	11,023	15,005	26,028
1997	10,575	13,703	24,278
1998	10,525	14,547	25,072
1999	12,087	14,317	26,404
2000	11,355	13,952	25,307
2001	9,046	11,593	20,639
2002	17,221	17,687	34,908
2003	39,856	37,643	77,499
2004	41,641	37,227	78,868
2005	41,664	37,476	79,140
2006	54,446	45,754	100,200
2007	54,157	45,864	100,021
2008	51,888	46,534	98,422
2009	43,530	39,842	83,372
2010	45,309	40,340	85,649

Source: BTS T100 Report.

Table A- 16: Number of Based Aircraft from the FAA TAF

Based Aircraft Fleet from FAA TAF

Calendar Year	Single Engine	Multi- Engine	Jet	Other	Total
1980	44	40	0	12	96
1990	31	50	11	12	104
2000	20	15	26	12	73
2001	14	20	36	12	82
2002	10	10	32	12	64
2003	9	9	31	12	61
2004	12	1	32	12	57
2005	17	3	39	12	71
2006	13	5	51	12	81
2007	13	5	62	12	92
2008	17	3	59	12	91
2009	13	13	42	12	80
2010	13	13	42	12	80

Source: FAA TAF.

Table A- 17: HCAA Quarterly Based Aircraft Counts

HCAA Quarterly Based Aircraft Counts						
Date	Single Engine Piston	Multi- Engine Piston	Multi- Engine Turboprop	Jet	Helicopter	Total
7-Feb	14	12	9	47	10	92
7-May	13	5	17	45	9	89
7-Aug	13	5	14	47	8	87
7-Nov	15	4	12	46	11	88
8-Feb	20	3	14	46	13	96
8-May	17	3	13	46	11	90
8-Aug	18	2	10	46	10	86
8-Nov	15	3	9	45	10	82
9-Feb	14	3	10	45	11	83
9-May	13	3	10	42	12	80
9-Aug	16	3	9	41	12	81
9-Nov	15	3	9	39	12	78
10-Feb	16	3	9	41	9	78
10-May	18	2	6	40	8	74
10-Aug	18	1	6	39	8	72
10-Nov	17	1	5	37	8	68
11-Feb	17	2	5	36	8	68
11-May	17	2	5	38	8	70
11-Aug	16	2	4	36	8	66
11-Nov	16	3	4	39	8	70

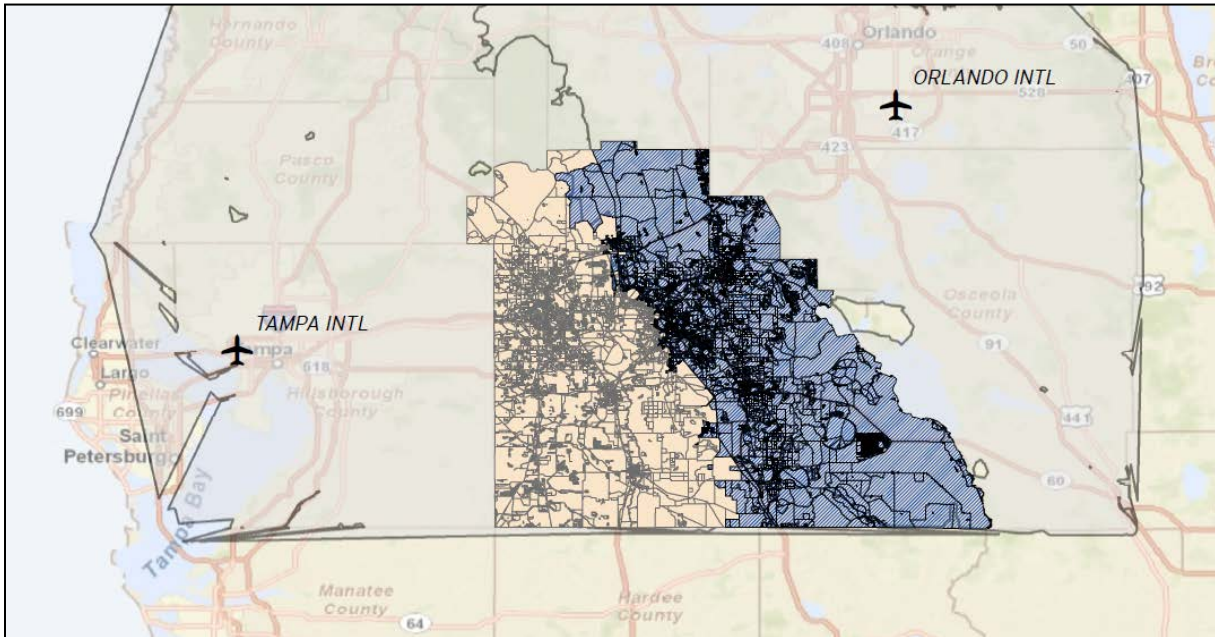
Source: HCAA Quarterly Tenants Survey.

Table A- 18: GA and Military Operations from the FAA TAF and the HCAA Monthly Report

GA and Military Operations								
Year	FAA TAF						HCAA	
	GA			Military			GA	Military
	Local	Itinerant	Total	Local	Itinerant	Total		
1990	111	46,980	47,091	-	1,826	1,826	49,938	1,948
1991	35	50,119	50,154	4	2,351	2,355		
1992	32	48,291	48,323	30	2,468	2,498	48,261	2,389
1993	22	48,569	48,591	2	1,921	1,923	48,349	1,806
1994	-	45,537	45,537	-	1,608	1,608	44,687	1,531
1995	-	42,227	42,227	-	1,616	1,616	42,263	2,109
1996	-	44,186	44,186	-	3,351	3,351	44,545	3,485
1997	288	38,084	38,372	-	3,381	3,381	32,892	3,229
1998	400	32,075	32,475	-	2,291	2,291	37,272	1,843
1999	180	50,049	50,229	-	824	824	48,696	750
2000	773	46,229	47,002	-	839	839	46,190	815
2001	142	43,833	43,975	-	667	667	42,438	652
2002	47	40,452	40,499	1	956	957	40,422	923
2003	571	38,738	39,309	-	479	479	38,976	475
2004	544	39,812	40,356	-	522	522	40,686	604
2005	535	42,204	42,739	-	569	569	42,228	505
2006	147	40,160	40,307	-	543	543	39,784	601
2007	443	38,144	38,587	-	701	701	37,539	675
2008	439	34,081	34,520	-	637	637	32,223	619
2009	368	28,030	28,398	-	639	639	27,632	647
2010	917	26,317	27,234	-	695	695	25,575	667
2011	302	24,447	24,749	10	562	572	24,201	571

Source: FAA TAF and HCAA Monthly Report.

Figure A- 1: Draw Area Allocation Based on Driving Time in Polk County



Legend: Yellow – Tampa International Draw Area; Blue – Orlando International Draw Area

Source: HNTB Analysis.

Table A- 19: Airport Draw Area Population Estimates for 2011

Population Estimates for 2011				
County	Draw Area Category	EDR (a)	BEER (b)	Woods & Poole (c)
Hillsborough	Inner	1,205,881	1,247,867	1,228,245
Pasco	Inner	442,647	474,219	494,690
Pinellas	Inner	923,466	916,354	915,770
Hernando	Inner	166,759	176,241	180,381
Manatee	Inner	319,564	327,452	331,185
Inner Area Total		3,058,317	3,142,133	3,150,271
Sarasota	Outer	391,467	383,491	374,809
De Soto	Outer	34,424	35,126	36,593
Hardee	Outer	28,211	27,785	30,154
Polk	Outer	585,935	612,248	599,856
Sumter	Outer	103,299	96,698	81,946
Citrus	Outer	143,443	143,118	145,471
Outer Area Total		1,038,694	1,039,239	1,014,850

(a) Florida Office of Economic and Demographic Research (EDR), Florida Population Estimates for Counties.

(b) Bureau of Economic and Business Research (BEER), University of Florida, Florida County Population Projections.

(c) Woods & Poole Inc., The Complete Economic and Demographic Data Source (CEDDS).

Table A- 20: Airport Draw Area Population Projection for 2016

County	Draw Area Category	Population Estimates for 2016				Woods & Poole (c)
		EDR (a)	BEBR (b)			
			Low	Medium	High	
Hillsborough	Inner	1,302,691	1,287,522	1,347,298	1,417,426	1,312,344
Pasco	Inner	489,296	496,086	525,097	559,435	552,784
Pinellas	Inner	930,373	882,205	915,360	948,183	934,131
Hernando	Inner	183,987	183,908	194,716	207,410	203,478
Manatee	Inner	345,633	336,386	352,084	370,356	363,683
Inner Area Total		3,251,980	3,186,106	3,334,554	3,502,809	3,366,420
Sarasota	Outer	421,077	386,491	404,903	425,492	388,112
De Soto	Outer	36,211	35,240	36,476	37,806	39,883
Hardee	Outer	28,978	27,099	28,060	29,136	32,051
Polk	Outer	636,940	636,765	666,052	700,985	641,900
Sumter	Outer	123,349	107,358	114,722	124,071	92,674
Citrus	Outer	155,939	146,289	153,133	161,019	158,446
Outer Area Total		1,132,814	1,069,636	1,121,339	1,181,712	1,081,286

(a) Florida Office of Economic and Demographic Research (EDR), Florida Population Estimates for Counties.

(b) Bureau of Economic and Business Research (BEBR), University of Florida, Florida County Population Projections.

(c) Woods & Poole Inc., The Complete Economic and Demographic Data Source (CEDDS).

Table A- 21: Airport Draw Area Population Projection for 2021

County	Draw Area Category	Population Estimates for 2021				Woods & Poole (c)
		EDR (a)	BEBR (b)			
			Low	Medium	High	
Hillsborough	Inner	1,406,642	1,336,227	1,460,394	1,594,156	1,398,128
Pasco	Inner	537,239	519,309	581,180	647,729	611,282
Pinellas	Inner	932,589	853,623	914,160	974,365	954,031
Hernando	Inner	201,195	192,163	215,057	239,681	226,697
Manatee	Inner	372,436	347,921	380,264	415,028	396,522
Inner Area Total		3,450,101	3,249,243	3,551,055	3,870,959	3,586,659
Sarasota	Outer	453,254	392,517	429,376	468,344	402,150
De Soto	Outer	37,603	35,440	37,876	40,426	43,216
Hardee	Outer	29,545	26,579	28,360	30,317	33,995
Polk	Outer	685,751	663,637	725,216	791,721	684,815
Sumter	Outer	146,794	117,652	134,658	153,422	103,411
Citrus	Outer	168,104	150,574	164,581	179,564	171,574
Outer Area Total		1,230,704	1,105,415	1,213,009	1,328,579	1,149,211

(a) Florida Office of Economic and Demographic Research (EDR), Florida Population Estimates for Counties.

(b) Bureau of Economic and Business Research (BEBR), University of Florida, Florida County Population Projections.

(c) Woods & Poole Inc., The Complete Economic and Demographic Data Source (CEDDS).

Table A- 22: Airport Draw Area Population Projection for 2031

Population Estimates for 2031						
County	Draw Area Category	EDR (a)	BEBR (b)			Woods & Poole (c)
			Low	Medium	High	
Hillsborough	Inner	1,486,920	1,398,248	1,671,316	1,963,087	1,572,947
Pasco	Inner	574,718	546,576	687,272	837,324	730,317
Pinellas	Inner	934,915	796,879	911,920	1,026,687	995,415
Hernando	Inner	214,991	201,619	253,544	308,916	273,947
Manatee	Inner	393,615	362,098	432,858	499,200	463,328
Inner Area Total		3,605,159	3,305,420	3,956,909	4,635,215	4,035,954
Sarasota	Outer	477,955	396,519	474,634	556,706	431,214
De Soto	Outer	38,788	35,680	40,657	45,947	50,002
Hardee	Outer	30,026	25,379	28,960	32,637	37,970
Polk	Outer	725,043	702,203	838,877	985,897	772,369
Sumter	Outer	165,160	131,332	173,886	219,911	125,174
Citrus	Outer	177,969	155,460	185,962	218,284	198,267
Outer Area Total		1,307,958	1,149,260	1,387,794	1,641,952	1,287,975

(a) Florida Office of Economic and Demographic Research (EDR), Florida Population Estimates for Counties.

(b) Bureau of Economic and Business Research (BEBR), University of Florida, Florida County Population Projections.

(c) Woods & Poole Inc., The Complete Economic and Demographic Data Source (CEDDS).

Table A- 23: Airport Draw Area Employment Projections, Medium Growth Scenario

Employment Projections, Medium Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	786,313	864,367	955,700	1,144,597
Pasco	Inner	129,160	140,234	153,758	182,658
Pinellas	Inner	564,404	579,462	593,024	618,246
Hernando	Inner	57,009	61,567	67,222	79,301
Manatee	Inner	156,959	166,678	179,119	205,456
Inner Area Total		1,693,845	1,812,307	1,948,823	2,230,258
Sarasota	Outer	213,307	229,269	246,938	280,844
De Soto	Outer	14,009	14,463	15,014	16,307
Hardee	Outer	10,764	11,061	11,393	12,148
Polk	Outer	271,640	293,869	318,988	369,645
Sumter	Outer	29,956	34,505	39,781	50,720
Citrus	Outer	52,091	54,717	57,943	64,146
Outer Area Total		476,754	513,459	554,996	637,302

Sources: Woods & Poole CEDDS, BEBR, and HNTB Analysis.

Table A- 24: Airport Draw Area Employment Projections, Low Growth Scenario

Employment Projections, Low Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	786,313	826,017	874,443	957,587
Pasco	Inner	129,160	132,486	137,389	145,265
Pinellas	Inner	564,404	558,474	553,753	540,253
Hernando	Inner	57,009	58,149	60,066	63,060
Manatee	Inner	156,959	159,246	163,884	171,870
Inner Area Total		1,693,845	1,734,372	1,789,536	1,878,035
Sarasota	Outer	213,307	218,843	225,740	234,623
De Soto	Outer	14,009	13,973	14,048	14,311
Hardee	Outer	10,764	10,682	10,677	10,646
Polk	Outer	271,640	280,947	291,903	309,421
Sumter	Outer	29,956	32,291	34,757	38,308
Citrus	Outer	52,091	52,271	53,012	53,625
Outer Area Total		476,754	490,054	506,544	529,924

Sources: Woods & Poole CEDDS, BEBR, and HNTB Analysis.

Table A- 25: Airport Draw Area Employment Projections, High Growth Scenario

Employment Projections, High Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	786,313	909,358	1,043,235	1,344,416
Pasco	Inner	129,160	149,404	171,364	222,538
Pinellas	Inner	564,404	600,240	632,079	696,054
Hernando	Inner	57,009	65,580	74,919	96,619
Manatee	Inner	156,959	175,328	195,494	236,945
Inner Area Total		1,693,845	1,899,911	2,117,092	2,596,572
Sarasota	Outer	213,307	240,927	269,349	329,406
De Soto	Outer	14,009	14,990	16,024	18,429
Hardee	Outer	10,764	11,485	12,179	13,690
Polk	Outer	271,640	309,282	348,241	434,428
Sumter	Outer	29,956	37,317	45,324	64,145
Citrus	Outer	52,091	57,534	63,218	75,296
Outer Area Total		476,754	540,586	606,889	751,457

Sources: Woods & Poole CEDDS, BEBR, and HNTB Analysis.

Table A- 26: Airport Draw Area per Capita Income Projections

per Capita Income Projections (in 2011 dollars)					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	\$39,238	\$41,811	\$44,758	\$51,704
Pasco	Inner	\$29,881	\$31,367	\$33,151	\$37,693
Pinellas	Inner	\$44,632	\$48,069	\$51,795	\$60,239
Hernando	Inner	\$31,486	\$33,175	\$35,191	\$40,248
Manatee	Inner	\$40,448	\$43,116	\$46,282	\$54,260
Inner Area Total		\$39,090	\$41,518	\$44,254	\$50,783
Sarasota	Outer	\$57,471	\$62,910	\$68,973	\$83,407
De Soto	Outer	\$24,367	\$25,916	\$27,743	\$32,280
Hardee	Outer	\$23,650	\$25,128	\$26,772	\$30,640
Polk	Outer	\$33,359	\$35,069	\$37,000	\$41,607
Sumter	Outer	\$31,719	\$33,477	\$35,599	\$40,848
Citrus	Outer	\$32,720	\$34,525	\$36,590	\$41,548
Outer Area Total		\$41,453	\$44,339	\$47,578	\$55,298

Sources: Woods & Poole CEDDS, Bureau of Economic Analysis (BEA), and HNTB Analysis.

Table A- 27: Airport Draw Area Total Income Projections, Medium Growth Scenario

Total Income Projections (in millions of 2011 dollars), Medium Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	48,963	56,332	65,365	86,413
Pasco	Inner	14,170	16,471	19,267	25,906
Pinellas	Inner	40,899	44,001	47,349	54,933
Hernando	Inner	5,549	6,460	7,568	10,205
Manatee	Inner	13,245	15,180	17,599	23,487
Inner Area Total		122,826	138,443	157,148	200,943
Sarasota	Outer	22,040	25,472	29,615	39,588
De Soto	Outer	856	945	1,051	1,312
Hardee	Outer	657	705	759	887
Polk	Outer	20,424	23,358	26,833	34,903
Sumter	Outer	3,067	3,841	4,794	7,103
Citrus	Outer	4,683	5,287	6,022	7,726
Outer Area Total		43,079	49,719	57,713	76,742

Sources: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 28: Airport Draw Area Total Income Projections, Low Growth Scenario

Total Income Projections (in millions of 2011 dollars), Low Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	48,963	53,832	59,807	72,294
Pasco	Inner	14,170	15,561	17,216	20,602
Pinellas	Inner	40,899	42,407	44,213	48,003
Hernando	Inner	5,549	6,101	6,762	8,115
Manatee	Inner	13,245	14,504	16,102	19,647
Inner Area Total		122,826	132,405	144,102	168,662
Sarasota	Outer	22,040	24,314	27,073	33,073
De Soto	Outer	856	913	983	1,152
Hardee	Outer	657	681	712	778
Polk	Outer	20,424	22,331	24,554	29,217
Sumter	Outer	3,067	3,594	4,188	5,365
Citrus	Outer	4,683	5,051	5,510	6,459
Outer Area Total		43,079	47,429	52,624	63,672

Sources: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 29: Airport Draw Area Total Income Projections, High Growth Scenario

Total Income Projections (in millions of 2011 dollars), High Growth Scenario					
County	Draw Area Category	2011	2016	2021	2031
Hillsborough	Inner	48,963	59,264	71,352	101,499
Pasco	Inner	14,170	17,548	21,473	31,561
Pinellas	Inner	40,899	45,578	50,467	61,847
Hernando	Inner	5,549	6,881	8,435	12,433
Manatee	Inner	13,245	15,968	19,208	27,087
Inner Area Total		122,826	145,239	170,935	234,427
Sarasota	Outer	22,040	26,768	32,303	46,433
De Soto	Outer	856	980	1,122	1,483
Hardee	Outer	657	732	812	1,000
Polk	Outer	20,424	24,583	29,293	41,021
Sumter	Outer	3,067	4,154	5,462	8,983
Citrus	Outer	4,683	5,559	6,570	9,069
Outer Area Total		43,079	52,367	63,159	90,621

Sources: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 30: Average Annual Growth Rate Comparison (Population)

Area	Average Annual Growth Rate (Population)			
	Historical	Forecast		
		Near Term	Mid Term	Long Term
	1970-2010	2011-2016	2011-2021	2011-2031
Tampa Int'l Draw Area (a)	2.47%	1.28%	1.31%	1.23%
Orlando MSA (b)	3.48%	1.67%	1.61%	1.52%
Miami MSA (b)	2.28%	1.31%	1.28%	1.22%
Florida (b)	2.53%	1.43%	1.39%	1.32%
U.S. (b)	1.05%	0.97%	0.96%	0.93%

(a) Historical data was obtained from Woods & Poole CEDDS; Forecast was obtained from BEBR.

(b) Woods & Poole CEDDS.

Table A- 31: Average Annual Growth Rate Comparison (Employment)

Area	Average Annual Growth Rate (Employment)			
	Historical	Forecast		
		Near Term	Mid Term	Long Term
		1970-2010	2011-2016	2011-2021
Tampa Int'l Draw Area (a)	3.08%	1.70%	1.55%	1.47%
Orlando MSA (b)	4.21%	1.47%	1.45%	1.41%
Miami MSA (b)	2.75%	1.60%	1.58%	1.55%
Florida (b)	3.04%	1.49%	1.48%	1.46%
U.S. (b)	1.65%	1.15%	1.14%	1.13%

(a) Historical data was obtained from Woods & Poole CEDDS; Forecast was obtained from BEBR.

(b) Woods & Poole CEDDS.

Table A- 32: Average Annual Growth Rate Comparison (per Capita Income)

Area	Average Annual Growth Rate (per Capita Income)			
	Historical	Forecast		
		1970-2010	Near Term 2011-2016	Mid Term 2011-2021
Tampa Int'l Draw Area (a)	2.31%	1.25%	1.29%	1.36%
Orlando MSA (b)	1.62%	1.25%	1.28%	1.34%
Miami MSA (b)	1.56%	1.31%	1.33%	1.38%
Florida (b)	1.73%	1.26%	1.30%	1.37%
U.S. (b)	1.80%	1.19%	1.22%	1.27%

(a) Historical data was obtained from Woods & Poole CEDDS; Forecast was obtained from BEBR.

(b) Woods & Poole CEDDS.

Table A- 33: Average Annual Growth Rate Comparison (Total Income)

Area	Average Annual Growth Rate (Total Income)			
	Historical	Forecast		
	1970-2010	Near Term 2011-2016	Mid Term 2011-2021	Long Term 2011-2031
Tampa Int'l Draw Area (a)	4.84%	2.55%	2.62%	2.61%
Orlando MSA (b)	5.16%	2.94%	2.92%	2.88%
Miami MSA (b)	3.87%	2.63%	2.63%	2.62%
Florida (b)	4.30%	2.71%	2.71%	2.71%
U.S. (b)	2.87%	2.17%	2.19%	2.21%

(a) Historical data was obtained from Woods & Poole CEDDS; Forecast was obtained from BEBR.

(b) Woods & Poole CEDDS.

Table A- 34: Historical and Projected Population Growth Rate by County

Population Growth Rate, Medium Growth Scenario					
County	Draw Area Category	1970-2011	2011-2016	2011-2021	2011-2031
Hillsborough	Inner	2.28%	1.55%	1.59%	1.47%
Pasco	Inner	4.48%	2.06%	2.05%	1.87%
Pinellas	Inner	1.35%	-0.02%	-0.02%	-0.02%
Hernando	Inner	5.78%	2.01%	2.01%	1.84%
Manatee	Inner	2.99%	1.46%	1.51%	1.41%
Inner Draw Area Total		2.34%	1.20%	1.23%	1.16%
Sarasota	Outer	2.82%	1.09%	1.14%	1.07%
De Soto	Outer	2.41%	0.76%	0.76%	0.73%
Hardee	Outer	1.51%	0.20%	0.21%	0.21%
Polk	Outer	2.40%	1.70%	1.71%	1.59%
Sumter	Outer	4.65%	3.48%	3.37%	2.98%
Citrus	Outer	4.93%	1.36%	1.41%	1.32%
Outer Draw Area Total		2.81%	1.57%	1.59%	1.48%

Source: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 35: Historical and Projected Employment Growth Rate by County

Employment Growth Rate, Medium Growth Scenario					
County	Draw Area Category	1970-2011	2011-2016	2011-2021	2011-2031
Hillsborough	Inner	3.21%	1.91%	1.97%	1.89%
Pasco	Inner	5.02%	1.66%	1.76%	1.75%
Pinellas	Inner	2.73%	0.53%	0.50%	0.46%
Hernando	Inner	5.49%	1.55%	1.66%	1.66%
Manatee	Inner	4.02%	1.21%	1.33%	1.36%
Inner Draw Area Total		3.25%	1.36%	1.41%	1.39%
Sarasota	Outer	3.47%	1.45%	1.47%	1.38%
De Soto	Outer	2.47%	0.64%	0.70%	0.76%
Hardee	Outer	1.62%	0.55%	0.57%	0.61%
Polk	Outer	2.60%	1.59%	1.62%	1.55%
Sumter	Outer	4.83%	2.87%	2.88%	2.67%
Citrus	Outer	5.54%	0.99%	1.07%	1.05%
Outer Draw Area Total		3.12%	1.51%	1.55%	1.48%

Source: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 36: Historical and Projected per Capita Income Growth Rate by County

per Capita Income Growth Rate, Medium Growth Scenario (in 2011 dollars)

County	Draw Area Category	1970-2011	2011-2016	2011-2021	2011-2031
Hillsborough	Inner	2.33%	1.28%	1.33%	1.39%
Pasco	Inner	1.84%	0.98%	1.04%	1.17%
Pinellas	Inner	2.75%	1.49%	1.50%	1.51%
Hernando	Inner	1.58%	1.05%	1.12%	1.24%
Manatee	Inner	2.18%	1.29%	1.36%	1.48%
Inner Draw Area Total		2.21%	1.25%	1.29%	1.38%
Sarasota	Outer	2.92%	1.82%	1.84%	1.88%
De Soto	Outer	1.07%	1.24%	1.31%	1.42%
Hardee	Outer	0.38%	1.22%	1.25%	1.30%
Polk	Outer	1.70%	1.00%	1.04%	1.11%
Sumter	Outer	0.65%	1.09%	1.16%	1.27%
Citrus	Outer	2.34%	1.08%	1.12%	1.20%
Outer Draw Area Total		1.61%	1.32%	1.36%	1.44%

Source: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 37: Historical and Projected Total Income Growth Rate by County

Total Income Growth Rate, Medium Growth Scenario (in millions of 2011 dollars)					
County	Draw Area Category	1970-2011	2011-2016	2011-2021	2011-2031
Hillsborough	Inner	4.67%	2.84%	2.93%	2.88%
Pasco	Inner	6.40%	3.05%	3.12%	3.06%
Pinellas	Inner	4.13%	1.47%	1.48%	1.49%
Hernando	Inner	7.45%	3.09%	3.15%	3.09%
Manatee	Inner	5.23%	2.77%	2.88%	2.91%
Inner Draw Area Total		4.74%	2.42%	2.49%	2.49%
Sarasota	Outer	5.82%	2.94%	3.00%	2.97%
De Soto	Outer	3.51%	2.01%	2.07%	2.16%
Hardee	Outer	1.89%	1.42%	1.46%	1.51%
Polk	Outer	4.15%	2.72%	2.77%	2.72%
Sumter	Outer	5.33%	4.60%	4.57%	4.29%
Citrus	Outer	7.38%	2.46%	2.55%	2.54%
Outer Draw Area Total		4.94%	2.88%	2.93%	2.89%

Source: Woods & Poole CEDDS, BEA, BEBR, and HNTB Analysis.

Table A- 38: Jet Fuel Prices Projection

Jet Fuel Costs per Gallon (in 2011 Dollars)					
Year	Actual (a)	FAA Forecast (b)	DOE Reference Case (c)	DOE High Oil Price (d)	Recommended
2008	3.22				
2009	1.75				
2010	2.22				
2011	3.03	2.27	2.35	3.16	3.03
2012		2.42	2.52	3.58	3.10
2013		2.50	2.57	3.82	3.17
2014		2.54	2.61	3.93	3.23
2015		2.59	2.65	4.01	3.30
2016		2.51	3.06	4.49	3.50
2021		2.28	3.28	4.93	3.61
2031		2.33	3.44	5.20	3.77
Average Annual Growth Rate					
2011-2016		2.01%	5.43%	7.29%	2.88%
2011-2021		0.05%	3.38%	4.56%	1.75%
2011-2031		0.13%	1.91%	2.53%	1.09%

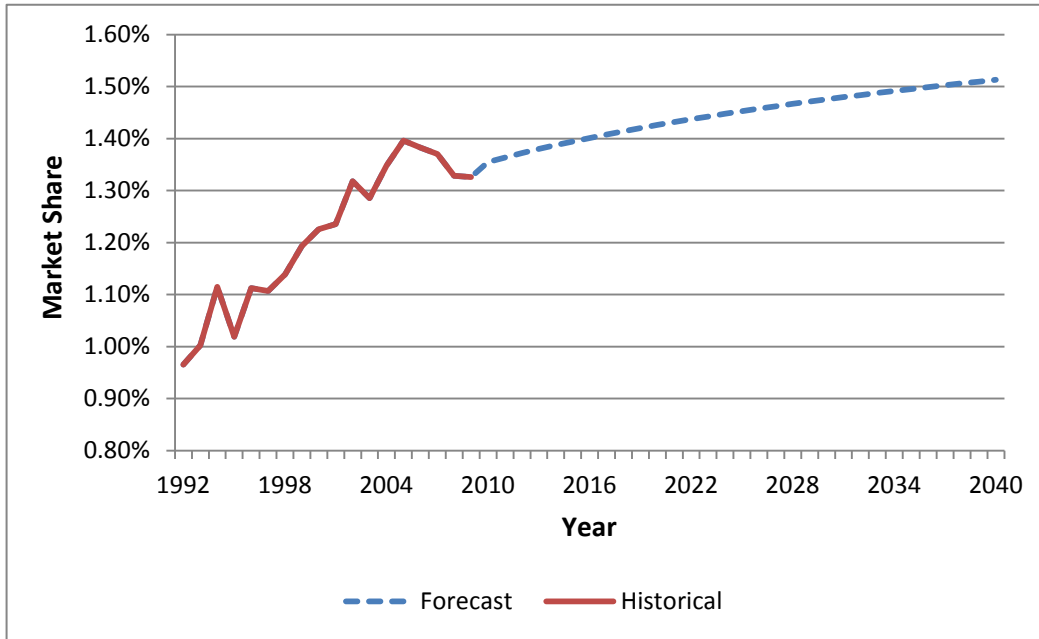
(a) U.S. Department of Energy, Annual Energy Outlook 2011, 2011 data as of September, from Air Transport Association.
(b) FAA Aerospace Forecast: FY 2011-2031.
(c) U.S. Department of Energy, Annual Energy Outlook 2011, Reference case.
(d) U.S. Department of Energy, Annual Energy Outlook 2011, High Oil Price.

Table A- 39: Historical Domestic Air Fare at Tampa and Orlando International Airports

Average Domestic Fare			
Year	Tampa International	Orlando International	U.S. Average
1990	\$217	\$206	\$240
1991	\$232	\$221	\$231
1992	\$233	\$222	\$220
1993	\$227	\$218	\$223
1994	\$187	\$191	\$200
1995	\$200	\$191	\$199
1996	\$174	\$171	\$199
1997	\$170	\$160	\$196
1998	\$174	\$167	\$200
1999	\$166	\$160	\$195
2000	\$165	\$160	\$199
2001	\$150	\$146	\$179
2002	\$137	\$138	\$165
2003	\$139	\$140	\$164
2004	\$130	\$132	\$155
2005	\$128	\$129	\$153
2006	\$138	\$137	\$162
2007	\$134	\$133	\$157
2008	\$137	\$135	\$162
2009	\$129	\$123	\$146
2010	\$139	\$130	\$158

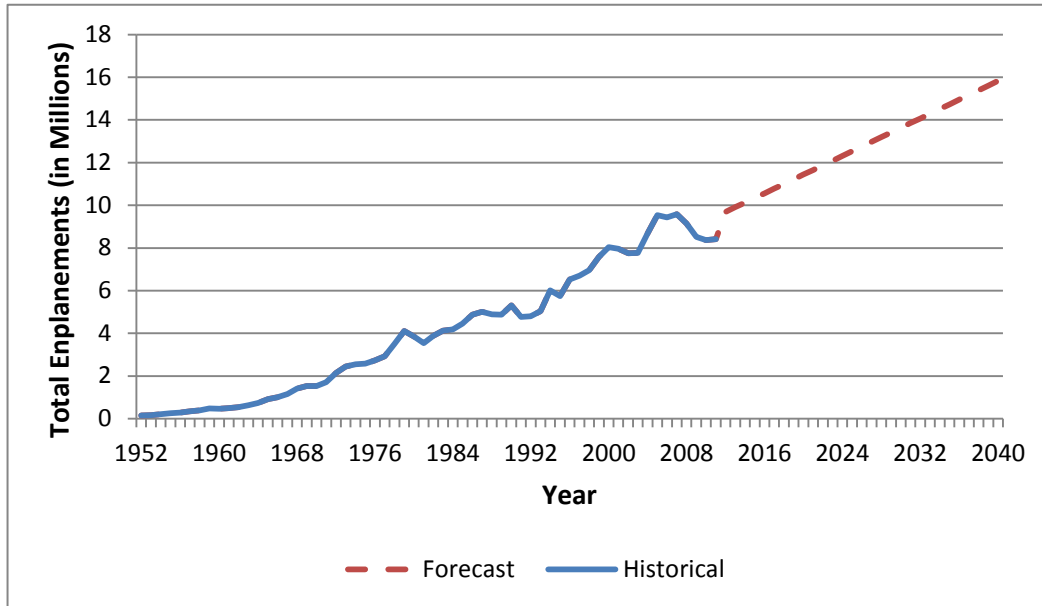
Source: Historical data from OD1A, in 2011 dollars.

Figure A- 2: Domestic Passenger Enplanements Market Share Analysis



Sources: HCAA Monthly Activity Report, FAA TAF, and HNTB Analysis.

Figure A- 3: Domestic Passenger Enplanements Trend Line Analysis



Sources: HCAA Monthly Activity Report and HNTB Analysis.

Table A- 40: Projected Domestic Seat Departures

Forecast of TPA Domestic Annual Seat Departures

Year	Enplanements	Load Factor		Scheduled Seat Departures (c)
		FAA (a)	TPA (b)	
2011	8,197,942	81.70%	82.40%	9,948,959
2016	9,360,547	83.10%	83.80%	11,168,505
2021	10,815,875	83.60%	84.30%	12,827,742
2031	13,462,695	84.00%	84.70%	15,890,866

(a) FAA Aerospace Forecast: Fiscal Years 2011-2031.

(b) Same growth rate as the FAA forecast.

(c) Base year levels from BTS T100. Future levels estimated by dividing enplanements by TPA load factor.

Table A- 41: Revenue Threshold for Domestic Non-Stop Service

Revenue Thresholds for Domestic Nonstop Service at TPA: 2010					
Geographic Category	Revenue (10 percent sample) (a)				Average (d)
	Lowest With (b)		Highest Without (c)		
0-200 Miles	TLH	87,945	RSW	737	44,341
201-300 Miles	EYW	68,505	SAV	63,801	66,153
301-500 Miles	GPT	114,660	CHS	164,694	139,677
501-700 Miles	MEM	513,179	AVL	158,059	335,619
701-1000 Miles	ACY	380,809	DAL	377,052	378,931
1001-1300 Miles	GRR	273,624	OMA	415,413	344,519
1301-1800 Miles	PHX	1,298,882	ABQ	331,310	815,096
1801 + Miles	LAX	1,927,195	SFO	1,237,907	1,582,551

(a) USDOT O&D data. Includes all domestic revenue in market. 10 percent sample of airline revenue for entire market in 2010.

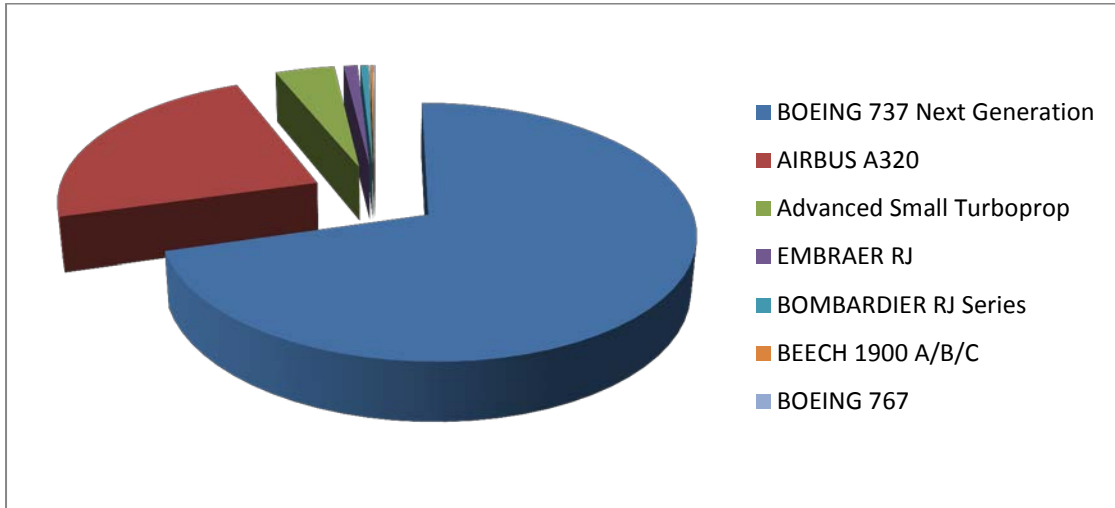
(b) Lowest revenue market in geographic category with non-stop service to TPA.

(c) Highest revenue market in geographic category without non-stop service to TPA.

(d) Average revenue of lowest revenue market with non-stop service and highest revenue market without non-stop service.

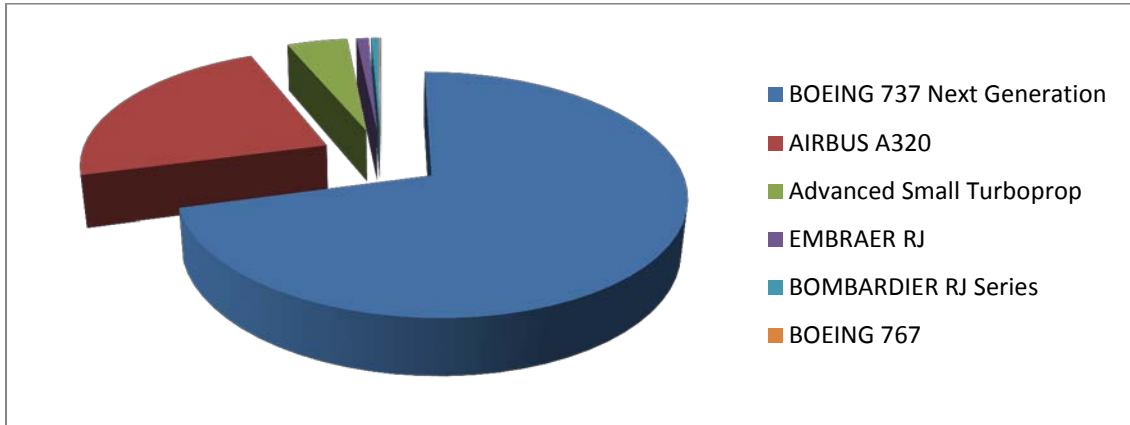
Sources: As noted and HNTB analysis.

Figure A- 4: Domestic Passenger Aircraft Fleet by the Number of Operations in 2021



Sources: BTS T100 and HNTB Analysis.

Figure A- 5: Domestic Passenger Aircraft Fleet by the Number of Operations in 2031



Sources: BTS T100 and HNTB Analysis.

Table A- 42: Domestic Passenger Enplanements by Non-Stop Market

TPA Non-Stop Market Enplanements Forecast - Domestic					
ID	Destination Market Airport Name	Enplanements			
		2010 (a)	2016	2021	2031
ACY	Atlantic City, NJ: Atlantic City International	52,349	55,786	62,249	72,849
ALB	Albany, NY: Albany County	44,815	47,941	53,634	63,253
ATL	Atlanta, GA: Hartsfield-Jackson	934,946	1,061,769	1,236,078	1,567,736
AUS	Austin, TX: Austin - Bergstrom International	40,333	48,053	57,966	79,074
BDL	Hartford, CT: Bradley International	87,040	94,305	105,862	125,270
BHM	Birmingham, AL: Birmingham Municipal	65,189	71,811	81,770	99,733
BNA	Nashville, TN: Nashville Metropolitan	147,320	170,795	201,982	262,461
BOS	Boston, MA: Logan International	139,348	150,170	167,766	196,954
BUF	Buffalo, NY: Buffalo Niagara International	71,891	75,310	82,442	93,171
BWI	Baltimore, MD: Baltimore/Washington International	314,947	350,272	401,761	495,267
CAK	Akron/Canton, OH: Akron/Canton Regional	39,146	41,421	45,726	52,714
CLE	Cleveland, OH: Hopkins International	67,267	70,696	77,522	87,840
CLT	Charlotte, NC: Douglas Municipal	364,046	424,133	503,084	659,444
CMH	Columbus, OH: Columbus International	97,972	106,812	120,667	144,957
CVG	Covington, KY: Cincinnati/ Northern Kentucky International	66,991	72,992	82,272	98,477
DAY	Dayton, OH: James M Cox/Dayton International	19,104	20,019	21,948	24,830
DCA	Washington, DC: Washington National	175,686	198,278	229,872	289,564
DEN	Denver, CO: Denver International	219,510	248,515	288,613	366,454
DFW	Dallas/Ft.Worth, TX: Dallas/Ft Worth International	316,998	365,123	429,724	555,416
DTW	Detroit, MI: Detroit Metro Wayne County	287,647	304,804	336,432	386,192
EWR	Newark, NJ: Newark Liberty International	305,756	327,586	364,722	425,685
EYW	Key West, FL: Key West International	17,225	18,728	20,951	24,709
FLL	Fort Lauderdale, FL: Fort Lauderdale International	295,502	332,371	385,433	485,754
FNT	Flint, MI: Bishop	21,823	22,421	24,165	26,536
GPT	Gulfport/Biloxi, MS: Gulfport Municipal	13,388	14,500	16,322	19,460
GRR	Grand Rapids, MI: Gerald R. Ford International	6,231	6,829	7,746	9,395
HOU	Houston, TX: William P Hobby	146,790	168,397	196,944	252,934
HPN	White Plains, NY: Westchester County	31,953	34,234	38,115	44,486
IAD	Washington, DC: Dulles International	164,682	185,859	215,475	271,428
IAH	Houston, TX: Houston Intercontinental	237,037	271,928	318,026	408,439
IND	Indianapolis, IN: Indianapolis International	124,293	136,523	154,806	187,519
ISP	Islip, NY: Long Island-Macarthur	95,373	102,182	113,766	132,782
JAX	Jacksonville, FL: Jacksonville International	80,533	90,430	104,507	130,879
JFK	New York, NY: Kennedy International	295,271	316,352	352,215	411,087
LAS	Las Vegas, NV: Mc Carran International	90,212	105,318	125,855	168,408

TPA Non-Stop Market Enplanements Forecast - Domestic

Destination Market		Enplanements			
ID	Airport Name	2010 (a)	2016	2021	2031
LAX	Los Angeles, CA: Los Angeles International	43,168	46,858	52,677	62,639
LGA	New York, NY: La Guardia	139,178	149,115	166,019	193,768
MCI	Kansas City, MO: Kansas City International	72,604	80,596	92,303	113,662
MDW	Chicago, IL: Chicago Midway	189,254	205,205	230,207	272,810
MEM	Memphis, TN: Memphis International	88,878	96,872	109,203	130,552
MHT	Manchester, NH: Manchester	89,602	100,596	115,715	144,056
MIA	Miami, FL: Miami International	226,066	254,271	294,865	371,613
MKE	Milwaukee, WI: General Mitchell Field	97,718	104,738	116,624	136,402
MSP	Minneapolis/St. Paul, MN: Minneapolis St Paul International	134,845	149,100	170,050	207,644
MSY	New Orleans, LA: Louis Armstrong International	119,798	130,227	146,685	174,678
ORD	Chicago, IL: O Hare	252,292	273,557	306,887	363,681
ORF	Norfolk, VA: Norfolk International	36,955	40,511	46,022	55,816
PBI	West Palm Beach/Palm Beach, FL: Palm Beach International	119,180	134,050	155,450	195,911
PHL	Philadelphia, PA: Philadelphia International	358,176	388,505	436,496	518,647
PHX	Phoenix, AZ: Sky Harbor International	132,998	149,980	174,101	219,767
PIT	Pittsburgh, PA: Pittsburgh International	104,484	111,338	123,424	143,038
PNS	Pensacola, FL: Pensacola Regional	12,762	14,626	17,132	21,918
PVD	Providence, RI: Theodore Francis Green	91,667	99,203	111,350	132,182
RDU	Raleigh/Durham, NC: Raleigh Durham	103,668	124,437	150,485	202,984
ROC	Rochester, NY: Rochester Monroe County	35,819	37,851	41,804	48,080
SAT	San Antonio, TX: San Antonio International	43,011	49,906	58,924	76,480
SDF	Louisville, KY: Standiford Field	44,878	48,432	54,395	64,721
SJU	San Juan, PR: Luis Munoz Marin International	54,638	60,014	68,170	82,770
STL	St. Louis, MO: Lambert International	92,429	99,254	110,588	129,306
TLH	Tallahassee, FL: Tallahassee Municipal	10,778	11,931	13,675	16,884
NEW (b)	New Destination 1	-	-	-	3,641
NEW (b)	New Destination 2	-	2,820	3,254	4,067
NEW (b)	New Destination 3	-	9,379	11,024	14,318
NEW (b)	New Destination 4	-	6,987	7,961	9,719
NEW (b)	New Destination 5	-	-	-	6,674
NEW (b)	New Destination 6	-	28,070	32,599	41,347
NEW (b)	New Destination 7	-	-	-	22,905
NEW (b)	New Destination 8	-	34,787	40,942	52,917
NEW (b)	New Destination 9	-	-	19,853	23,705
NEW (b)	New Destination 10	-	26,559	30,117	36,436
NEW (b)	New Destination 11	-	32,429	35,510	40,089
NEW (b)	New Destination 12	-	34,370	38,784	46,462

 TPA Non-Stop Market Enplanements Forecast - Domestic

Destination Market		Enplanements			
ID	Airport Name	2010 (a)	2016	2021	2031
NEW (b)	New Destination 13	-	-	-	26,305
NEW (b)	New Destination 14	-	29,303	33,301	40,398
NEW (b)	New Destination 15	-	-	-	84,600
NEW (b)	New Destination 16	-	82,007	91,980	108,831
NEW (b)	New Destination 17	-	-	80,882	99,114
SUM		8,173,460	9,360,547	10,815,875	13,462,695

(a): The latest available calendar year BTS T100 data.

(b): New destinations.

Table A- 43: Projected International Seat Departures

Forecast of TPA International Annual Seat Departures

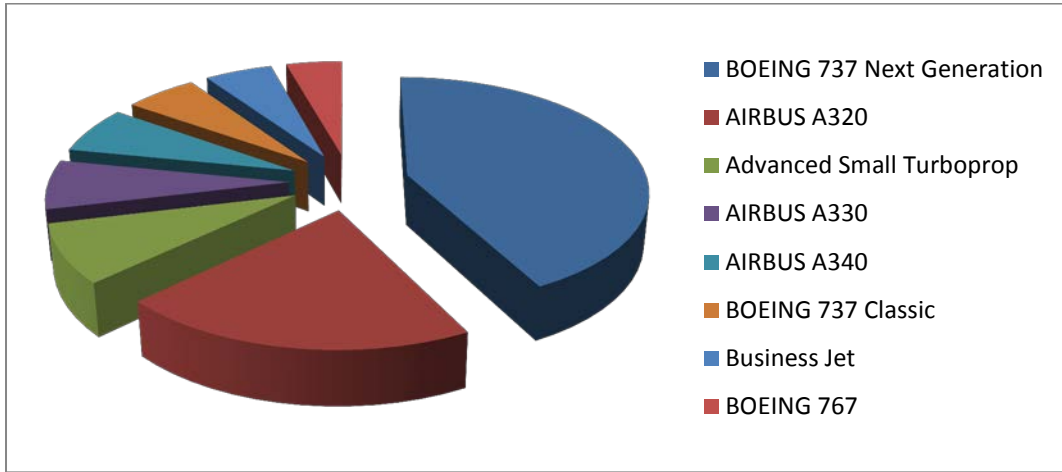
Year	Enplanements	Load Factor		Scheduled Seat Departures (c)
		FAA (a)	TPA (b)	
2010	195,039		81.58%	239,077
2011	211,705	82.10%	81.60%	259,442
2016	462,273	82.70%	82.20%	562,401
2021	620,770	82.90%	82.40%	753,406
2031	889,337	83.20%	82.70%	1,075,464

(a) FAA Aerospace Forecast: Fiscal Years 2011-2031.

(b) Same growth rate as the FAA forecast.

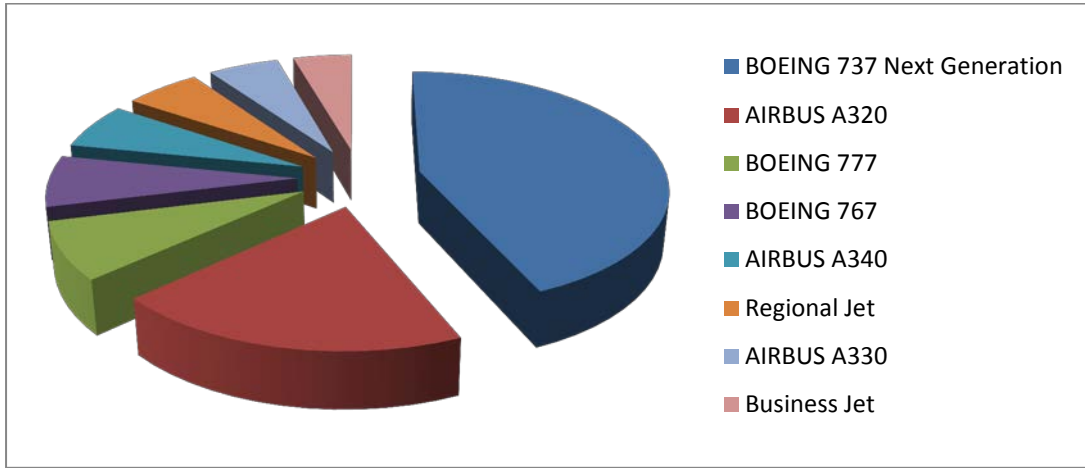
(c) Base year levels from BTS T100. Future levels estimated by dividing enplanements by TPA load factor.

Figure A- 6: International Passenger Aircraft Fleet by the Number of Operations in 2021



Sources: BTS T100 and HNTB Analysis.

Figure A- 7: International Passenger Aircraft Fleet by the Number of Operations in 2031



Sources: BTS T100 and HNTB Analysis.

Table A- 44: Projected International Passengers to/from the U.S.

Projected International Passengers by U.S. and Foreign Carriers to/from the U.S.					
Calendar Year	U.S./CANADA TRANSBORDER	ATLANTIC	PACIFIC	LATIN AMERICA	WORLD
2010	20.9	54.5	25.1	49.1	149.6
2011	21.5	55.2	26.2	51.3	154.2
2016	25.9	71.3	36.1	66.2	199.5
2021	30.5	86.7	45.6	84.9	247.7
2031	41.9	122.8	70.2	138.9	373.8
Average Annual Growth Rate					
2011-2016	3.79%	5.25%	6.62%	5.23%	5.29%
2011-2021	3.56%	4.62%	5.70%	5.17%	4.85%
2011-2031	3.39%	4.08%	5.05%	5.11%	4.53%

Source: Global Insight World Outlook; FAA Aerospace Forecast 2011-2031.

Table A- 45: International Passenger Enplanements by Non-Stop Market

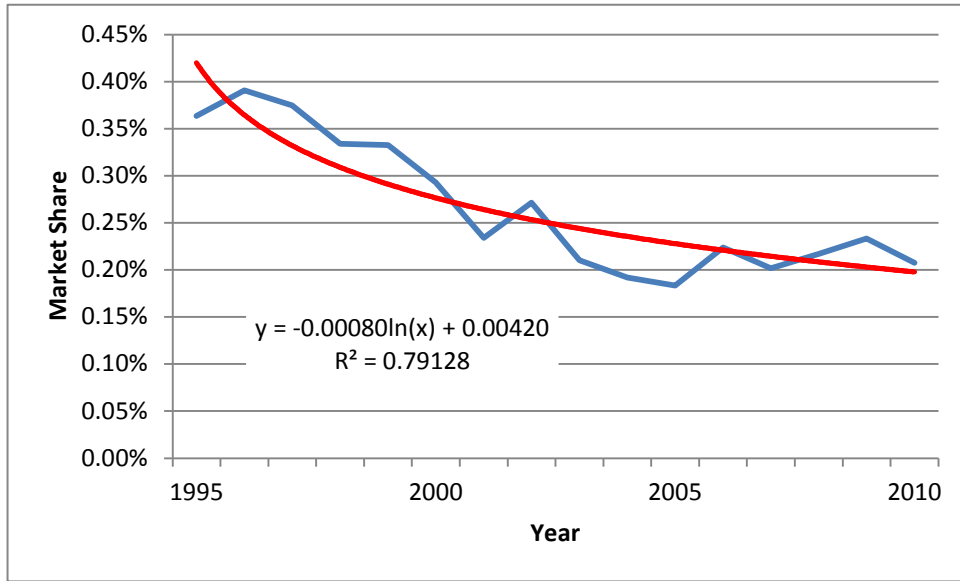
TPA Non-Stop Market Enplanements Forecast - International					
Destination Market		Enplanements			
ID	Airport Name	2010 (a)	2016	2021	2031
CUN	Cancun, Mexico: Cancun International	1,826	2,295	3,101	4,938
GCM	Grand Cayman, Cayman Islands: Owen Roberts	17,748	22,309	30,136	47,997
LGW	London, United Kingdom: Gatwick	57,602	70,255	89,985	124,073
YHZ	Halifax, Canada: CanInternational	2,655	3,067	3,805	5,088
YOW	Ottawa, Canada: CanInternational	7,776	8,984	11,143	14,902
YUL	Montreal, Canada: Pierre Elliott Trudeau International Airport	3,785	4,373	5,424	7,254
YYZ	Toronto, Canada: Pearson International	103,647	119,746	148,533	198,640
HAV (b)	Havana, Cuba: Jose Marti International	-	28,097	37,305	59,624
HOG (b)	Holguin, Cuba: Frank Pais International	-	4,014	5,329	8,552
NEW (c)	New Destination to Europe	-	46,080	58,019	80,289
NEW (c)	New Destination to Europe	-	-	30,317	41,907
NEW (c)	New Destination to Latin America	-	27,173	36,045	57,690
NEW (c)	New Destination to Latin America	-	19,618	26,040	41,681
NEW (c)	New Destination to Latin America	-	15,835	21,068	33,595
NEW (c)	New Destination to Caribbean	-	11,013	14,613	23,383
NEW (c)	New Destination to Caribbean	-	9,597	12,754	20,390
NEW (c)	New Destination to Europe	-	18,776	23,681	32,636
NEW (c)	New Destination to Canada	-	20,017	24,447	32,721
NEW (c)	New Destination to Europe	-	31,026	39,023	53,978
SUM		195,039	462,273	620,770	889,337

(a): The latest available calendar year BTS T100 data.

(b): Service initiated in 2011.

(c): New destination market.

Figure A- 8: Air Cargo Market Share Analysis



Sources: FAA TAF and HNTB Analysis.

Table A- 46: Belly Cargo Percentage Growth Factor

Tampa International Airport Belly Cargo Growth Factor				
Calendar Year	FAA ASMs (BIL) (a)	FAA Passenger RTMs (MIL) (a)	Ton/Seat Ratio	Growth Factor (c)
2010	961	8,735	0.0091	
2011	1,005	9,221	0.0092	1.0097
2012	1,043	9,840	0.0094	1.0282
2013	1,088	10,397	0.0096	1.0127
2014	1,137	10,944	0.0096	1.0079
2015	1,187	11,469	0.0097	1.0037
2016	1,236	11,976	0.0097	1.0026
2017	1,285	12,468	0.0097	1.0012
2018	1,333	12,953	0.0097	1.0020
2019	1,381	13,446	0.0097	1.0016
2020	1,433	13,945	0.0097	0.9998
2021	1,484	14,454	0.0097	1.0007
2022	1,535	14,972	0.0098	1.0013
2023	1,587	15,493	0.0098	1.0008
2024	1,639	16,021	0.0098	1.0011
2025	1,694	16,564	0.0098	1.0008
2026	1,748	17,105	0.0098	1.0005
2027	1,803	17,652	0.0098	1.0002
2028	1,860	18,197	0.0098	0.9996
2029	1,917	18,745	0.0098	0.9994
2030	1,977	19,303	0.0098	0.9985
2031	2,039	19,866	0.0097	0.9979

(a): FAA Aerospace Forecast 2011.

(b): Passenger RTM divided by ASM.

(c): Growth factor relative to the previous year.

Table A- 47: Flight Express Fleet Forecast

TPA Air Cargo Annual Landings and Fleet Mix Forecast - Flight Express						
Airline	Aircraft	Capacity	2011	2016	2021	2031
		(Short Tons) (a)				
EXR	B-58	0.44	21	23	24	27
EXR	C210	0.50	2,290	2,469	2,609	2,938
EXR	PA-31	1.00	51	55	57	65
Total Landings (b)			2,362	2,492	2,633	2,965
Total Operations (c)			4,727	4,987	5,269	5,934
Total Capacity (d)			1,205	1,300	1,372	1,546
Freight Tonnage (e)			370	416	453	541
Load Factor (f)			31%	32%	33%	35%
Required All-Cargo Capacity (g)			1,205	1,300	1,373	1,546

(a): HNTB research.

(b): Landings estimated so that available capacity matches required all-cargo capacity.

(c): Departures estimated by all-cargo arrival/departure ratio reported by BTS T100.

(d): Sum of individual capacity times number of landings.

(e): Historical and forecasted freight tonnage.

(f): Assumes to remain constant.

(g): Cargo tonnage divided by load factor.

Table A- 48: FedEx Fleet Forecast

TPA Air Cargo Annual Landings and Fleet Mix Forecast - FedEx						
Airline	Aircraft	Capacity	2011	2016	2021	2031
		(Short Tons) (a)				
FX	727-200	27.5	3	-	-	-
FX	757-200F	33.0	-	3	3	3
FX	A300	52.5	184	206	-	-
FX	A310-20	40.0	5	6	-	-
FX	A310-30	40.0	7	8	-	-
FX	767-300F	53.6	-	-	233	277
FX	DC10-30	85.3	4	4	-	-
FX	MD10-10	65.0	436	490	-	-
FX	MD10-30	85.0	9	10	-	-
FX	MD-11	90.0	158	178	-	-
FX	A330-200F	70.0	-	-	763	911
Total Landings (b)			806	905	999	1,191
Total Operations (c)			1,613	1,811	1,999	2,384
Total Capacity (d)			53,889	60,535	65,998	78,716
Cargo Tonnage (e)			42,500	47,757	52,029	62,143
Load Factor (f)			79%	79%	79%	79%
Required All-Cargo Capacity (g)			53,889	60,452	65,859	78,662

(a): FedEx cargo aircraft charter information and Boeing official aircraft description.

(b): Landings estimated so that available capacity matches required all-cargo capacity.

(c): Departures estimated by all-cargo arrival/departure ratio reported by BTS T100.

(d): Sum of individual capacity times number of landings.

(e): Forecasted freight tonnage.

(f): Assumes to remain constant.

(g): Cargo tonnage divided by load factor.

Table A- 49: GA Population in the Primary and Secondary Draw Area

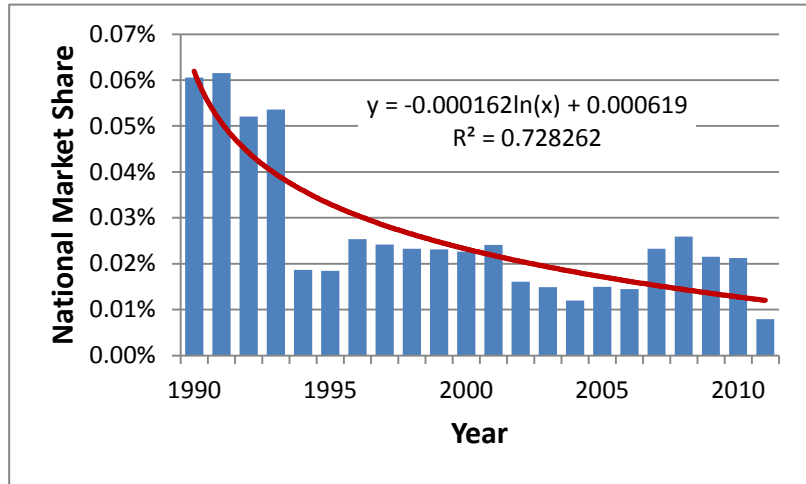
GA Population in the Primary and Secondary Draw Area (2010 (a))

Airport ID	Airport Name	City	Total GA (b)
BKV	Hernando County Airport	Brooksville	141
BOW	Bartow Municipal Airport	Bartow	100
CGC	Crystal River Airport	Crystal River	30
CHN	Wauchula Municipal Airport	Wauchula	41
CLW	Clearwater Air Park	Clearwater	106
GIF	Winter Haven's Gilbert Airport	Winter Haven	165
LAL	Lakeland Linder Regional Airport	Lakeland	178
PCM	Plant City Airport	Plant City	89
PIE	St Petersburg-Clearwater International Airport	St Petersburg-Clearwater	288
SPG	Albert Whitted Airport	St Petersburg	160
SRQ	Sarasota/Bradenton International Airport	Sarasota/Bradenton	247
TPF	Peter O Knight Airport	Tampa	122
VDF	Tampa Executive Airport	Tampa	151
VNC	Venice Municipal Airport	Venice	225
X06	Arcadia Municipal Airport	Arcadia	28
X07	Lake Wales Municipal Airport	Lake Wales	14
ZPH	Zephyrhills Municipal Airport	Zephyrhills	101

(a): Latest FAA TAF historical data.

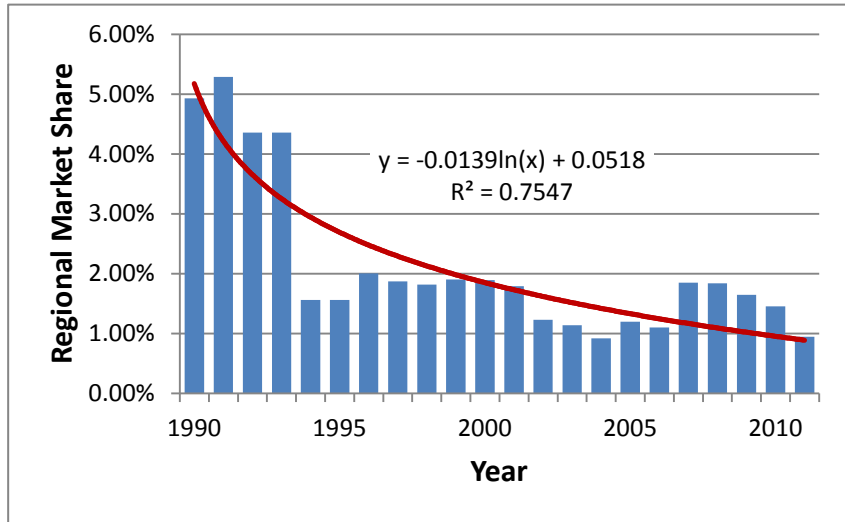
(b): FAA TAF.

Figure A- 9: National Market Share of the TPA GA Aircraft (Without Jets)



Sources: FAA TAF and HNTB Analysis.

Figure A- 10: Regional Market Share of the TPA GA Aircraft (Without Jets)



Sources: FAA TAF and HNTB Analysis.

Table A- 50: Number of Based Aircraft from National Market Share Analysis

GA Aircraft from National Market Share						
Year	Single Engine Piston	Multi-Engine Piston	Multi-Engine Turboprop	Jet	Helicopter	Total
2011	17	2	5	37	8	69
2016	14	2	4	40	8	67
2021	12	1	4	42	7	66
2031	8	1	3	47	6	65

Sources: HCAA quarterly GA tenant survey, FAA TAF, FAA GAATA, and HNTB analysis.

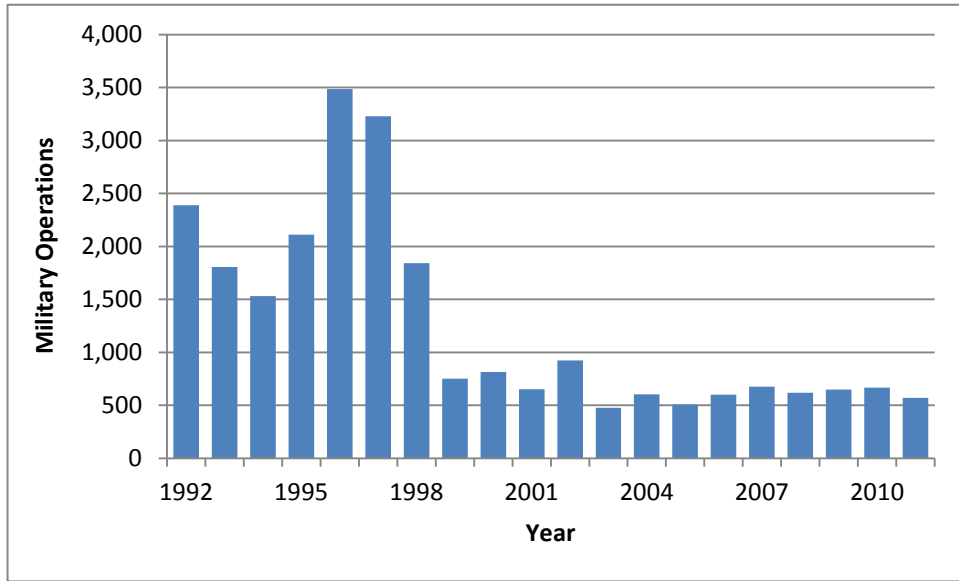
Table A- 51: Number of Based Aircraft from Regional Market Share Analysis

GA Aircraft from Regional Market Share

Year	Single Engine Piston	Multi-Engine Piston	Multi-Engine Turboprop	Jet	Helicopter	Total
2011	17	2	5	37	8	69
2016	14	2	4	40	8	68
2021	12	1	4	42	8	67
2031	9	1	3	47	7	66

Sources: HCAA quarterly GA tenant survey, FAA TAF, FAA GAATA, Woods & Poole CEDDS, BEBR, and HNTB analysis.

Figure A- 11: TPA Military Operations



Source: HCAA Monthly Traffic Report.

Table A- 52: TPA Passenger Enplanements Forecast

Comparison of Master Plan, HCAA and TAF Total Passenger Forecasts						
Year	Total			Growth Rates		
	HCAA	TAF	2012 Master Plan	HCAA	TAF	2012 Master Plan
2010	16,645,765	16,211,434	16,645,765			
2011	16,732,051	16,477,624	16,732,051	0.52%	1.64%	0.52%
2012	17,039,147	16,418,820	17,010,759	1.84%	-0.36%	1.67%
2013	17,520,222	16,948,058	17,469,214	2.82%	3.22%	2.70%
2014	18,315,196	17,213,290	18,115,478	4.54%	1.56%	3.70%
2015	18,806,445	17,603,824	18,845,065	2.68%	2.27%	4.03%
2016	19,356,253	18,120,832	19,645,640	2.92%	2.94%	4.25%
2017	19,891,525	18,597,044	20,321,036	2.77%	2.63%	3.44%
2018	20,559,034	19,085,814	21,060,829	3.36%	2.63%	3.64%
2019	21,141,608	19,587,478	21,668,674	2.83%	2.63%	2.89%
2020	21,714,992	20,102,378	22,272,931	2.71%	2.63%	2.79%
2021	22,276,542	20,630,860	22,873,290	2.59%	2.63%	2.70%
2022	22,956,194	21,173,286	23,464,949	3.05%	2.63%	2.59%
2023	23,678,913	21,730,028	24,072,710	3.15%	2.63%	2.59%
2024	24,401,085	22,301,464	24,715,266	3.05%	2.63%	2.67%
2025	25,097,895	22,887,982	25,218,840	2.86%	2.63%	2.04%
2026	25,825,310	23,489,986	25,788,239	2.90%	2.63%	2.26%
2027	26,548,944	24,107,884	26,349,107	2.80%	2.63%	2.17%
2028	27,335,601	24,742,098	26,930,734	2.96%	2.63%	2.21%
2029	28,101,253	25,393,062	27,495,465	2.80%	2.63%	2.10%
2030	28,913,032	26,061,222	28,062,079	2.89%	2.63%	2.06%
2031	29,740,515	26,747,030	28,704,063	2.86%	2.63%	2.29%

Sources: HNTB, HCAA, and FAA 2011 TAF

Table A- 53: TPA Operations Forecast

Comparison of Master Plan and TAF Total Aircraft Operation Forecasts				
Year	Total		Growth Rate	
	TAF	2012 Master Plan	TAF	2012 Master Plan
2010	196,167	195,359		
2011	192,691	191,315	-1.80%	-2.11%
2012	188,703	194,747	-2.11%	1.76%
2013	192,750	198,179	2.10%	1.73%
2014	193,290	201,611	0.28%	1.70%
2015	196,325	205,043	1.55%	1.67%
2016	200,649	208,475	2.16%	1.65%
2017	204,688	212,613	1.97%	1.95%
2018	208,826	216,752	1.98%	1.91%
2019	213,064	220,890	1.99%	1.87%
2020	217,406	225,029	2.00%	1.84%
2021	221,853	229,167	2.00%	1.81%
2022	226,408	233,955	2.01%	2.05%
2023	231,074	238,742	2.02%	2.01%
2024	235,854	243,529	2.03%	1.97%
2025	240,751	248,317	2.03%	1.93%
2026	245,766	253,104	2.04%	1.89%
2027	250,905	257,891	2.05%	1.86%
2028	256,169	262,678	2.05%	1.82%
2029	261,560	267,466	2.06%	1.79%
2030	267,084	272,253	2.07%	1.76%
2031	272,743	277,040	2.07%	1.73%

Sources: HNTB, and FAA 2011 TAF

Regression Analysis

Regression analysis is a statistical tool used to investigate the correlation between two sets of variables. The first set of variables, commonly referred to as dependent variables, represents what needs to be estimated. The second set of variables, commonly referred to as independent variables, represents known factors. Forecasts on independent variables should be available if they are to be used to forecast dependent variables. A correlation analysis is conducted to investigate the statistical relationship between dependent variables and independent variables. If such relationships exist in the historical data, a regression function can be calculated reflecting the correlation between the two sets of variables. Assuming this correlation continues in the future, dependent variables can be estimated using the known forecasts of independent variables.

Sometimes instrument (dummy) variables are introduced as independent variables. They assume the values of 0 or 1 to represent the absence or presence of certain hard-to-quantify factors that may have an impact on the function.

Equation A- 1: Passenger Forecast Regression Equation

$$\begin{aligned} \log(\textit{Originations}) &= 0.613 + 0.948 * \log(\textit{US Income}) - 0.797 * \log(\textit{TPA Fare}) + 0.324 \\ &* \log(\textit{MCO Fare}) + 0.02554 * \textit{Sep - 11th} + 0.0259 * \textit{Independence Air} - 0.1859 \\ &* \log(\textit{Unemployment Rate}) \end{aligned}$$

Adjusted R²: 0.99

Originations: Passenger enplanements originating from TPA

US Income: Total US income from Woods& Poole

TPA Fare: Average domestic fare at Tampa International from OD1A

MCO Fare: Average domestic fare at Orlando International from OD1A

Sep-11th: Sep-11th terrorist attacks dummy variable

Independence Air: Market disturbance caused by the entrance of the Independence Air, a dummy variable

Unemployment Rate: US unemployment rate

Equation A- 2: Cargo Volume Forecast Regression Equation

$$\log(Cargo) = -2.262 + 0.036 * \log(DHL\ Service) - 0.152 * \log(Sep - 11th) + 1.419 * \log(Draw\ Area\ Income)$$

Adjusted R²: 0.79

Cargo: Cargo volume.

DHL Service: A dummy variable to model DHL's Service at TPA. It assumes 1 when DHL serviced the Airport and 0 when DHL exited

Sep-11th: Sep-11th terrorist attacks dummy variable. It assumes 0 before 2001 and 1 afterwards

Service Area Income: Total income within the airport draw areas

APPENDIX B - GATED FLIGHT SCHEDULE GANTT CHARTS

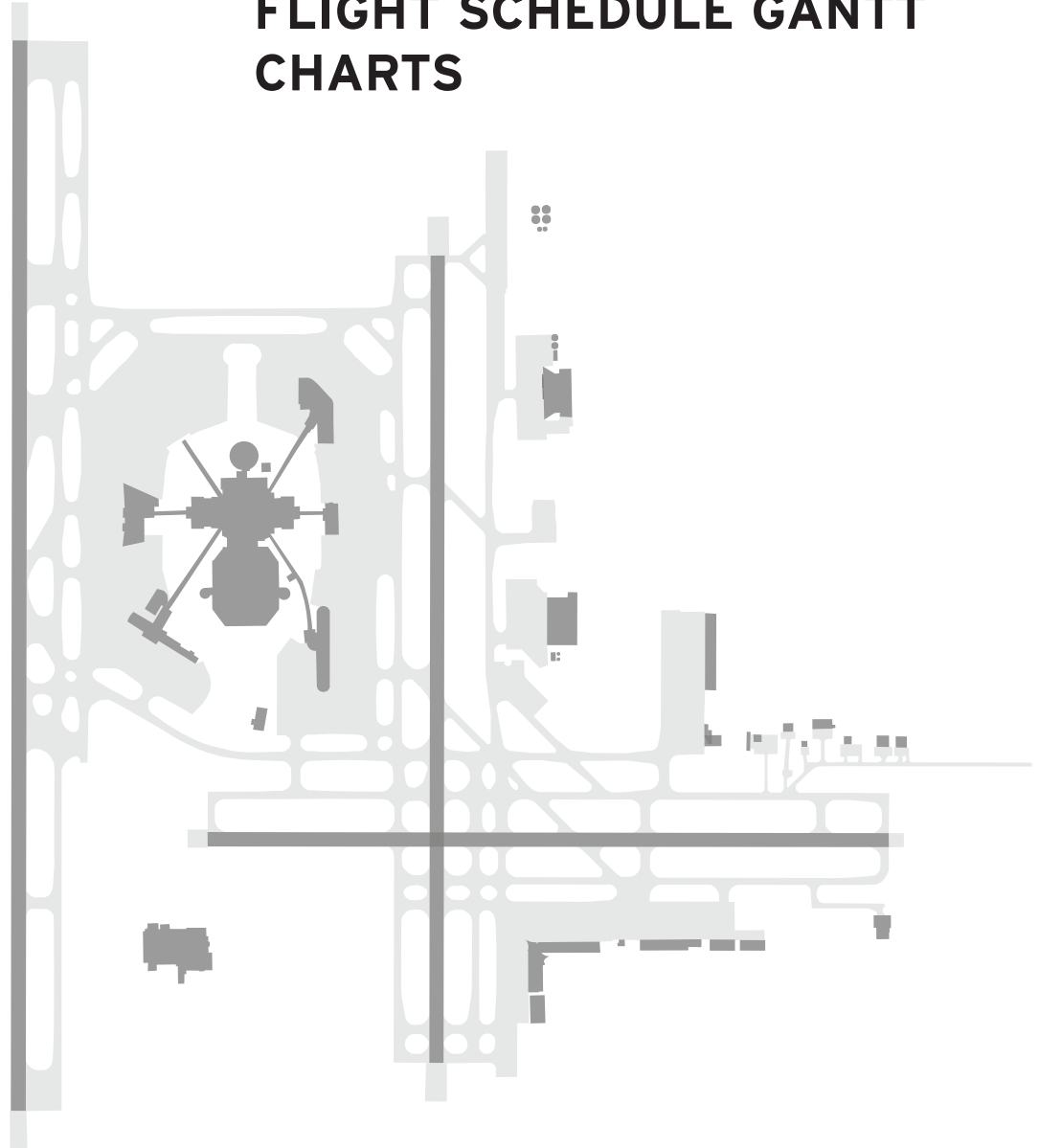


Table B-1

Base Year (2011) Airline Gated Flight Schedule - Gantt Chart

Airline	Color
3M	Green
AA	Orange
AC	Red
B6	Magenta
BA	Cyan
DL	Light Blue
F9	Dark Blue
NK	Dark Purple
UA	Blue
US	Green
WN	Light Orange
WS	Grey

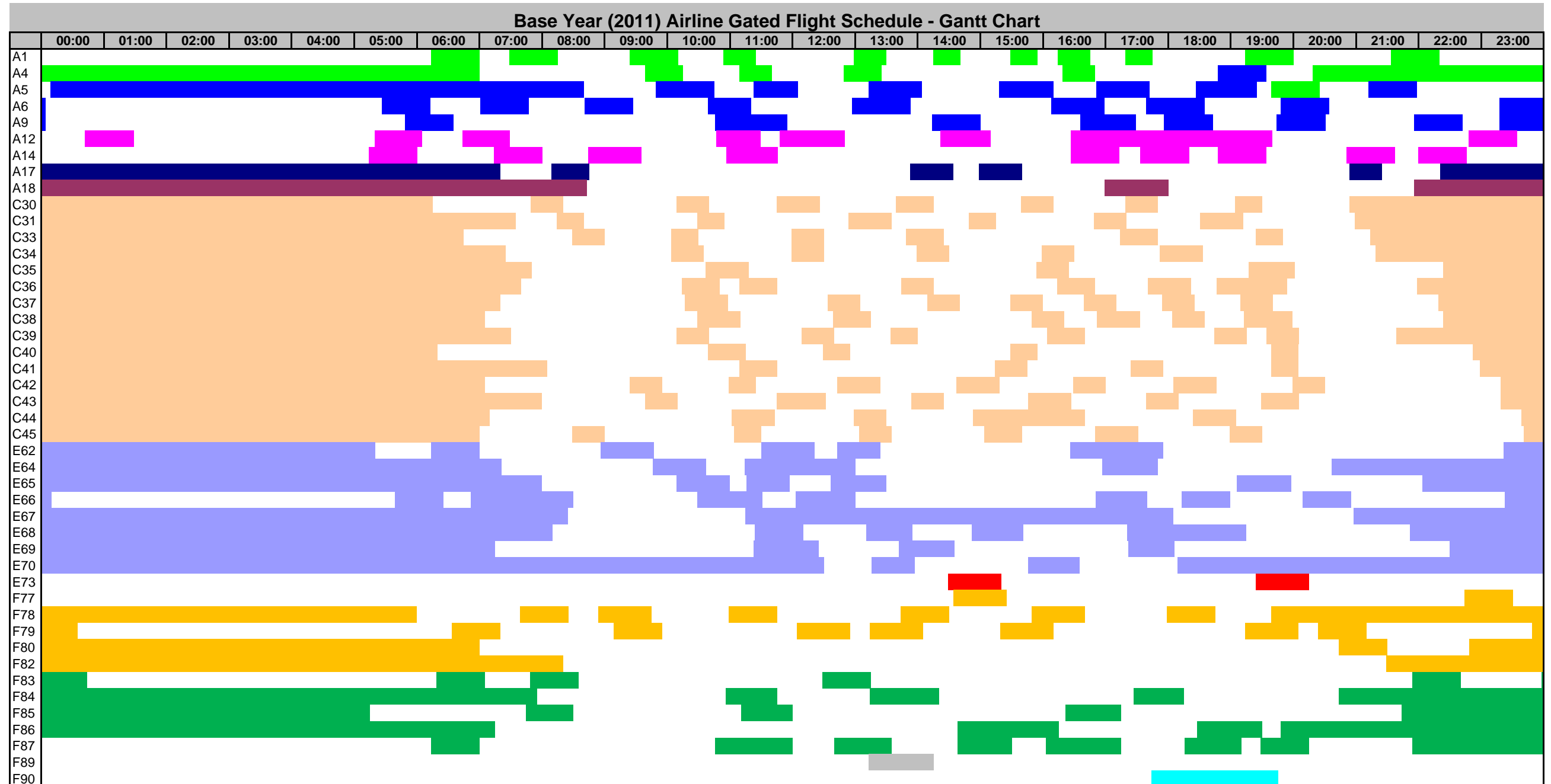


Table B-2

Design Group	Color
WB6	Red
WB5	Green
WB4	Blue
757	Yellow
NB	Magenta
RG2	Cyan
RG1	Brown

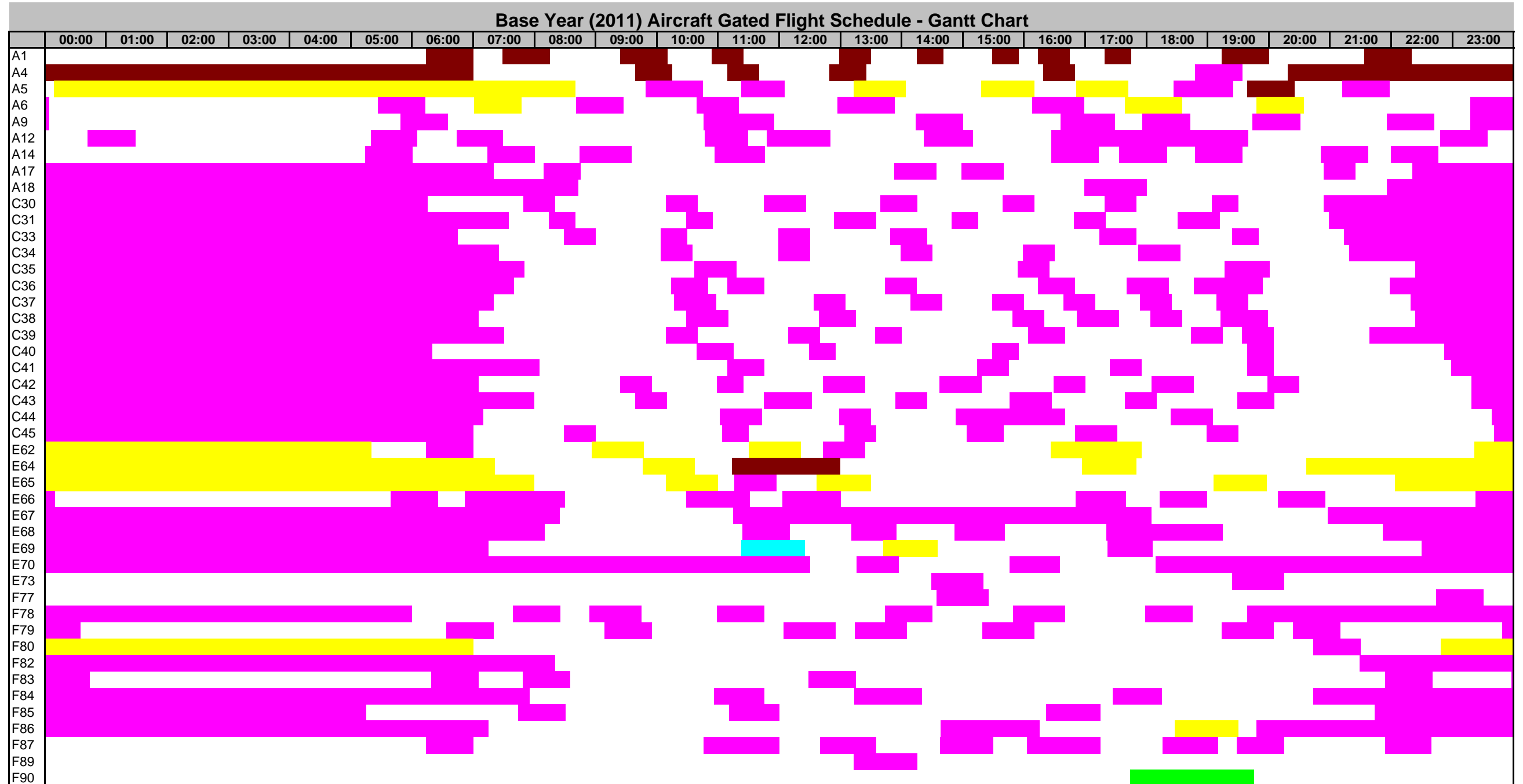


Table B-3

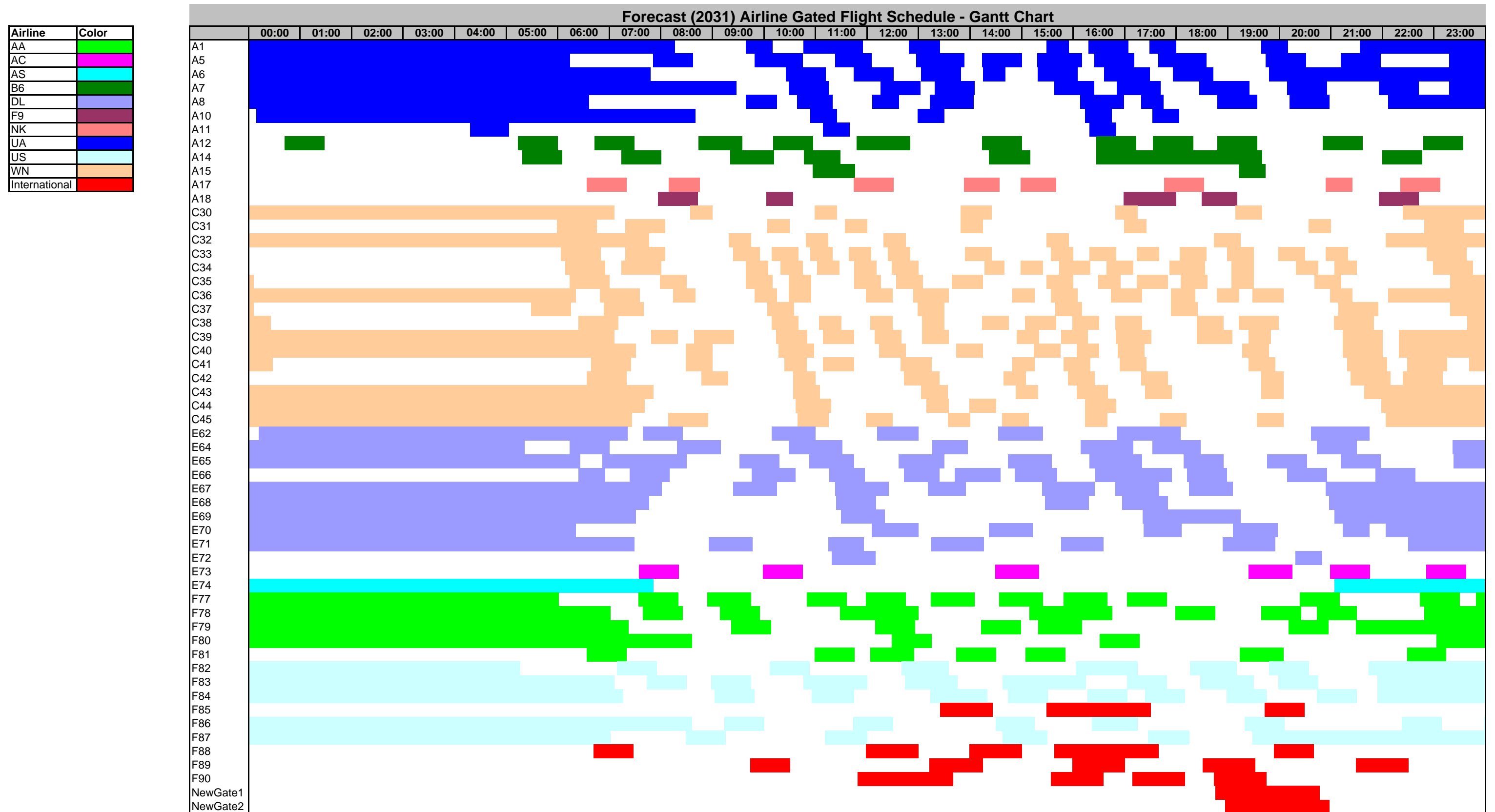
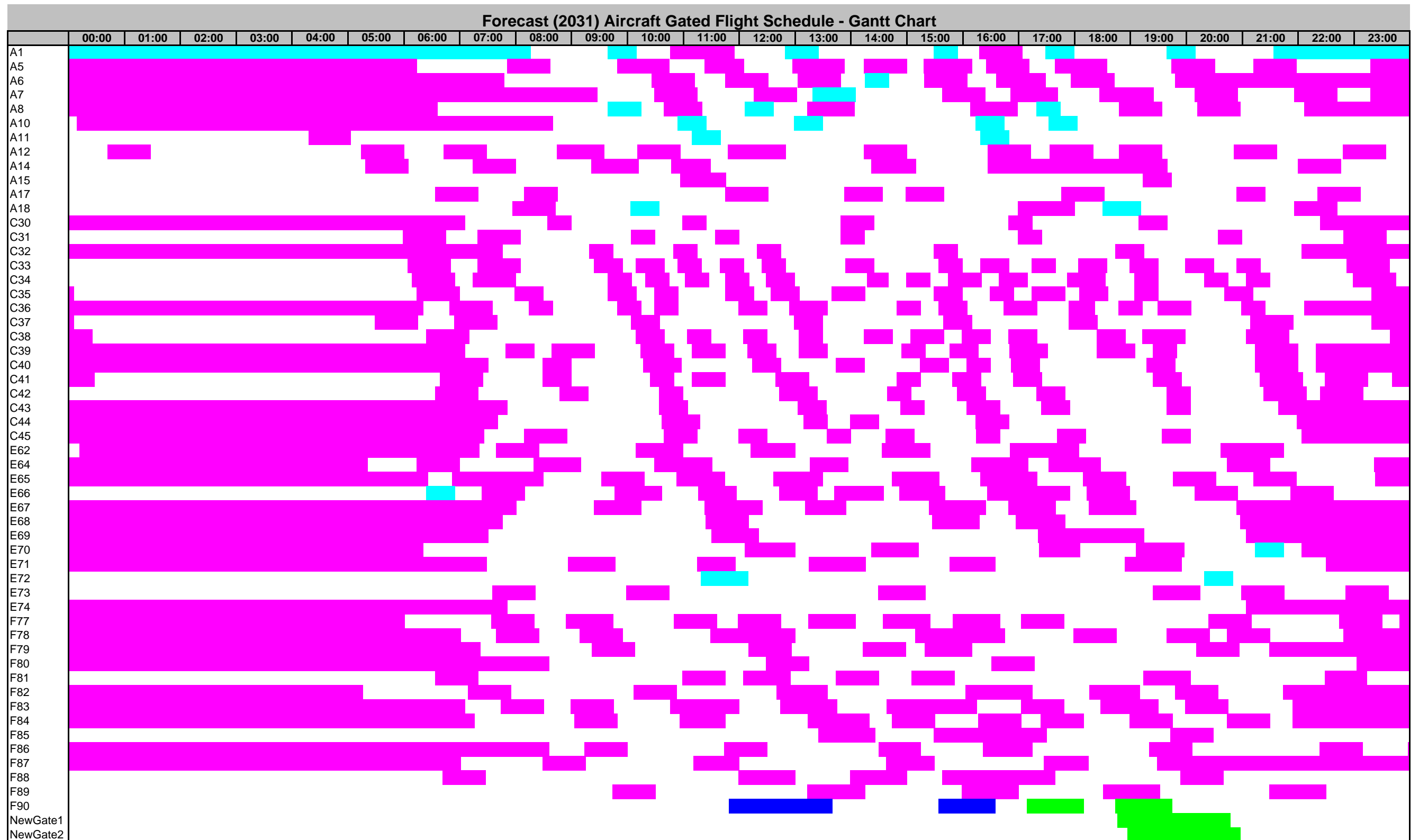
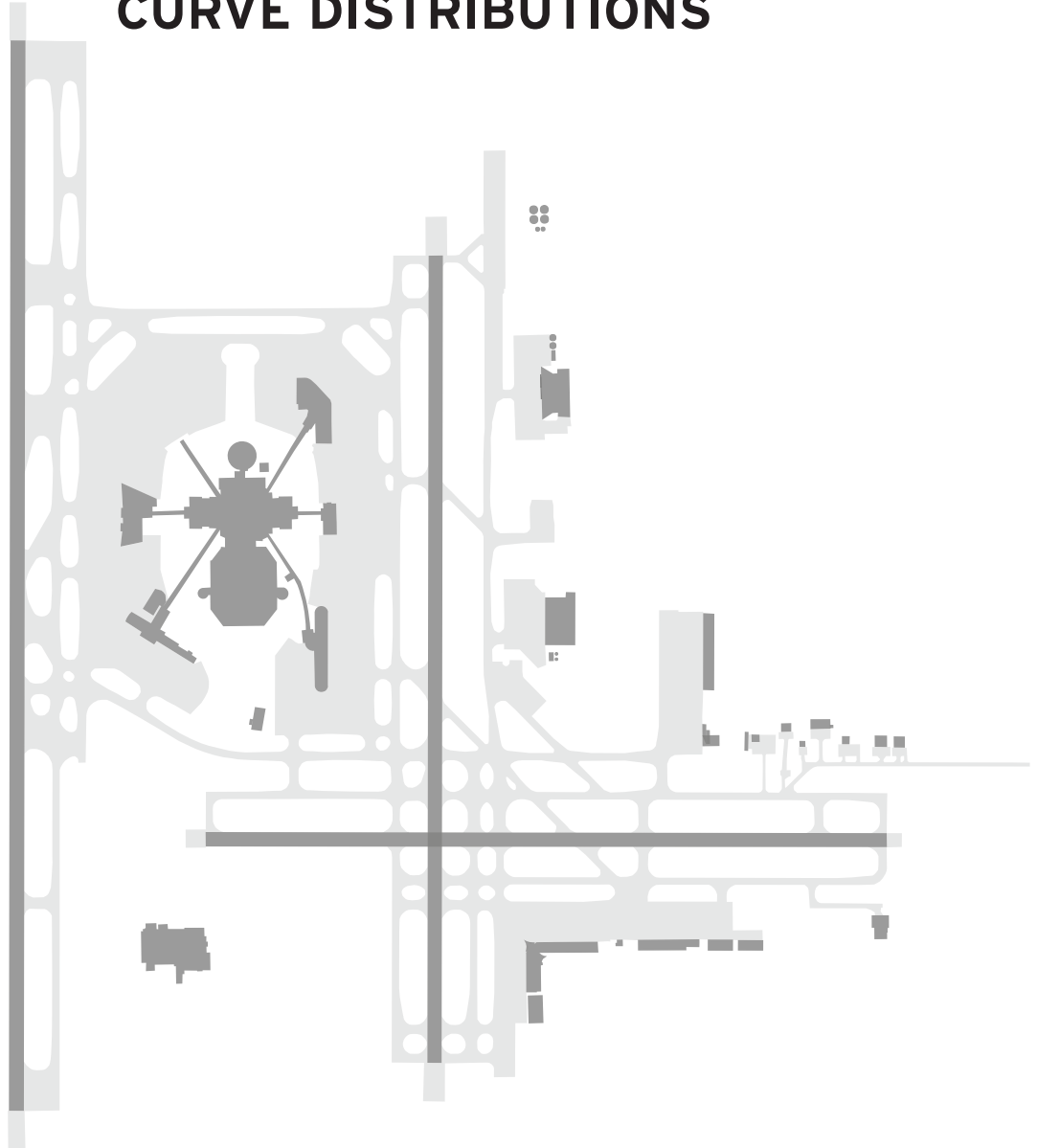


Table B-4

Design Group	Color
WB6	Red
WB5	Green
WB4	Blue
757	Yellow
NB	Pink
RG2	Cyan
RG1	Brown



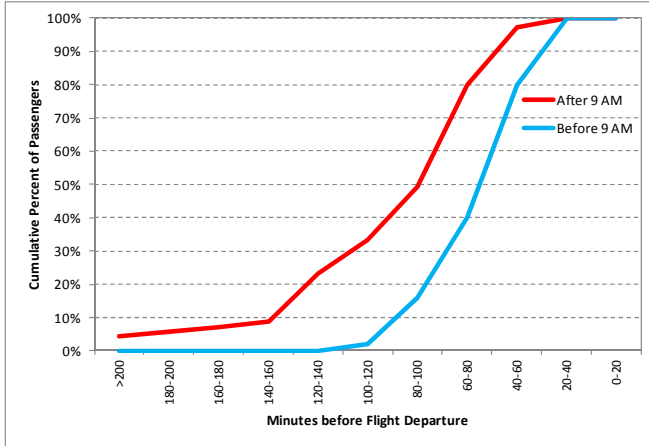
APPENDIX C - AIRLINE ARRIVAL CURVE DISTRIBUTIONS



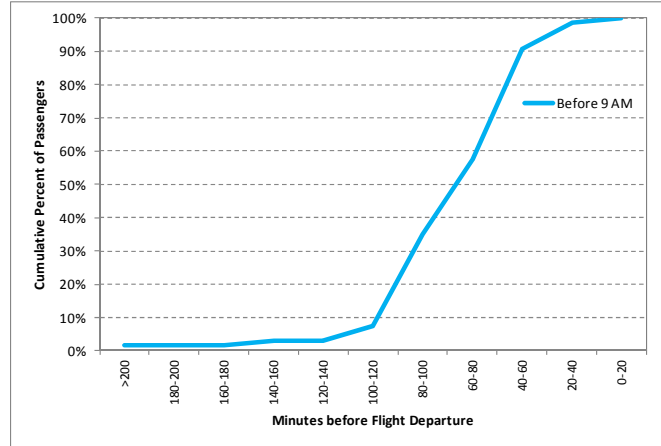
APPENDIX C AIRLINE ARRIVAL CURVE DISTRIBUTIONS

Source: Passenger survey data collected by TransSolutions, December 14 – 16, 2011

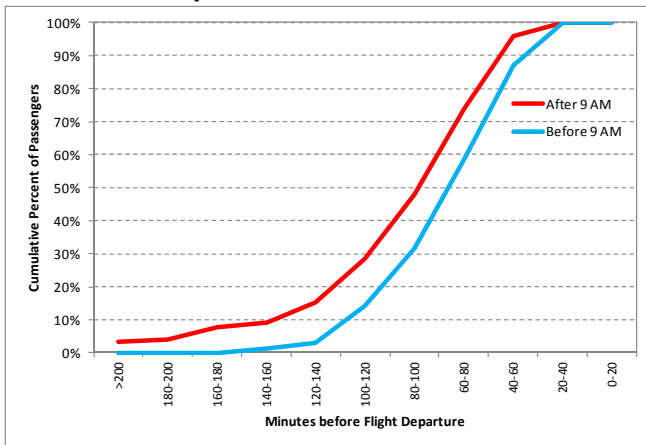
AIRTRAN



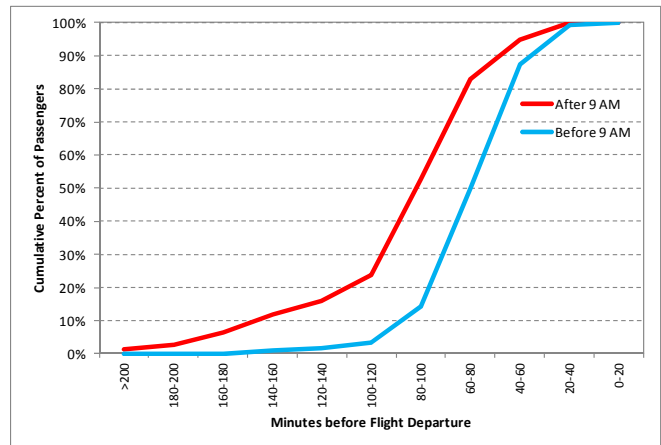
AMERICAN



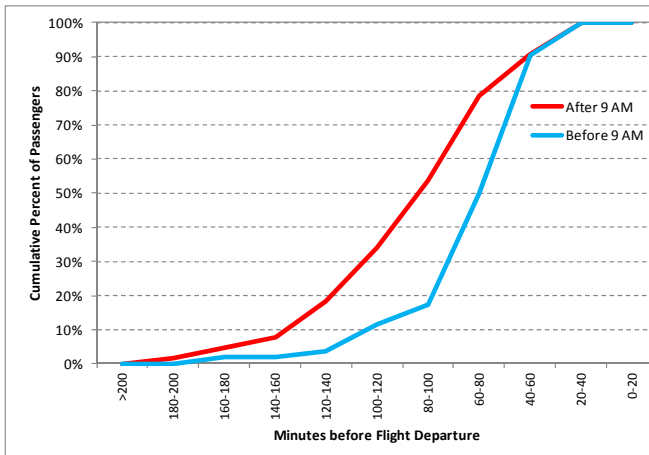
CONTINENTAL/UNITED



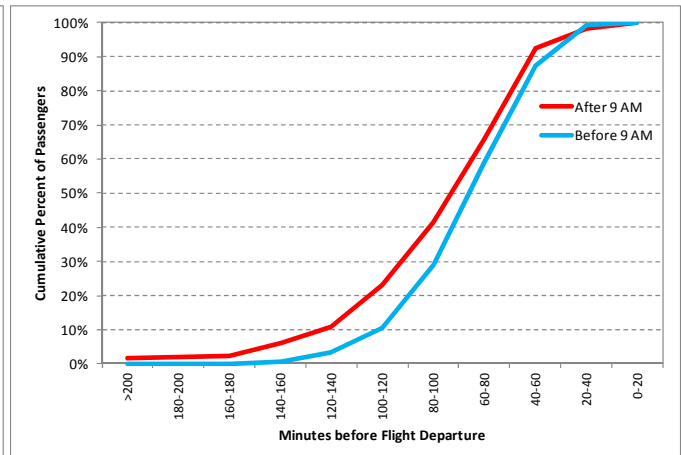
DELTA



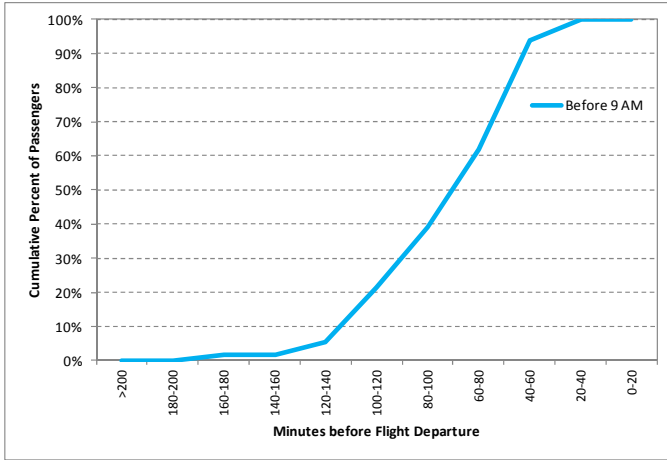
JETBLUE



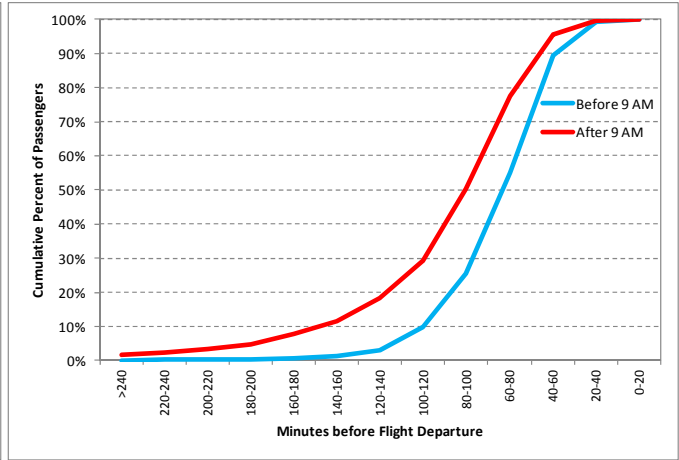
SOUTHWEST



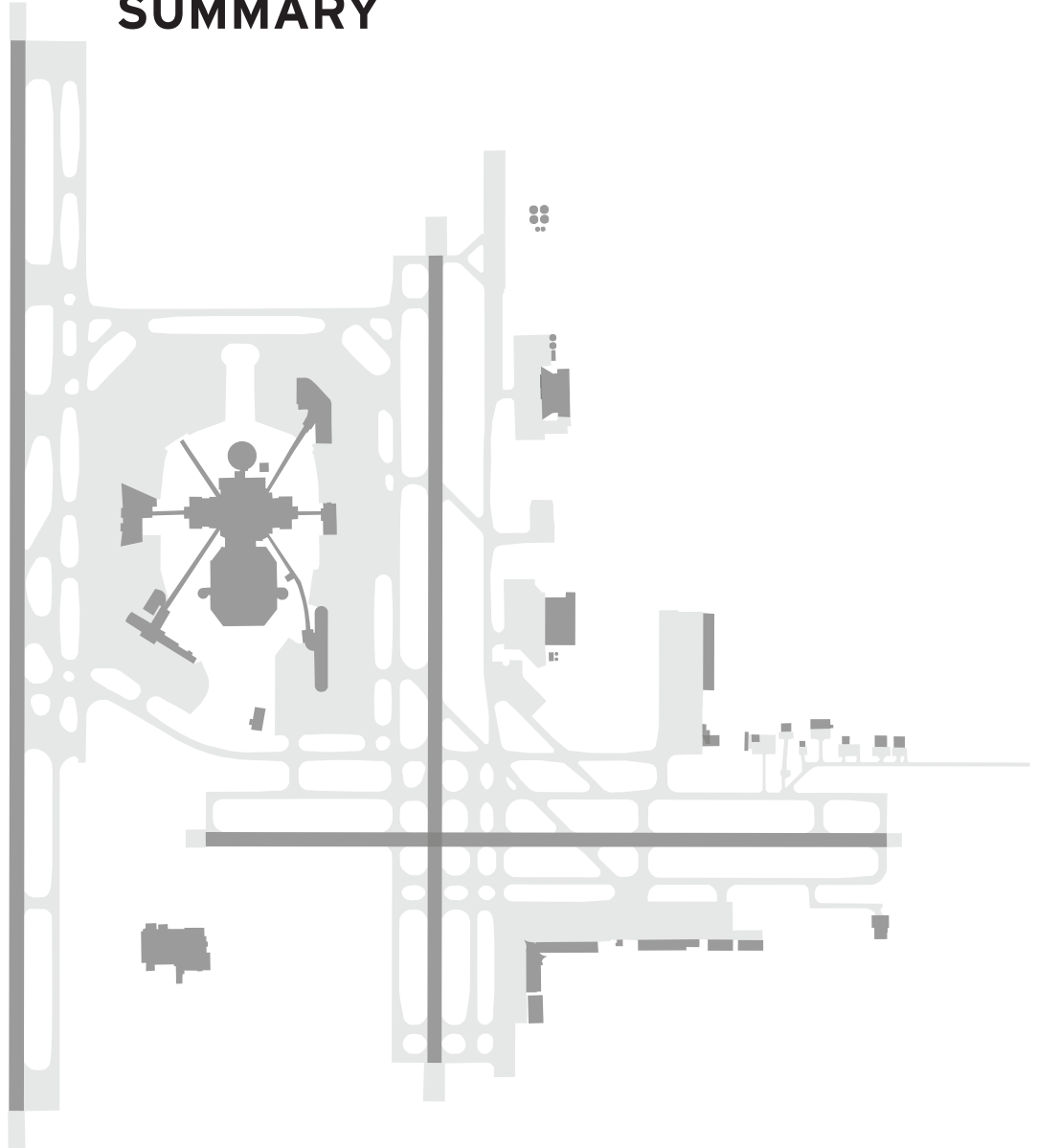
US AIRWAYS



MAJOR AIRLINES COMBINED



APPENDIX D - FLIGHT SCHEDULE SUMMARY



APPENDIX D FLIGHT SCHEDULE SUMMARY

Source: TransSolutions analysis of HNTB Corporation gated flight forecasts

Departure Schedule - 2011

Terminal	Airline	Aircraft Type	Number of Operations	Total Seats
A	JetBlue Airways	320	11	1,650
		E90	1	100
	Continental Airlines	738	4	640
		739	4	692
		752	1	175
		73G	2	248
		BE1	14	266
	Frontier	319	2	272
	Spirit Airlines	319	5	725
	United Airlines	320	4	564
752		5	910	
C	AirTran Airways	717	17	1989
		73G	5	685
	Southwest Airlines	733	29	3973
		735	3	366
		73G	44	6028
E	Delta Air Lines	319	5	630
		320	4	592
		757	13	2379
		CR9	1	76
		CRJ	1	50
		M88	11	1573
		M90	3	477
F	American Airlines	738	9	1395
		757	1	188
		M80	3	420
		M83	4	560
	US Airways	319	3	360
		320	4	600
		321	6	1098
		734	5	720
		752	1	176
	WestJet	73G	1	136
Domestic Departure Sub-total			226	30,713
F	Air Canada	320	2	280
	British Airways	777	1	278
	Cayman	733	1	122
	SkyKing	734	1	150
International Departure Sub-total			3	550
Total Departures			229	31,263

Arrival Schedule - 2011

Terminal	Airline	Aircraft Type	Number of Operations	Total Seats
A	JetBlue Airways	320	11	1,650
		E90	1	100
	Continental Airlines	738	5	800
		739	4	692
		752	1	175
		73G	2	248
		BE1	14	266
	Frontier	319	2	272
	Spirit Airlines	319	5	725
	United Airlines	320	4	564
752		5	910	
C	AirTran Airways	717	17	1,989
		73G	5	685
	Southwest Airlines	733	29	3,973
		735	3	366
		73G	44	6,028
E	Air Canada	320	2	280
	Delta Air Lines	319	5	630
		320	4	592
		757	13	2,379
		CR9	1	76
		CRJ	1	50
		M88	10	1,430
	M90	3	477	
F	American Airlines	738	9	1,395
		757	1	188
		M80	3	420
		M83	4	560
	US Airways	319	3	360
		320	4	600
		321	6	1,098
		734	5	720
		752	1	176
	WestJet	73G	1	136
Domestic Arrival Sub-total			228	31,010
F	British Airways	777	1	278
	Cayman	733	1	122
	SkyKing	734	1	150
International Arrival Sub-total			3	550
Total Arrival			231	31,560

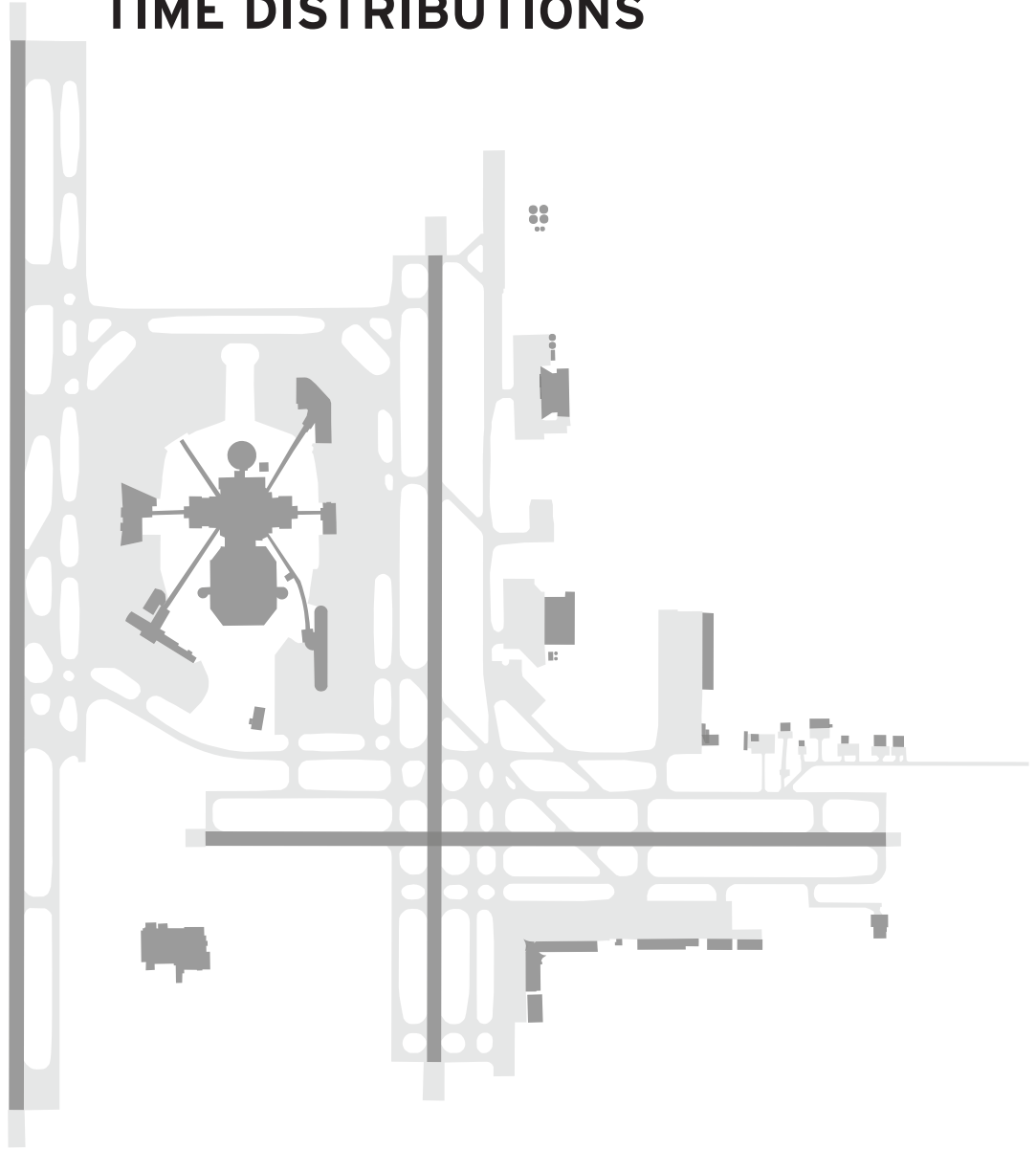
Departure Schedule - 2031

Terminal	Airline	Aircraft Type	Number of Operations	Total Seats
A	JetBlue Airways	320	14	2,100
		E90	2	200
	Frontier Airlines	319	2	276
		E70	2	140
	Spirit Airlines	319	6	870
	United Airlines	321	7	1,281
		738	10	1,570
		739	5	865
		319E	7	1,050
		73G	3	372
CR7		1	70	
C	Southwest Airlines	738	8	1,400
		73G	144	19,728
E	Delta Air Lines	319	7	744
		320	1	148
		738	22	3,520
		739	24	4,152
		73G	3	372
		SF3	1	34
F	American Airlines	738	24	3,552
		739	3	519
	Alaska Airlines	739	1	172
	US Airways	319	6	744
		320	19	2,850
		321	10	1,830
Domestic Departure Sub-total			345	49,035
E	Air Canada	320	4	584
	Delta Air Lines	CR7	1	70
F	American Airlines	738	1	148
	Air France	332	1	208
	Aeromexico	73G	1	124
	Avianca	319	1	120
	British Airways	763	1	248
		777	2	556
	Copa Panama	763	1	247
	Cayman	736	2	220
	Lufthansa	343	1	221
	Rio Sul	738	1	145
	US Airways	E90	1	90
	WestJet	736	2	240
		73G	1	136
73W		3	408	
International Departure Sub-total			24	3,765
Total Departure			369	52,800

Arrival Schedule - 2031

Terminal	Airline	Aircraft Type	Number of Operations	Total Seats
A	JetBlue Airways	320	14	2,100
		E90	2	200
	Frontier Airlines	319	2	276
		E70	2	140
	Spirit Airlines	319	6	870
	United Airlines	321	7	1,281
		738	11	1,727
		739	5	865
		319E	7	1,050
		73G	3	372
		CR7	1	70
	SF3	14	476	
C	Southwest Airlines	738	8	1,400
		73G	144	19,728
E	Delta Air Lines	319	7	868
		320	1	148
		738	22	3,520
		739	24	4,152
		73G	3	372
		SF3	1	34
F	American Airlines	738	24	3,552
		739	3	519
	Alaska Airlines	739	1	172
	US Airways	319	6	744
		320	19	2,850
		321	10	1,830
Domestic Arrival Sub-total			347	49,316
E	Air Canada	320	4	584
	Delta Air Lines	CR7	2	140
F	American Airlines	738	1	148
	Air France	332	1	208
	Aeromexico	73G	1	124
	Avianca	319	1	120
	British Airways	763	1	248
		777	2	556
	Copa Panama	763	1	247
	Cayman	736	2	220
	Lufthansa	343	1	221
	Rio Sul	738	1	145
	US Airways	E90	1	90
		736	2	240
	WestJet	73G	1	136
73W		3	408	
International Arrival Sub-total			25	3,835
Total Arrival			372	53,151

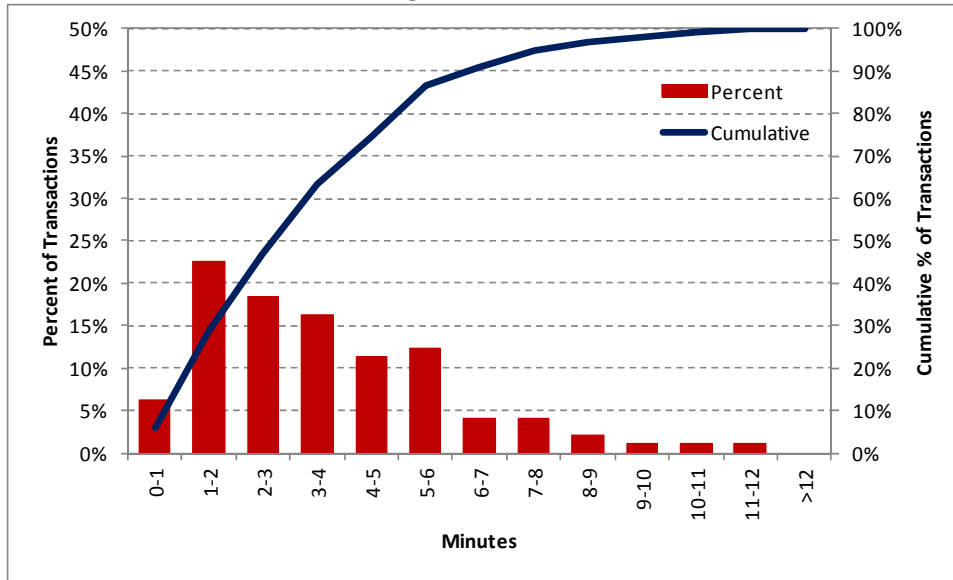
APPENDIX E - TICKET PROCESSING TIME DISTRIBUTIONS



**APPENDIX E
TICKET PROCESSING TIME DISTRIBUTIONS**

Source: Passenger survey data collected by TransSolutions, December 14 – 16, 2011

**Figure E-1
Kiosk Processing Time Distribution – AirTran**



**Figure E-2
Agent Processing Time Distribution – American**

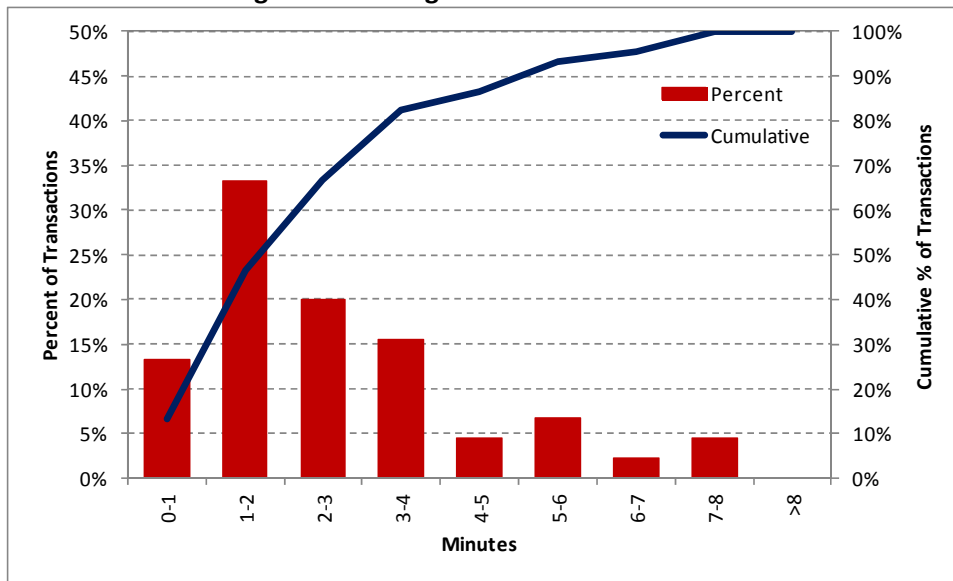


Figure E-3
Kiosk Processing Time Distribution – United/Continental

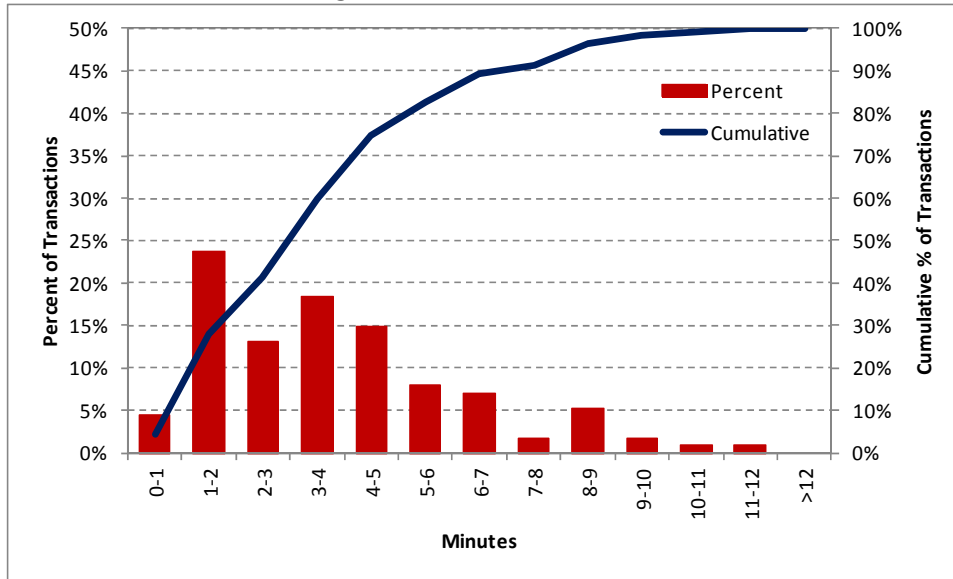
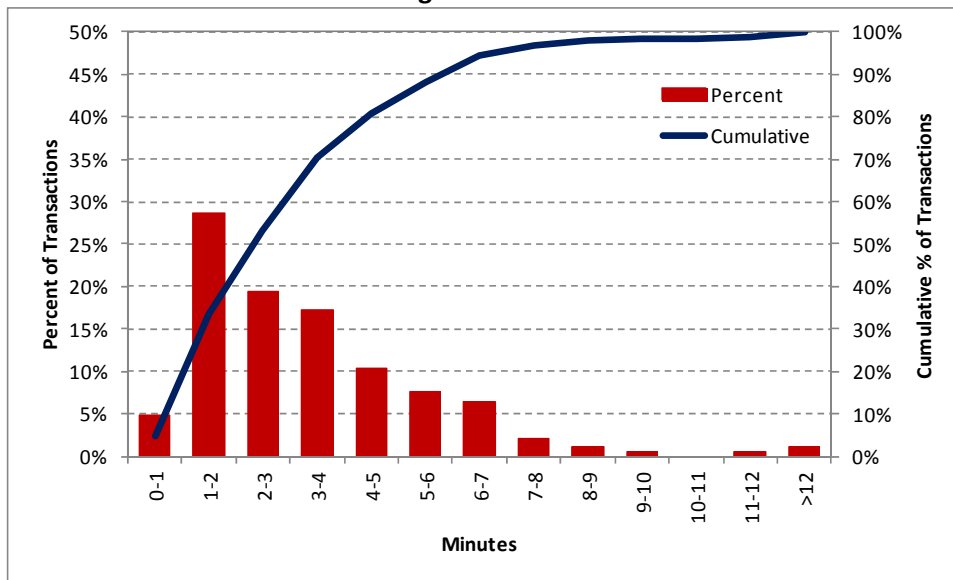
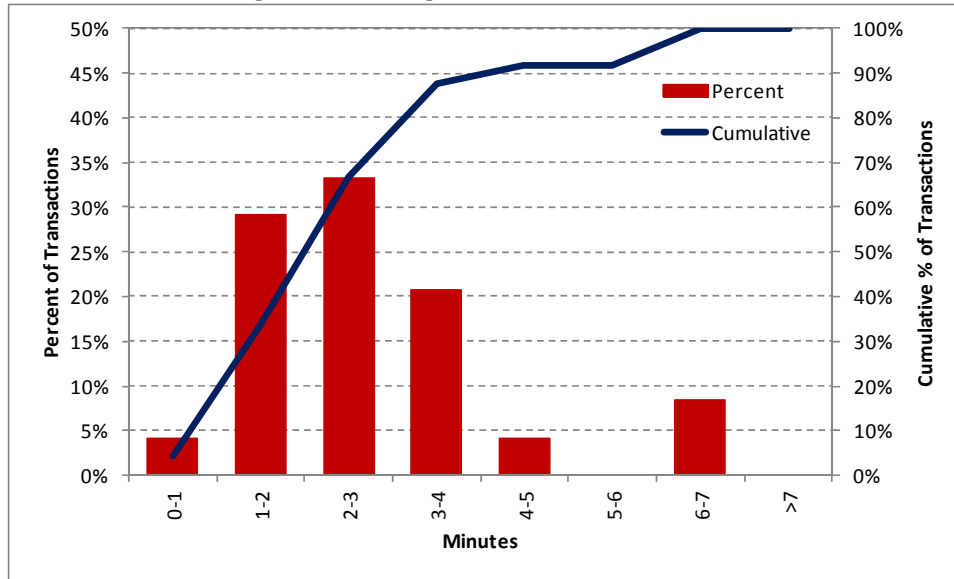


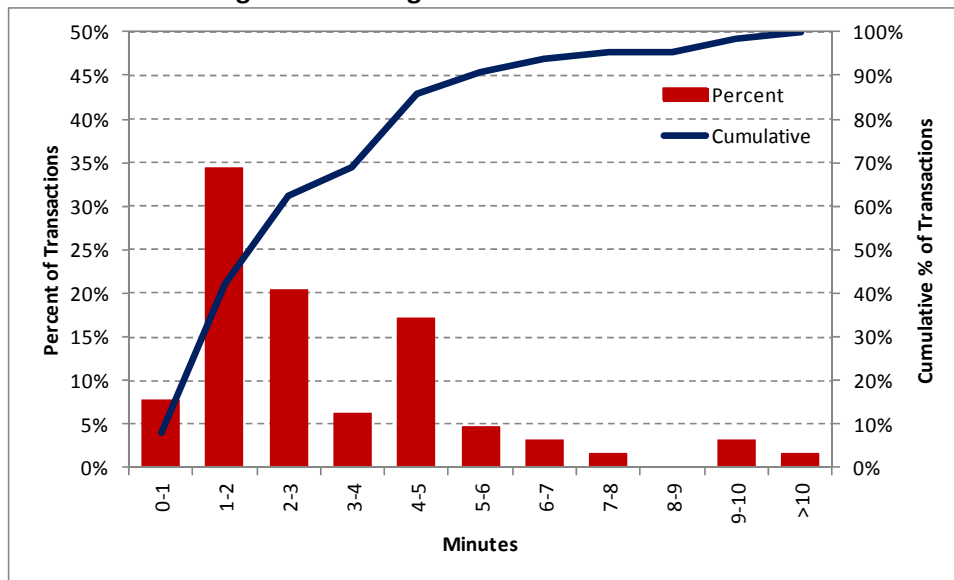
Figure E-4
Kiosk Processing Time Distribution – Delta



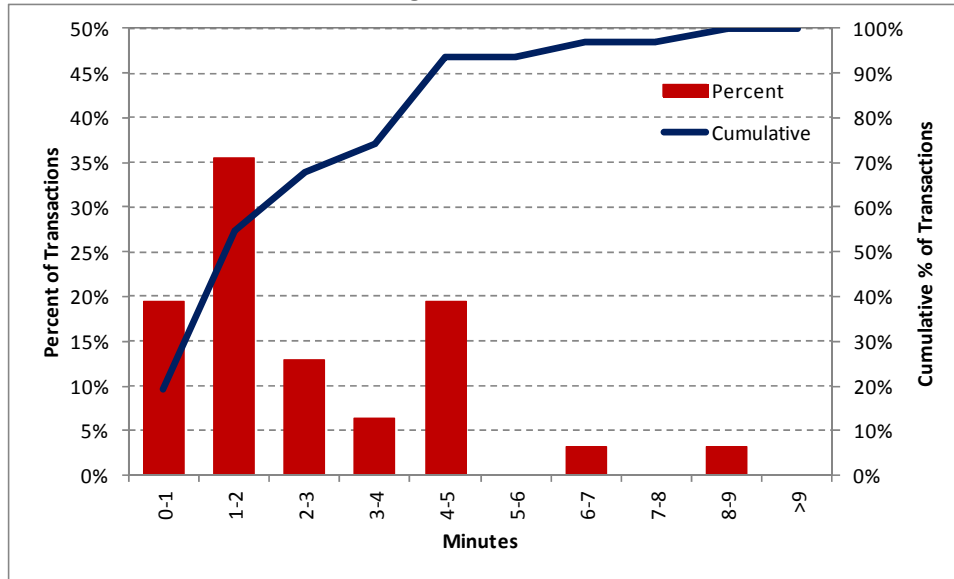
**Figure E-5
Agent Processing Time Distribution – Delta**



**Figure E-6
Agent Processing Time Distribution – Frontier**



**Figure E-7
Kiosk Processing Time Distribution – JetBlue**



**Figure E-8
Agent Processing Time Distribution – JetBlue**

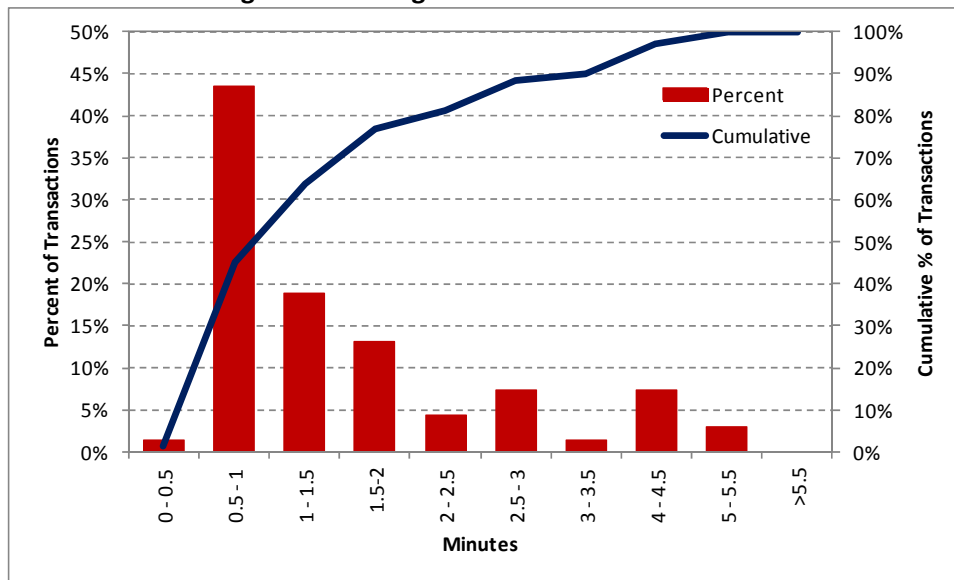


Figure E-9
Kiosk Processing Time Distribution – US Airways

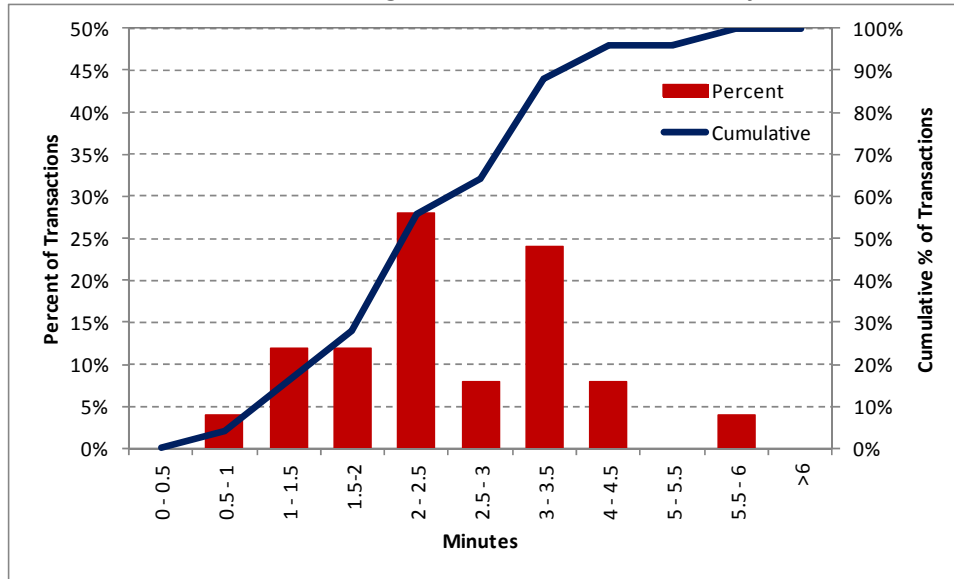
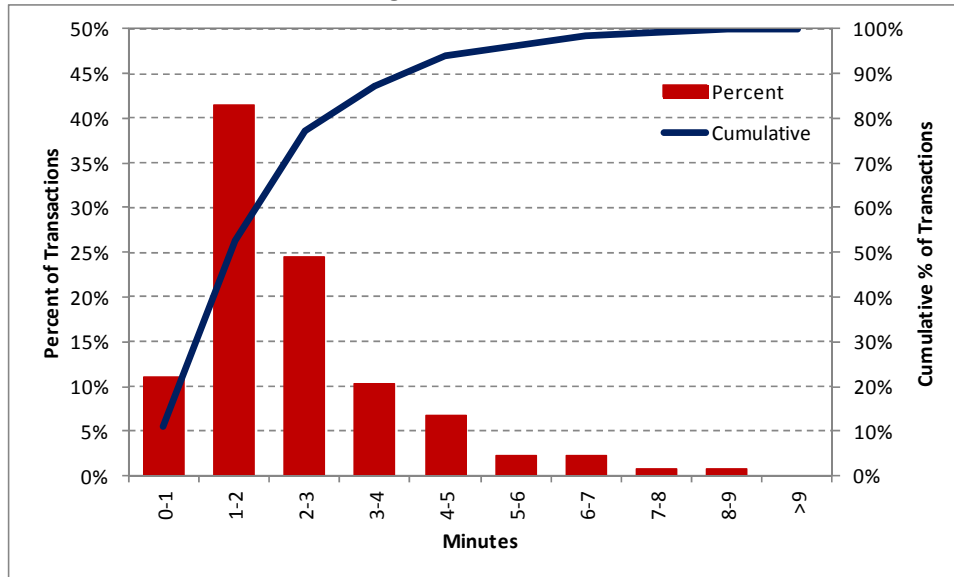
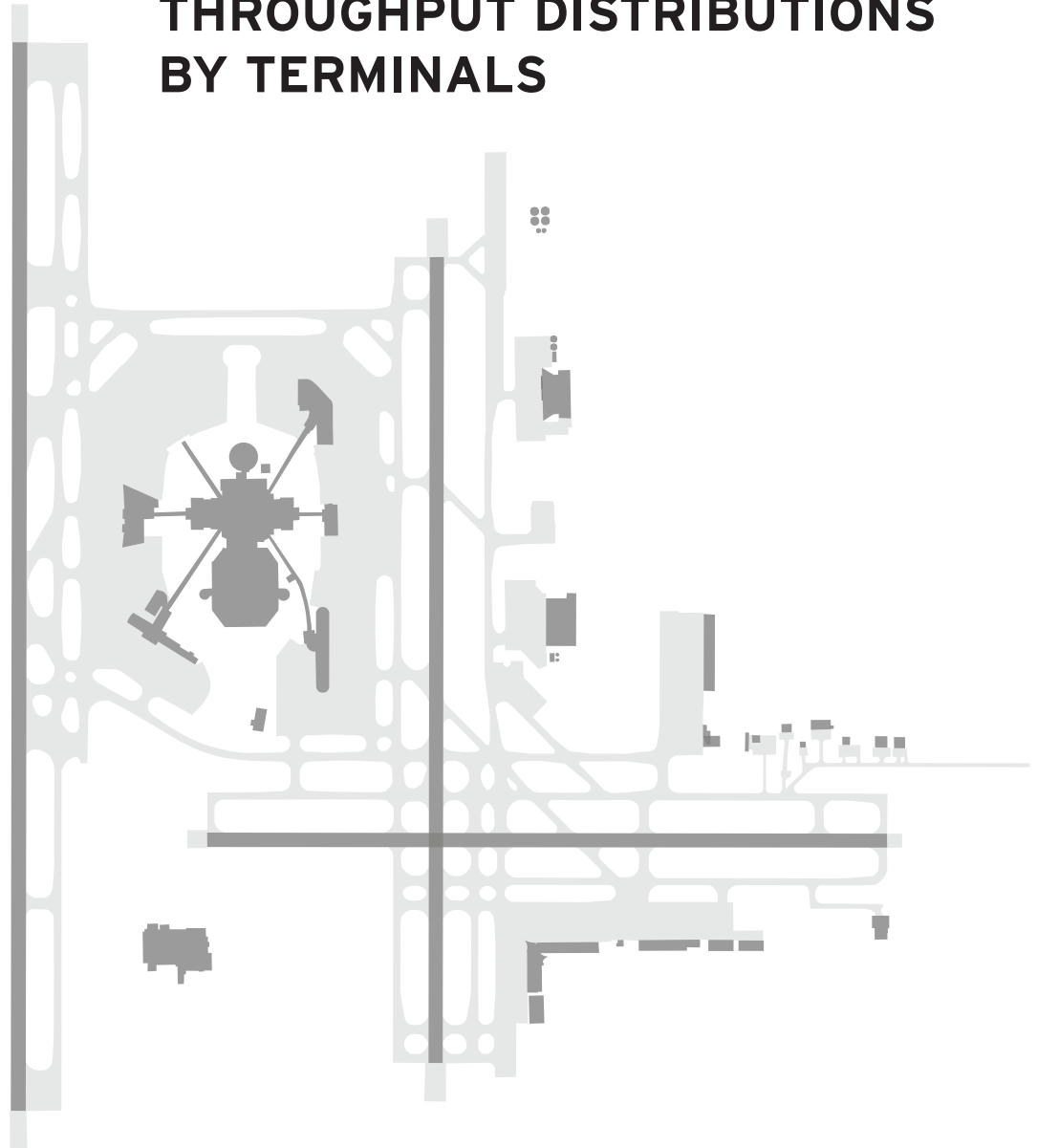


Figure E-10
Kiosk Processing Time Distribution – Southwest



APPENDIX F - SSCP THROUGHPUT DISTRIBUTIONS BY TERMINALS



APPENDIX F
SSCP THROUGHPUT DISTRIBUTIONS BY TERMINALS

Source: Passenger survey data collected by TransSolutions, December 14 – 16, 2011

Figure F-1
Inter-Arrival Time between Passengers Walking Through the Walk-through Metal Detector/AIT for the Double Lanes – Terminal A

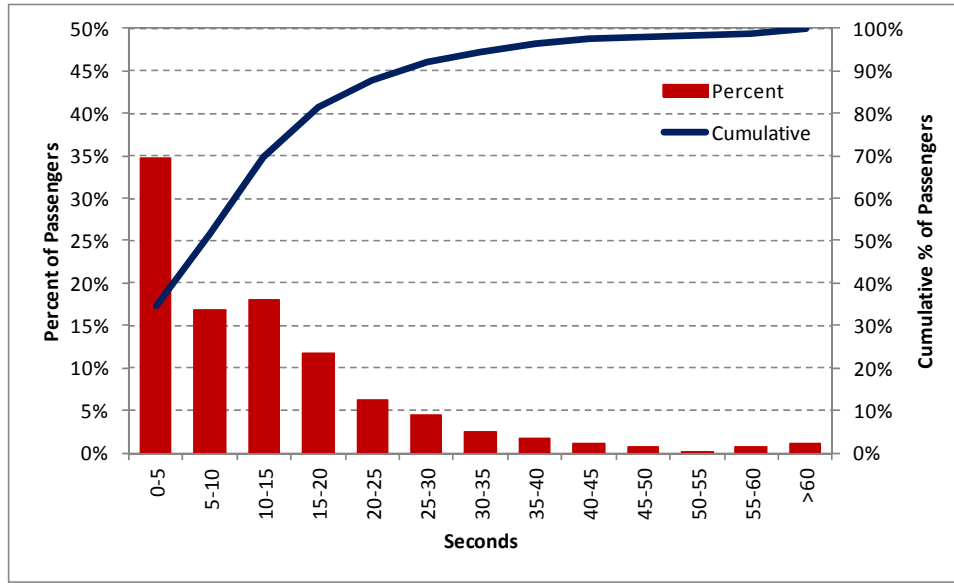


Figure F-2
Inter-Arrival Time between Passengers Walking Through the Walk-through Metal Detector/AIT for the Single Lanes – Terminal A

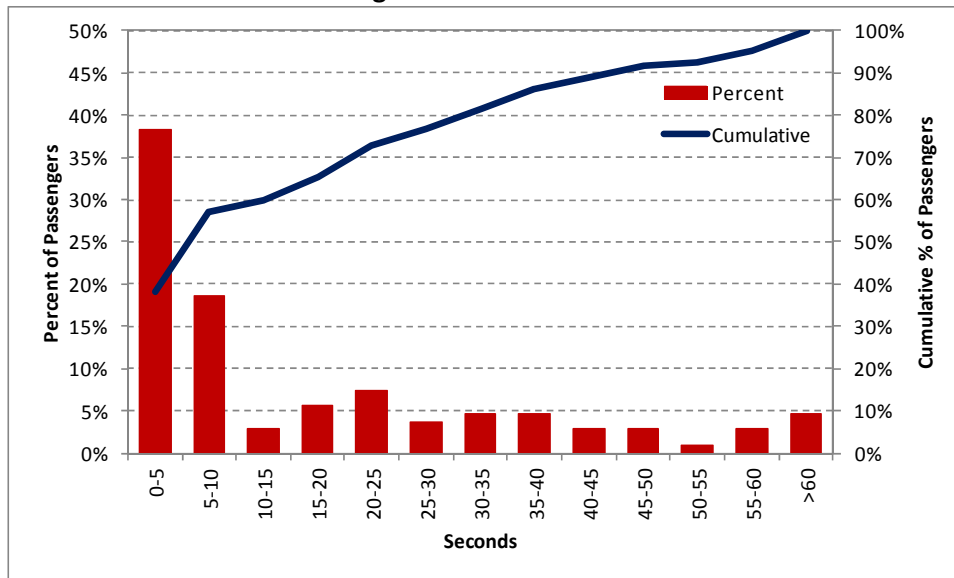


Figure F-3
Inter-Arrival Time between Passengers Walking Through the Magnetometer/AIT for the Double Lanes – Terminal C

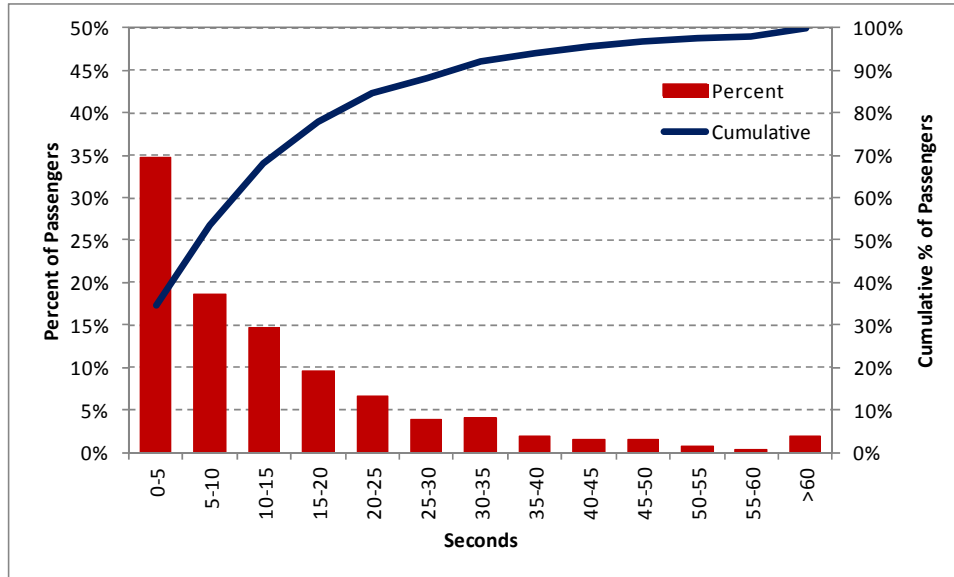


Figure F-4
Inter-Arrival Time between Passengers Walking Through the Magnetometer/AIT for the Single Lanes – Terminal C

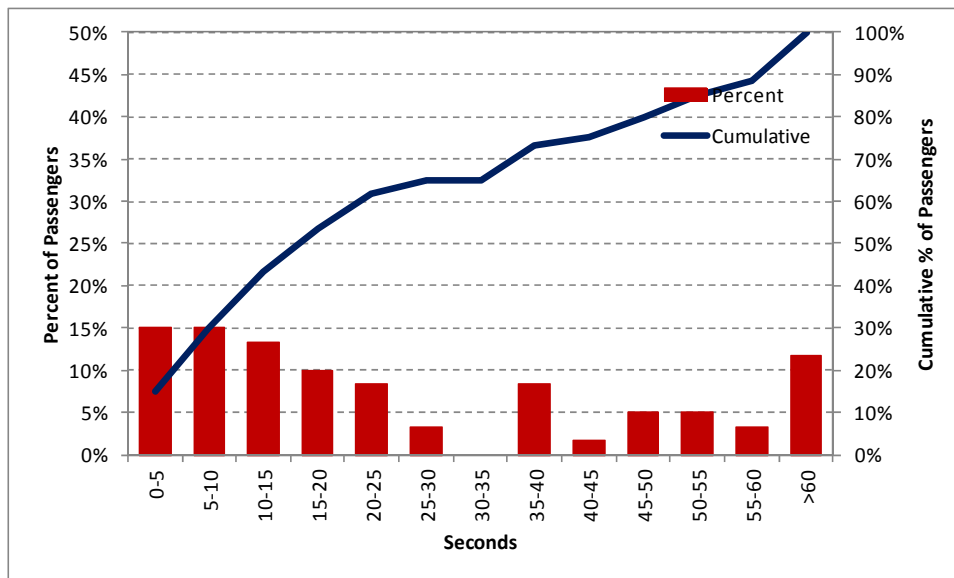


Figure F-5
Inter-Arrival Time between Passengers Walking Through the Magnetometer/AIT for the Double Lanes – Terminal E

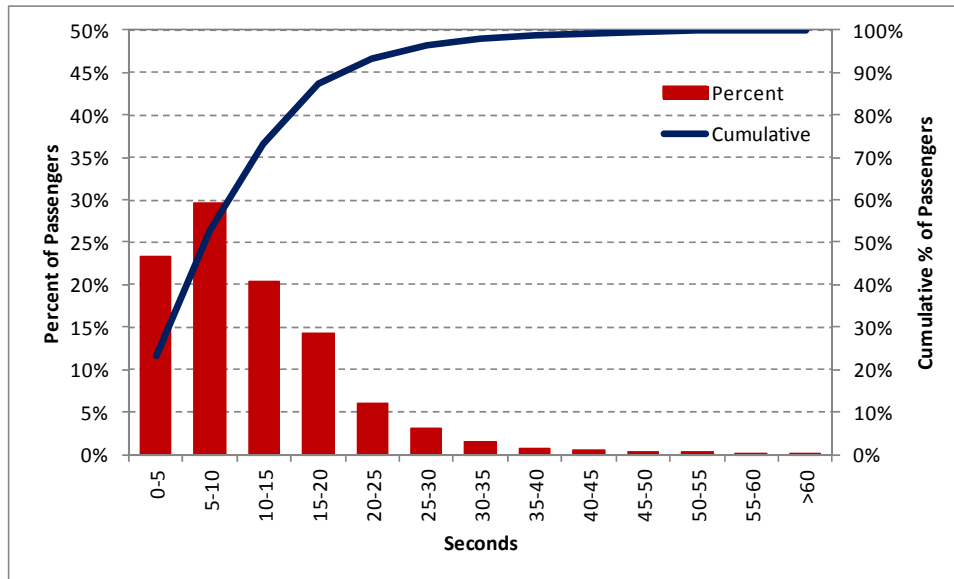


Figure F-6
Inter-Arrival Time between Passengers Walking Through the Magnetometer/AIT for the Single Lanes – Terminal E

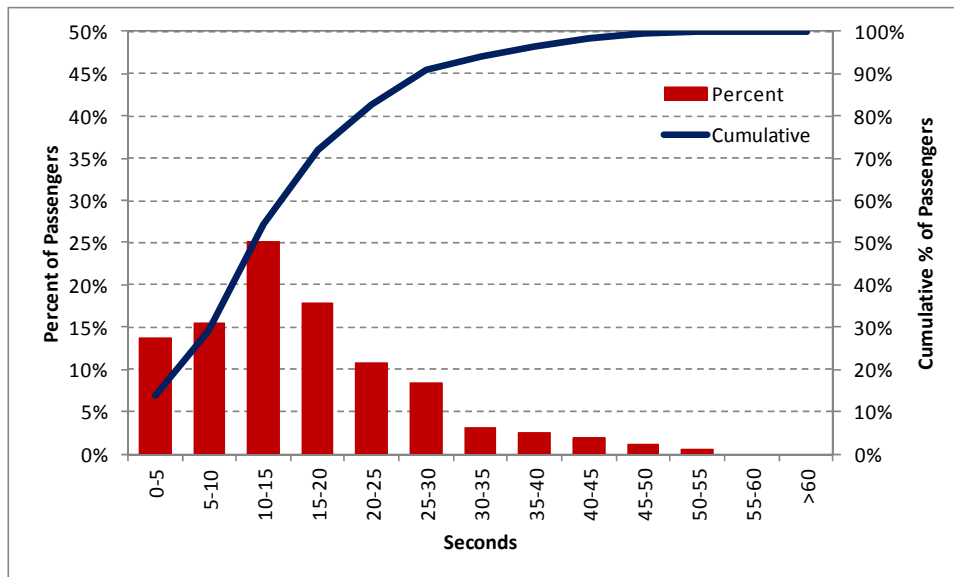
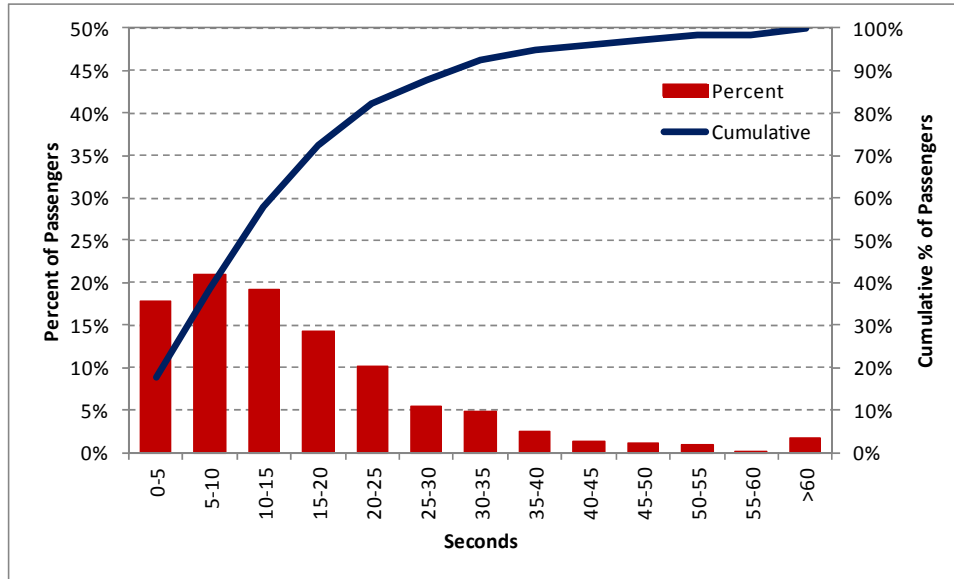


Figure F-7
Inter-Arrival Time between Passengers Walking Through the Magnetometer/AIT for the Double Lanes – Terminal F



APPENDIX G - CONCESSION TABLES

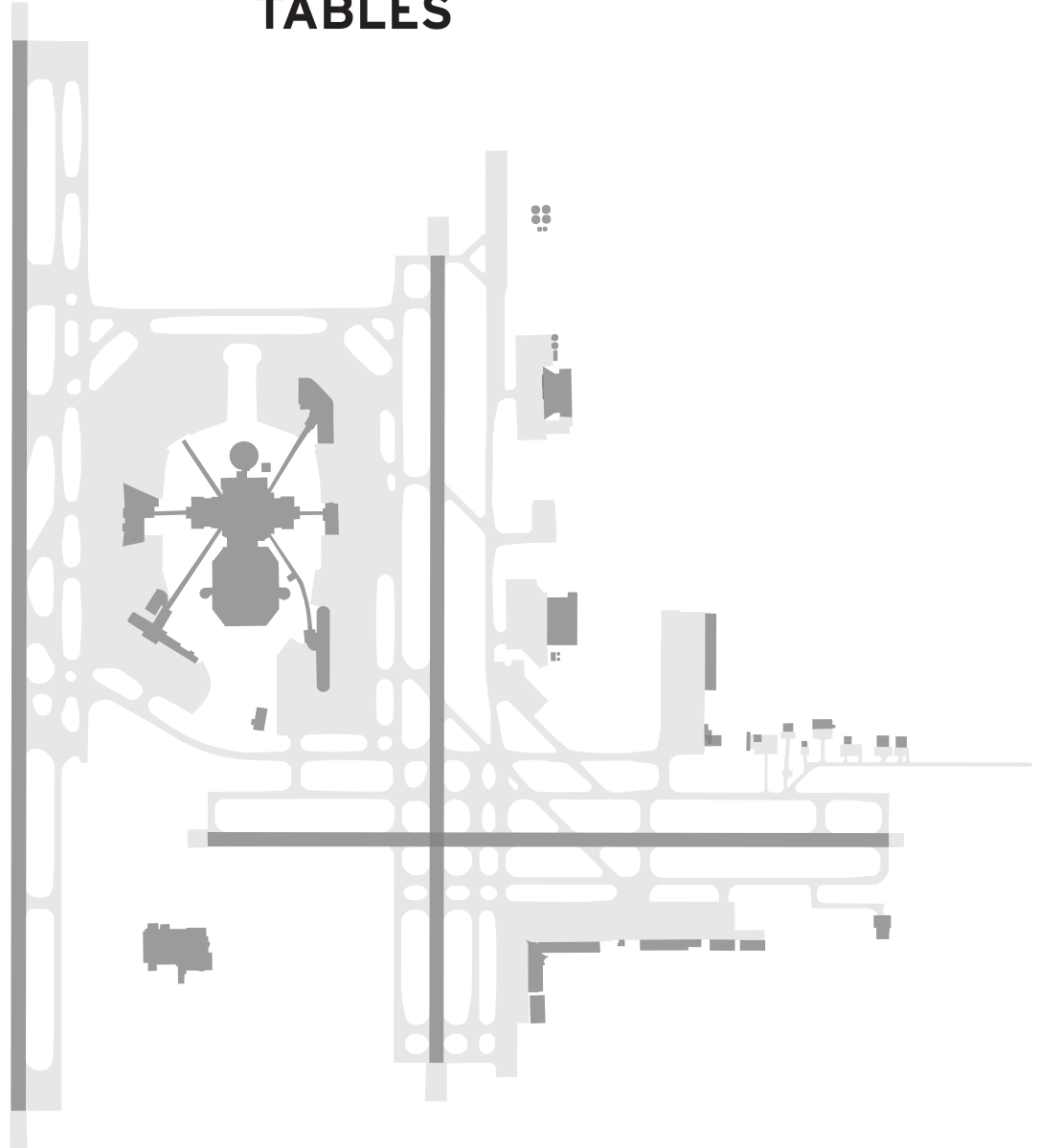


Table G.1 - Comparable Food & Beverage Airports

Airport	Code	Hub Size	O&D	Pre-Post	Total EPs	Int'l EPs	FOOD & BEVERAGES		
							Sales/EP	SUF	
Tampa International Airport	TPA	Large	N/A	17/83	8,368,499	195,039	\$ 6.05	8.56	
Boston Logan International Airport	BOS	Large	93/7	27/73	13,653,501	1,829,675	\$ 6.41	7.33	
Indianapolis International Airport	IND	Medium	99/1	43/57	3,770,383	11,465	\$ 6.05	8.21	
Portland International Airport	PDX	Medium	86/14	48/52	6,590,300	218,193	\$ 5.76	7.72	
Orlando International Airport	MCO	Large	95/5	70/30	17,131,096	1,595,574	\$ 5.68	5.82	
Chicago Midway Airport	MDW	Large	N/A	1/99	8,746,536	47,469	\$ 5.56	3.20	
Ronald Reagan Washington National Airport	DCA	Large	85/15	45/55	9,035,325	144,340	\$ 5.46	4.06	
Baltimore/Washington International Airport	BWI	Large	77/13	19/81	10,986,052	161,884	\$ 5.40	4.93	
LaGuardia Airport	LGA	Large	89/11	25/75	12,012,085	514,535	\$ 5.37	3.90	
San Diego International Airport	SAN	Large	93/7	46/54	8,456,176	115,460	\$ 5.29	4.11	
Pittsburgh International Airport	PIT	Medium	N/A	0	4,098,384	72,684	\$ 5.12	7.32	
Fort Lauderdale-Hollywood International Airport	FLL	Large	88/12	0	11,187,090	1,721,857	\$ 5.03	5.15	
William P. Hobby Airport	HOU	Medium	79/21	10/90	4,519,727	-	\$ 5.00	3.22	
Nashville International Airport	BNA	Medium	80/20	5/95	4,542,041	19,513	\$ 4.95	6.07	
Port-Columbus International Airport	CMH	Medium	99/1	44/56	3,183,792	17,452	\$ 4.76	8.19	
Sacramento International Airport	SMF	Medium	96/4	25/75	4,430,683	-	\$ 4.74	4.69	
Lambert-St. Louis International Airport	STL	Medium	75/25	40/60	6,541,808	86,465	\$ 4.72	8.12	
General Mitchell International Airport	MKE	Medium	78/22	0	4,927,558	-	\$ 4.65	7.17	
Norman Y Mineta International airport	SJC	Medium	100/0	7/93	4,112,498	69,655	\$ 4.58	7.50	
Oakland International Airport	OAK	Large	94/6	9/91	4,766,092	107,315	\$ 4.57	4.16	
Southwest Florida International Airport	RSW	Medium	100/0	40/60	3,721,375	206,876	\$ 4.54	5.73	
John Wayne Airport/Orange County	SNA	Medium	100/0	28/72	4,310,170	-	\$ 4.50	3.35	
Raleigh-Durham International Airport	RDU	Medium	99/1	15/85	4,536,520	83,633	\$ 4.39	5.95	
San Antonio International Airport	SAT	Medium	92/8	17/83	4,022,070	67,802	\$ 4.20	4.77	
Kansas City International Airport	MCI	Medium	97/3	90/10	4,972,735	19,072	\$ 3.83	4.84	
Comparable Airports:									
Median - ALL Airports							\$	4.97	5.44
Median - Top 25% of Comparable Airports							\$	5.72	6.57

Source: ARN 2011 Fact Book

Table G.2 - Comparable Retail Concession Programs

Airport	Code	Hub Size	O&D	Pre-Post	Total EPs	Int'l EPs	RETAIL CONCESSIONS	
							Sales/EP	SUF
Tampa International Airport	TPA	Large	N/A	17/83	8,368,499	195,039	\$ 3.04	2.76
Pittsburgh International Airport	PIT	Medium	N/A	0	4,098,384	72,684	\$ 6.59	10.71
Portland International Airport	PDX	Medium	86/14	48/52	6,590,300	218,193	\$ 5.00	4.32
Indianapolis International Airport	IND	Medium	99/1	43/57	3,770,383	11,465	\$ 4.29	7.52
Southwest Florida International Airport	RSW	Medium	100/0	40/60	3,721,375	206,876	\$ 3.96	4.47
Orlando International Airport	MCO	Large	95/5	70/30	17,131,096	1,595,574	\$ 3.95	5.69
Boston Logan International Airport	BOS	Large	93/7	27/73	13,653,501	1,829,675	\$ 3.70	3.92
Ronald Reagan Washington National Airport	DCA	Large	85/15	45/55	9,035,325	144,340	\$ 3.49	3.12
LaGuardia Airport	LGA	Large	89/11	25/75	12,012,085	514,535	\$ 3.48	2.56
Baltimore/Washington International Airport	BWI	Large	77/13	19/81	10,986,052	161,884	\$ 3.41	3.57
Nashville International Airport	BNA	Medium	80/20	5/95	4,542,041	19,513	\$ 3.15	4.12
Sacramento International Airport	SMF	Medium	96/4	25/75	4,430,683	-	\$ 3.03	4.10
Raleigh-Durham International Airport	RDU	Medium	99/1	15/85	4,536,520	83,633	\$ 2.92	3.55
San Antonio International Airport	SAT	Medium	92/8	17/83	4,022,070	67,802	\$ 2.78	3.50
San Diego International Airport	SAN	Large	93/7	46/54	8,456,176	115,460	\$ 2.76	1.74
John Wayne Airport/Orange County	SNA	Medium	100/0	28/72	4,310,170	-	\$ 2.55	1.44
Fort Lauderdale-Hollywood International Airport	FLL	Large	88/12	0	11,187,090	1,721,857	\$ 2.52	2.25
Port-Columbus International Airport	CMH	Medium	99/1	44/56	3,183,792	17,452	\$ 2.48	4.85
General Mitchell International Airport	MKE	Medium	78/22	0	4,927,558	-	\$ 2.47	3.02
Lambert-St. Louis International Airport	STL	Medium	75/25	40/60	6,541,808	86,465	\$ 2.44	2.59
Norman Y Mineta International airport	SJC	Medium	100/0	7/93	4,112,498	69,655	\$ 2.37	3.11
William P. Hobby Airport	HOU	Medium	N/A	10/90	4,519,727	-	\$ 2.35	1.83
Chicago Midway Airport	MDW	Large	N/A	1/99	8,746,536	47,469	\$ 2.33	1.73
Oakland International Airport	OAK	Large	94/6	9/91	4,766,092	107,315	\$ 2.19	1.62
Kansas City International Airport	MCI	Medium	97/3	90/10	4,972,735	19,072	\$ 1.19	1.36
Comparable Airports:								
Median - ALL Airports							\$ 2.85	3.31
Median - Top 25% of Comparable Airports							\$ 4.13	5.08

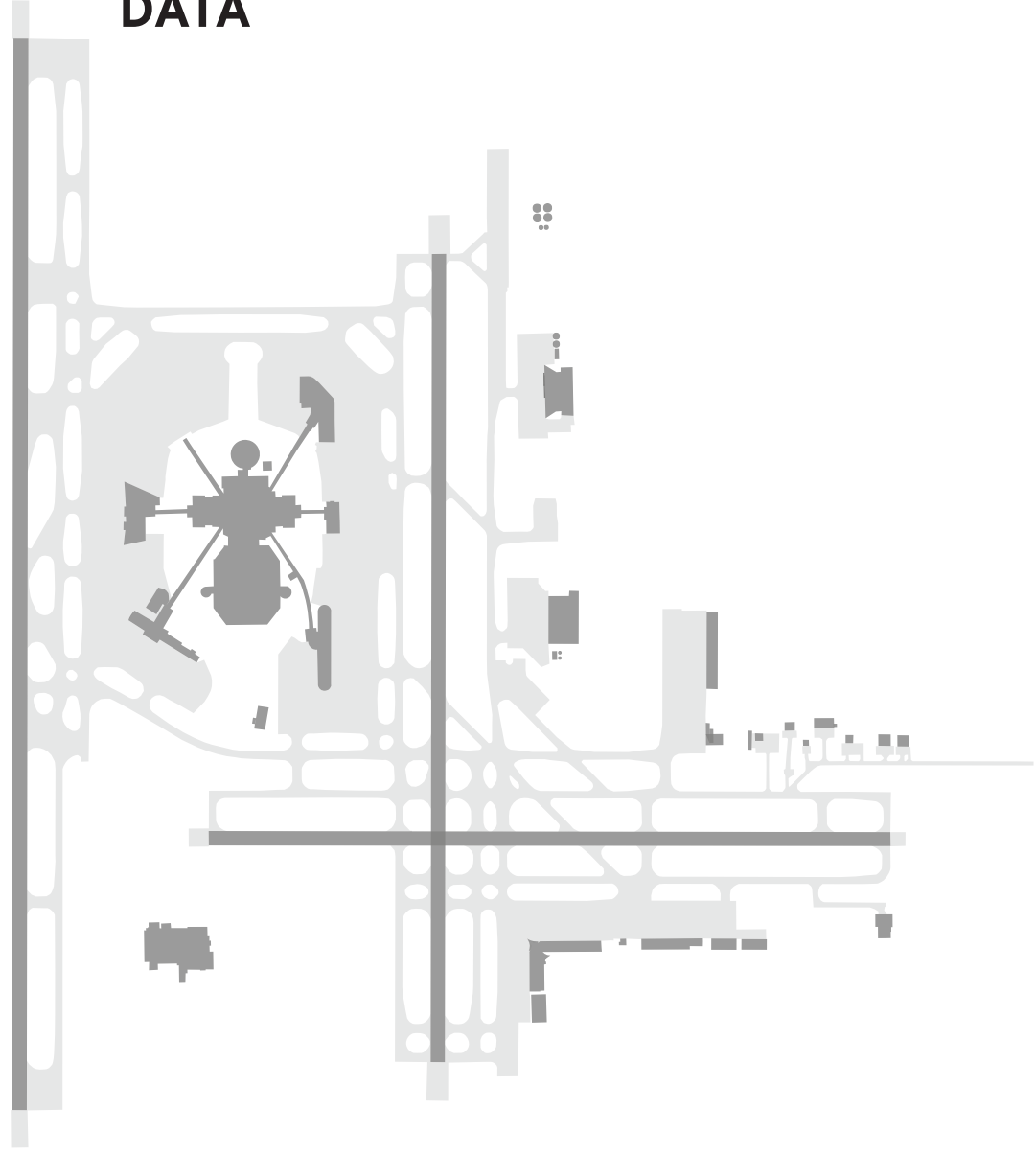
Source: ARN 2011 Fact Book

Table G.3 - Comparable Duty Free Programs

Airport	Code	Hub Size	O&D	Pre-Post	Total EPs	Int'l EPs	DUTY FREE	
							Sales/EP	SUF
Tampa International Airport	TPA	Large	N/A	17/83	8,368,499	195,039	\$ 9.82	8.71
San Antonio International Airport	SAT	Medium	92/8	17/83	4,022,070	67,802	\$ 14.20	15.96
Orlando International Airport	MCO	Large	95/5	70/30	17,131,096	1,595,574	\$ 9.05	4.79
LaGuardia Airport	LGA	Large	89/11	25/75	12,012,085	514,535	\$ 6.18	4.52
Boston Logan International Airport	BOS	Large	93/7	27/73	13,653,501	1,829,675	\$ 5.42	3.38
Baltimore/Washington International Airport	BWI	Large	77/13	19/81	10,986,052	161,884	\$ 4.21	7.26
Raleigh-Durham International Airport	RDU	Medium	99/1	15/85	4,536,520	83,633	\$ 4.90	7.03
Fort Lauderdale-Hollywood International Airport	FLL	Large	88/12	0	11,187,090	1,721,857	\$ 3.14	0.86
Ronald Reagan Washington National Airport	DCA	Large	85/15	45/55	9,035,325	144,340	\$ 2.20	0.87
Oakland International Airport	OAK	Large	94/6	9/91	4,766,092	107,315	\$ 0.32	3.76
Comparable Airports:								
Median - ALL Airports				Median	10,986,052	161,884	\$ 4.90	4.52

Source: ARN 2011 Fact Book

APPENDIX H - TRAFFIC COUNT DATA



TURNING MOVEMENT COUNT: 05/23/12
 NORTH/SOUTH ST: N O'Brien St
 W Spruce St @ N O'Brien St
 ALL VEHICLES

TIME: 7am-9am 4pm-6pm
 EAST/WEST STREET: W Spruce St
 COUNTED BY: LDP

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		
7:00	14	3	14	0	31	11	2	1	0	14	45	32	377	77	3	489	22	115	13	0	150	639	684
7:15	17	2	11	0	30	19	4	1	0	24	54	47	388	99	2	536	31	164	20	0	215	751	805
7:30	28	11	20	0	59	15	2	3	0	20	79	31	438	93	7	569	41	216	15	0	272	841	920
7:45	31	10	12	0	53	21	5	4	0	30	83	43	497	130	9	679	42	196	13	0	251	930	1,013
Total	90	26	57	0	173	66	13	9	0	88	261	153	1,700	399	21	2,273	136	691	61	0	888	3,161	3,422
8:00	16	2	16	0	34	7	1	3	0	11	45	27	435	107	3	572	37	168	20	0	225	797	842
8:15	27	4	11	0	42	13	3	2	0	18	60	53	404	136	5	598	43	168	21	0	232	830	890
8:30	31	8	19	0	58	12	5	1	0	18	76	46	431	158	5	640	33	155	11	1	200	840	916
8:45	21	8	9	0	38	14	4	1	0	19	57	60	409	125	14	608	33	156	19	0	208	816	873
Total	95	22	55	0	172	46	13	7	0	66	238	186	1,679	526	27	2,418	146	647	71	1	865	3,283	3,521
16:00	199	9	22	0	230	14	11	50	0	75	305	2	254	30	25	311	16	394	23	2	435	746	1,051
16:15	123	4	24	0	151	19	9	28	0	56	207	3	273	27	22	325	14	375	33	2	424	749	956
16:30	224	4	31	0	259	33	13	44	0	90	349	6	329	21	36	392	20	482	28	1	531	923	1,272
16:45	193	9	38	0	240	18	10	42	0	70	310	8	285	33	45	371	20	413	32	2	467	838	1,148
Total	739	26	115	0	880	84	43	164	0	291	1,171	19	1,141	111	128	1,399	70	1,664	116	7	1,857	3,256	4,427
17:00	227	9	15	0	251	25	9	58	0	92	343	4	369	23	49	445	25	520	19	1	565	1,010	1,353
17:15	262	7	20	0	289	18	11	38	0	67	356	1	358	28	26	413	24	577	18	1	620	1,033	1,389
17:30	226	12	23	0	261	20	7	37	0	64	325	5	378	20	32	435	30	436	28	2	496	931	1,256
17:45	136	4	26	0	166	18	9	18	0	45	211	4	334	37	23	398	19	370	29	1	419	817	1,028
Total	851	32	84	0	967	81	36	151	0	268	1,235	14	1,439	108	130	1,691	98	1,903	94	5	2,100	3,791	5,026

TURNING MOVEMENT COUNT: 05/23/12
 NORTH/SOUTH ST: N O'Brien St
 Airport Service Rd @ N O'Brien St
 ALL VEHICLES

TIME: 7am-9am 4pm-6pm
 EAST/WEST STREET: Airport Service Rd
 COUNTED BY: MEP

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		
7:00	18	0	32	0	50	0	0	0	0	0	50	0	6	12	0	18	1	1	0	0	2	20	70
7:15	24	0	34	0	58	0	0	0	0	0	58	0	4	23	0	27	0	3	0	0	3	30	88
7:30	21	0	32	0	53	0	0	0	0	0	53	0	7	18	0	25	5	3	0	0	8	33	86
7:45	25	0	31	0	56	0	0	0	0	0	56	0	3	27	0	30	0	0	0	0	0	30	86
Total	88	0	129	0	217	0	0	0	0	0	217	0	20	80	0	100	6	7	0	0	13	113	330
8:00	22	0	33	0	55	0	0	0	0	0	55	0	2	15	0	17	0	2	0	0	2	19	74
8:15	19	0	37	0	56	0	0	0	0	0	56	0	4	18	0	22	1	4	0	0	5	27	83
8:30	25	0	54	0	79	0	0	0	0	0	79	0	2	23	0	25	3	4	0	0	7	32	111
8:45	23	0	48	0	71	0	0	0	0	0	71	0	5	19	0	24	2	3	0	0	5	29	100
Total	89	0	172	0	261	0	0	0	0	0	261	0	13	75	0	88	6	13	0	0	19	107	368
16:00	32	0	1	0	33	0	0	0	0	0	33	0	3	28	0	31	43	5	0	0	48	79	112
16:15	29	0	1	0	30	0	0	0	0	0	30	0	6	40	0	46	23	2	0	0	25	71	101
16:30	27	0	6	0	33	0	0	0	0	0	33	0	8	37	0	45	43	6	0	0	49	94	127
16:45	33	0	3	0	36	0	0	0	0	0	36	0	5	25	0	30	44	7	0	0	51	81	117
Total	121	0	11	0	132	0	0	0	0	0	132	0	22	130	0	152	153	20	0	0	173	325	457
17:00	29	0	4	0	33	0	0	0	0	0	33	0	9	34	0	43	54	7	0	0	61	104	137
17:15	26	0	1	0	27	0	0	0	0	0	27	0	1	24	0	25	44	10	0	0	54	79	106
17:30	43	0	2	0	45	0	0	0	0	0	45	0	4	19	0	23	38	4	0	0	42	65	110
17:45	30	0	4	0	34	0	0	0	0	0	34	0	5	25	0	30	33	4	0	0	37	67	101
Total	128	0	11	0	139	0	0	0	0	0	139	0	19	102	0	121	169	25	0	0	194	315	454

TURNING MOVEMENT COUNT: 05/23/12
 NORTH/SOUTH ST: Airport Service Rd
 Airport Service Rd @ Economy Parking Rd
 ALL VEHICLES

TIME: 7am-9am 4pm-6pm
 EAST/WEST STREET: Economy Parking Rd
 COUNTED BY: SL

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		
7:00	2	14	2	0	18	6	27	3	0	36	54	6	24	8	0	38	0	0	0	0	0	38	92
7:15	3	17	0	0	20	1	20	3	0	24	44	4	11	11	0	26	0	0	0	0	0	26	70
7:30	2	14	0	0	16	2	28	4	0	34	50	8	8	13	0	29	0	0	0	0	0	29	79
7:45	0	16	2	0	18	0	21	5	0	26	44	7	7	14	0	28	0	0	0	0	0	28	72
Total	7	61	4	0	72	9	96	15	0	120	192	25	50	46	0	121	0	0	0	0	0	121	313
8:00	5	25	2	0	32	2	7	4	0	13	45	3	7	16	0	26	0	0	0	0	0	26	71
8:15	1	9	1	0	11	1	14	2	0	17	28	4	9	13	0	26	0	0	0	0	0	26	54
8:30	1	28	0	0	29	2	19	5	0	26	55	5	11	16	0	32	0	0	1	0	1	33	88
8:45	2	47	0	0	49	4	11	6	0	21	70	9	11	19	0	39	0	0	0	0	0	39	109
Total	9	109	3	0	121	9	51	17	0	77	198	21	38	64	0	123	0	0	1	0	1	124	322
16:00	8	55	0	0	63	1	38	10	0	49	112	13	5	16	0	34	0	0	0	0	0	34	146
16:15	5	30	0	0	35	4	29	8	0	41	76	10	9	21	0	40	0	0	0	0	0	40	116
16:30	10	60	0	0	70	5	23	8	0	36	106	10	5	23	0	38	0	2	0	0	2	40	146
16:45	7	69	1	0	77	1	29	11	0	41	118	16	4	14	0	34	0	0	0	0	0	34	152
Total	30	214	1	0	245	11	119	37	0	167	412	49	23	74	0	146	0	2	0	0	2	148	560
17:00	13	41	0	0	54	1	39	8	0	48	102	7	8	23	0	38	0	0	0	0	0	38	140
17:15	6	55	1	0	62	1	11	3	0	15	77	8	9	19	0	36	0	0	0	0	0	36	113
17:30	7	49	1	0	57	1	23	7	0	31	88	10	9	20	0	39	0	0	0	0	0	39	127
17:45	6	38	0	0	44	2	20	9	0	31	75	16	7	20	0	43	0	0	0	0	0	43	118
Total	32	183	2	0	217	5	93	27	0	125	342	41	33	82	0	156	0	0	0	0	0	156	498

TURNING MOVEMENT COUNT: 05/17/12
 NORTH/SOUTH ST: USPS Loading Area/Cell Phone Waiting Area
 Economy Parking Rd @ Cell Phone Waiting Lot
 ALL VEHICLES

TIME: 4pm-6pm
 EAST/WEST STREET: Economy Parking Rd
 COUNTED BY: LDP

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		
16:00	43	0	4	0	47	3	0	1	0	4	51	0	31	31	0	62	5	5	0	0	10	72	123
16:15	36	0	1	0	37	2	0	0	0	2	39	0	28	27	0	55	11	9	0	0	20	75	114
16:30	49	0	0	0	49	2	0	1	0	3	52	0	37	29	0	66	7	11	0	0	18	84	136
16:45	27	0	4	0	31	2	0	1	0	3	34	0	28	21	0	49	16	3	0	0	19	68	102
Total	155	0	9	0	164	9	0	3	0	12	176	0	124	108	0	232	39	28	0	0	67	299	475
17:00	17	0	2	0	19	3	0	1	0	4	23	0	34	28	0	62	5	6	0	0	11	73	96
17:15	43	0	3	0	46	4	0	0	0	4	50	0	33	12	0	45	4	6	0	0	10	55	105
17:30	19	0	1	0	20	0	0	3	0	3	23	0	30	21	0	51	5	6	0	0	11	62	85
17:45	26	0	4	0	30	1	0	0	0	1	31	0	30	24	0	54	11	4	0	0	15	69	100
Total	105	0	10	0	115	8	0	4	0	12	127	0	127	85	0	212	25	22	0	0	47	259	386

TURNING MOVEMENT COUNT: 05/24/12
 NORTH/SOUTH ST: Bessie Coleman Blvd
 Bessie Coleman Blvd @ AirportService Rd
 ALL VEHICLES

TIME: 7am-9am 4pm-6pm
 EAST/WEST STREET: AirportService Rd
 COUNTED BY: LDP

START TIME	NORTHBOUND					SOUTHBOUND					NS TOTAL	EASTBOUND					WESTBOUND					EW TOTAL	GRAND TOTAL
	LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		LEFT	THRU	RIGHT	U-TURN	TOTAL	LEFT	THRU	RIGHT	U-TURN	TOTAL		
7:00	14	8	27	0	49	5	0	2	0	7	56	2	29	0	0	31	0	19	13	0	32	63	119
7:15	16	10	32	0	58	6	0	3	0	9	67	2	25	0	0	27	0	5	13	0	18	45	112
7:30	22	10	19	0	51	4	0	2	0	6	57	1	32	0	0	33	0	17	22	0	39	72	129
7:45	8	10	14	0	32	0	0	2	0	2	34	5	24	0	0	29	0	16	28	0	44	73	107
Total	60	38	92	0	190	15	0	9	0	24	214	10	110	0	0	120	0	57	76	0	133	253	467
8:00	20	6	21	0	47	2	0	2	0	4	51	1	32	0	0	33	0	18	25	0	43	76	127
8:15	17	14	12	0	43	2	0	0	0	2	45	1	28	0	0	29	0	6	35	0	41	70	115
8:30	21	19	20	0	60	3	0	0	0	3	63	2	33	0	0	35	0	14	37	0	51	86	149
8:45	13	12	24	0	49	4	0	0	0	4	53	5	26	0	0	31	0	11	30	0	41	72	125
Total	71	51	77	0	199	11	0	2	0	13	212	9	119	0	0	128	0	49	127	0	176	304	516
16:00	35	28	29	0	92	5	0	2	0	7	99	1	40	0	0	41	0	25	78	0	103	144	243
16:15	34	32	33	0	99	2	0	0	0	2	101	5	37	0	0	42	0	28	24	0	52	94	195
16:30	39	44	28	0	111	1	0	1	0	2	113	4	58	0	0	62	0	27	43	0	70	132	245
16:45	28	37	20	0	85	1	0	2	0	3	88	3	43	0	0	46	0	30	57	0	87	133	221
Total	136	141	110	0	387	9	0	5	0	14	401	13	178	0	0	191	0	110	202	0	312	503	904
17:00	23	16	16	0	55	2	0	0	0	2	57	1	42	0	0	43	0	32	34	0	66	109	166
17:15	30	31	34	0	95	5	0	1	0	6	101	0	43	0	0	43	0	16	50	1	67	110	211
17:30	28	27	26	0	81	3	0	3	0	6	87	4	32	0	0	36	0	22	45	0	67	103	190
17:45	27	23	28	0	78	2	0	2	0	4	82	2	52	0	0	54	0	21	36	0	57	111	193
Total	108	97	104	0	309	12	0	6	0	18	327	7	169	0	0	176	0	91	165	1	257	433	760

Site ID: NB Airport Access Rd															
Station Num: 611004171111/000000000010															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-18-2012 00:00															
End Date/Time: 04-20-2012 00:00															
04-18-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	2	2	0	4	1	4	16	16	25	34	44	46			
30	2	7	4	6	5	11	11	23	34	28	49	52			
45	3	1	1	2	16	14	14	20	34	25	63	77			
00	1	3	3	4	8	13	17	28	46	66	48	56			
Hr Total	8	13	8	16	30	42	58	87	139	153	204	231			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	43	57	63	31	41	36	39	56	54	28	41	36			
30	49	50	26	36	40	41	35	22	26	34	50	31			
45	47	38	50	38	52	40	42	34	39	17	48	14			
00	36	46	45	47	39	61	38	34	30	40	25	13			
Hr Total	175	191	184	152	172	178	154	146	149	119	164	94			
24 Hour Total :			2867												
AM Peak Hour Begins :			10:45			AM Peak Volume :			223			AM Peak Hour Factor :			0.72
PM Peak Hour Begins :			13:15			PM Peak Volume :			197			PM Peak Hour Factor :			0.78
04-19-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	6	3	1	7	0	2	15	18	27	22	47	62			
30	1	0	3	7	8	8	9	30	22	33	34	38			
45	1	4	2	2	12	12	13	26	34	48	35	51			
00	0	3	2	2	4	17	19	28	52	45	46	55			
Hr Total	8	10	8	18	24	39	56	102	135	148	162	206			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	59	50	55	57	40	59	46	31	11	32	21	33			
30	43	37	38	36	53	45	49	39	34	25	28	30			
45	51	43	55	31	43	47	45	45	29	22	38	18			
00	57	26	35	34	61	39	32	50	37	49	11	21			
Hr Total	210	156	183	158	197	190	172	165	111	128	98	102			
24 Hour Total :			2786												
AM Peak Hour Begins :			10:45			AM Peak Volume :			197			AM Peak Hour Factor :			0.79
PM Peak Hour Begins :			16:15			PM Peak Volume :			216			PM Peak Hour Factor :			0.89

Site ID: NB Airport Access Rd															
Station Num: 611004171111/000000000010															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-20-2012 00:00															
End Date/Time: 04-22-2012 00:00															
04-20-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	4	7	2	6	3	10	11	15	22	23	51	35			
30	3	1	16	7	5	7	18	21	28	30	39	52			
45	1	1	1	2	12	19	14	20	16	43	38	57			
00	1	4	2	4	7	23	23	24	22	34	62	36			
Hr Total	9	13	21	19	27	59	66	80	88	130	190	180			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	50	36	28	44	63	41	44	42	27	56	49	9			
30	48	53	49	44	67	50	61	23	36	18	23	21			
45	45	39	45	52	48	57	30	13	19	17	35	10			
00	57	55	33	46	50	49	38	50	20	45	21	7			
Hr Total	200	183	155	186	228	197	173	128	102	136	128	47			
24 Hour Total :			2745												
AM Peak Hour Begins :			10:45			AM Peak Volume :			206			AM Peak Hour Factor :			0.83
PM Peak Hour Begins :			15:30			PM Peak Volume :			228			PM Peak Hour Factor :			0.85
04-21-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	28	1	2	2	5	6	13	8	12	14	23	29			
30	5	4	8	2	2	6	3	10	22	20	32	26			
45	4	4	0	6	6	17	12	4	24	16	29	34			
00	0	5	2	4	7	13	7	10	8	15	25	39			
Hr Total	37	14	12	14	20	42	35	32	66	65	109	128			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	21	37	38	18	24	20	42	32	23	25	18	8			
30	11	43	26	17	25	54	11	20	32	16	33	9			
45	22	24	41	23	37	31	15	19	17	17	17	24			
00	46	54	32	29	27	25	27	18	24	36	27	11			
Hr Total	100	158	137	87	113	130	95	89	96	94	95	52			
24 Hour Total :			1820												
AM Peak Hour Begins :			10:15			AM Peak Volume :			115			AM Peak Hour Factor :			0.74
PM Peak Hour Begins :			13:15			PM Peak Volume :			159			PM Peak Hour Factor :			0.74

Site ID: NB Airport Access Rd														
Station Num: 611004171111/000000000010														
Description: 7 Day Volume														
City: Tampa														
County: Hillsborough														
Start Date/Time: 04-22-2012 00:00														
End Date/Time: 04-24-2012 00:00														
04-22-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	2	2	0	4	8	0	7	5	8	19	18	23		
30	1	0	5	3	6	4	9	10	4	21	7	17		
45	1	0	1	5	10	12	8	2	12	17	23	33		
00	2	1	2	2	3	13	10	12	9	32	35	31		
Hr Total	6	3	8	14	27	29	34	29	33	89	83	104		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	34	35	64	30	20	25	34	32	24	30	31	29		
30	34	24	36	31	30	24	31	25	25	50	20	38		
45	26	42	28	51	50	29	29	20	16	25	35	36		
00	30	20	24	35	24	54	30	42	30	37	20	15		
Hr Total	124	121	152	147	124	132	124	119	95	142	106	118		
24 Hour Total :			1963											
AM Peak Hour Begins :			10:45		AM Peak Volume :			108		AM Peak Hour Factor :			0.77	
PM Peak Hour Begins :			13:30		PM Peak Volume :			162		PM Peak Hour Factor :			0.63	
04-23-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	0	2	0	2	7	4	21	31	31	35	48	80		
30	8	0	7	5	2	7	15	23	35	50	51	65		
45	5	3	1	0	7	18	25	29	35	63	20	106		
00	2	2	1	2	5	14	21	17	66	66	60	60		
Hr Total	15	7	9	9	21	43	82	100	167	214	179	311		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	45	76	65	45	43	50	50	47	25	37	58	18		
30	53	39	45	60	51	69	54	19	11	30	37	29		
45	65	84	25	60	61	66	50	25	54	47	47	34		
00	70	43	68	60	60	44	29	47	23	17	11	19		
Hr Total	233	242	203	225	215	229	183	138	113	131	153	100		
24 Hour Total :			3322											
AM Peak Hour Begins :			10:45		AM Peak Volume :			311		AM Peak Hour Factor :			0.73	
PM Peak Hour Begins :			12:45		PM Peak Volume :			269		PM Peak Hour Factor :			0.80	

Site ID: NB Airport Access Rd															
Station Num: 611004171111/000000000010															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-24-2012 00:00															
End Date/Time: 04-25-2012 00:00															
04-24-2012															
Lane															
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	2	4	0	4	2	5	14	21	35	36	41	36			
30	1	4	4	2	7	6	25	27	26	27	35	43			
45	4	2	3	6	8	13	12	26	39	49	32	54			
00	2	3	4	2	8	17	16	26	26	32	25	58			
Hr Total	9	13	11	14	25	41	67	100	126	144	133	191			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	21	62	27	38	38	43	43	44	17	32	33	25			
30	29	32	37	38	18	34	54	23	23	26	27	24			
45	54	45	33	40	38	50	34	22	24	12	44	10			
00	50	24	51	48	60	35	24	45	29	40	26	7			
Hr Total	154	163	148	164	154	162	155	134	93	110	130	66			
24 Hour Total :			2507												
AM Peak Hour Begins :			10:45			AM Peak Volume :			158			AM Peak Hour Factor :			0.68
PM Peak Hour Begins :			12:30			PM Peak Volume :			198			PM Peak Hour Factor :			0.80

Site ID: SB Airport Access Rd															
Station Num: 621004175111/000000000070															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-18-2012 00:00															
End Date/Time: 04-20-2012 00:00															
04-18-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	14	0	8	2	0	6	23	33	39	34	28	38			
30	5	3	3	3	4	8	24	26	21	32	39	29			
45	15	7	9	6	15	6	20	29	30	46	43	70			
00	4	1	5	3	14	13	14	32	48	41	29	38			
Hr Total	38	11	25	14	33	33	81	120	138	153	139	175			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	44	62	46	51	49	35	45	31	36	31	27	20			
30	35	37	39	31	34	49	41	28	19	19	21	15			
45	46	41	49	43	49	52	34	21	15	17	23	19			
00	35	27	39	38	73	35	43	34	27	11	26	11			
Hr Total	160	167	173	163	205	171	163	114	97	78	97	65			
24 Hour Total :			2613												
AM Peak Hour Begins :			10:45			AM Peak Volume :			166			AM Peak Hour Factor :			0.59
PM Peak Hour Begins :			16:45			PM Peak Volume :			209			PM Peak Hour Factor :			0.72
04-19-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	5	2	3	3	1	17	22	21	32	47	55	44			
30	5	2	6	5	7	7	22	24	29	38	57	26			
45	11	12	12	4	19	10	23	25	54	26	28	55			
00	2	4	7	5	11	8	25	35	29	50	36	46			
Hr Total	23	20	28	17	38	42	92	105	144	161	176	171			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	38	55	47	61	59	56	65	35	27	25	19	37			
30	68	38	43	36	35	42	54	51	33	32	28	25			
45	40	37	58	62	87	42	19	23	18	27	30	18			
00	38	32	38	34	57	41	42	34	10	15	19	8			
Hr Total	184	162	186	193	238	181	180	143	88	99	96	88			
24 Hour Total :			2855												
AM Peak Hour Begins :			09:45			AM Peak Volume :			190			AM Peak Hour Factor :			0.83
PM Peak Hour Begins :			16:30			PM Peak Volume :			242			PM Peak Hour Factor :			0.70

Site ID: SB Airport Access Rd															
Station Num: 621004175111/000000000070															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-20-2012 00:00															
End Date/Time: 04-22-2012 00:00															
04-20-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	10	1	4	7	2	15	31	35	22	44	58	40			
30	8	5	7	5	2	10	23	27	39	29	38	45			
45	20	7	10	1	13	11	34	38	37	48	34	42			
00	5	4	3	2	12	11	15	23	21	44	52	47			
Hr Total	43	17	24	15	29	47	103	123	119	165	182	174			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	55	55	49	68	61	59	50	36	38	32	15	26			
30	45	49	51	51	64	47	39	34	47	24	34	14			
45	52	55	39	61	55	60	55	33	20	44	29	21			
00	38	29	41	41	63	69	40	41	43	22	13	17			
Hr Total	190	188	180	221	243	235	184	144	148	122	91	78			
24 Hour Total :			3065												
AM Peak Hour Begins :			09:30			AM Peak Volume :			188			AM Peak Hour Factor :			0.81
PM Peak Hour Begins :			16:00			PM Peak Volume :			243			PM Peak Hour Factor :			0.88
04-21-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	10	4	6	5	0	12	18	28	24	56	26	33			
30	3	1	6	1	6	8	11	15	33	22	32	33			
45	12	4	8	1	12	10	22	13	50	30	40	27			
00	5	4	2	6	15	8	18	21	20	55	33	40			
Hr Total	30	13	22	13	33	38	69	77	127	163	131	133			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	28	36	43	60	18	60	53	44	12	25	35	24			
30	19	31	40	36	50	14	19	17	14	8	25	48			
45	55	45	34	29	37	24	20	26	12	15	48	28			
00	32	46	31	34	42	62	26	19	10	9	8	6			
Hr Total	134	158	148	159	147	160	118	106	48	57	116	106			
24 Hour Total :			2306												
AM Peak Hour Begins :			09:00			AM Peak Volume :			163			AM Peak Hour Factor :			0.73
PM Peak Hour Begins :			16:15			PM Peak Volume :			189			PM Peak Hour Factor :			0.76

Site ID: SB Airport Access Rd															
Station Num: 621004175111/000000000070															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-22-2012 00:00															
End Date/Time: 04-24-2012 00:00															
04-22-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	15	5	5	3	2	8	15	12	14	16	21	21	21		
30	7	6	1	2	5	4	6	8	15	17	29	21	21		
45	7	1	3	3	7	13	9	7	23	35	36	57	57		
00	1	4	3	3	4	13	7	16	27	16	46	47	47		
Hr Total	30	16	12	11	18	38	37	43	79	84	132	146	146		
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	61	63	55	43	49	39	28	34	28	21	17	35	35		
30	47	43	35	65	61	60	48	21	17	29	32	4	4		
45	33	25	34	35	27	35	55	24	14	16	29	15	15		
00	48	51	44	42	50	49	23	27	23	16	22	11	11		
Hr Total	189	182	168	185	187	183	154	106	82	82	100	65	65		
24 Hour Total :			2329												
AM Peak Hour Begins :			10:45			AM Peak Volume :			145			AM Peak Hour Factor :			0.64
PM Peak Hour Begins :			12:15			PM Peak Volume :			191			PM Peak Hour Factor :			0.73
04-23-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	8	3	6	2	4	10	20	36	31	35	51	60	60		
30	5	2	4	5	4	7	20	22	34	31	34	40	40		
45	8	7	5	4	12	13	30	33	47	45	48	44	44		
00	8	4	6	2	18	13	23	36	41	45	38	56	56		
Hr Total	29	16	21	13	38	43	93	127	153	156	171	200	200		
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	52	49	51	72	40	70	38	50	25	29	21	30	30		
30	40	35	50	29	47	41	43	32	25	13	20	6	6		
45	43	35	46	60	53	31	35	39	12	32	18	19	19		
00	49	56	35	44	57	49	51	25	28	22	15	8	8		
Hr Total	184	175	182	205	197	191	167	146	90	96	74	63	63		
24 Hour Total :			2830												
AM Peak Hour Begins :			10:30			AM Peak Volume :			186			AM Peak Hour Factor :			0.78
PM Peak Hour Begins :			16:15			PM Peak Volume :			227			PM Peak Hour Factor :			0.79

Site ID: SB Airport Access Rd																		
Station Num: 621004175111/000000000070																		
Description: 7 Day Volume																		
City: Tampa																		
County: Hillsborough																		
Start Date/Time: 04-24-2012 00:00																		
End Date/Time: 04-25-2012 00:00																		
04-24-2012																		
Lane																		
End Time	00	01	02	03	04	05	06	07	08	09	10	11						
15	8	4	6	1	2	13	22	32	44	30	35	50						
30	7	4	3	3	3	5	16	29	35	41	54	33						
45	14	6	14	4	16	9	26	38	30	53	43	60						
00	5	5	3	2	19	12	21	25	25	36	35	30						
Hr Total	34	19	26	10	40	39	85	124	134	160	167	173						
End Time	12	13	14	15	16	17	18	19	20	21	22	23						
15	48	41	39	68	63	44	63	34	23	24	33	22						
30	44	37	42	41	60	44	37	40	25	24	15	16						
45	36	43	50	46	36	66	36	19	27	21	19	14						
00	73	26	31	44	50	56	38	28	16	13	19	7						
Hr Total	201	147	162	199	209	210	174	121	91	82	86	59						
24 Hour Total :			2752															
AM Peak Hour Begins :			10:15				AM Peak Volume :			182			AM Peak Hour Factor :			0.76		
PM Peak Hour Begins :			17:15				PM Peak Volume :			229			PM Peak Hour Factor :			0.78		

Site ID: EB Airport Access Rd (n-o P.O.)															
Station Num: 651004173111/000000000061															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-18-2012 00:00															
End Date/Time: 04-20-2012 00:00															
04-18-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	36	16	3	36	12	12	38	23	42	75	85	87			
30	41	9	24	10	17	21	36	42	61	49	99	85			
45	46	30	15	8	56	31	38	40	86	77	105	124			
00	19	15	20	9	44	31	46	43	95	104	118	107			
Hr Total	142	70	62	63	129	95	158	148	284	305	407	403			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	75	91	130	130	101	114	81	134	135	84	92	76			
30	80	91	57	73	108	121	92	87	92	102	168	78			
45	101	60	105	70	112	89	96	88	91	72	119	63			
00	64	74	113	102	86	146	130	80	78	73	103	38			
Hr Total	320	316	405	375	407	470	399	389	396	331	482	255			
24 Hour Total :			6811												
AM Peak Hour Begins :			10:45			AM Peak Volume :			414			AM Peak Hour Factor :			0.83
PM Peak Hour Begins :			22:00			PM Peak Volume :			482			PM Peak Hour Factor :			0.72
04-19-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	55	34	6	30	13	15	36	66	68	77	105	104			
30	66	15	31	20	31	29	44	45	47	55	56	60			
45	31	4	17	26	50	33	30	46	59	82	91	73			
00	16	20	25	1	21	28	36	70	103	91	79	104			
Hr Total	168	73	79	77	115	105	146	227	277	305	331	341			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	75	105	120	140	128	132	93	98	93	87	84	71			
30	67	73	84	102	115	114	118	99	122	74	66	70			
45	84	87	124	87	123	71	109	105	58	57	94	66			
00	102	64	71	107	134	110	119	119	97	107	48	77			
Hr Total	328	329	399	436	500	427	439	421	370	325	292	284			
24 Hour Total :			6794												
AM Peak Hour Begins :			09:45			AM Peak Volume :			343			AM Peak Hour Factor :			0.82
PM Peak Hour Begins :			16:15			PM Peak Volume :			504			PM Peak Hour Factor :			0.90

Site ID: EB Airport Access Rd (n-o P.O.)														
Station Num: 651004173111/000000000061														
Description: 7 Day Volume														
City: Tampa														
County: Hillsborough														
Start Date/Time: 04-20-2012 00:00														
End Date/Time: 04-22-2012 00:00														
04-20-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	50	28	9	25	13	16	31	49	60	81	74	87		
30	47	23	54	19	16	25	51	42	40	65	50	89		
45	57	11	10	14	66	47	41	54	44	110	56	111		
00	17	12	26	5	34	43	43	64	47	68	118	80		
Hr Total	171	74	99	63	129	131	166	209	191	324	298	367		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	96	108	96	103	136	109	129	100	125	126	111	45		
30	79	100	106	116	139	122	127	98	111	67	112	63		
45	74	58	97	126	139	98	90	71	71	54	85	43		
00	78	83	65	104	135	118	114	125	87	80	81	40		
Hr Total	327	349	364	449	549	447	460	394	394	327	389	191		
24 Hour Total :			6862											
AM Peak Hour Begins :			10:45			AM Peak Volume :			405			AM Peak Hour Factor :		0.86
PM Peak Hour Begins :			16:00			PM Peak Volume :			549			PM Peak Hour Factor :		0.99
04-21-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	69	36	12	20	11	16	24	19	24	44	56	44		
30	64	14	44	11	19	24	27	28	31	42	48	44		
45	39	32	24	27	40	38	49	24	59	41	61	42		
00	35	33	24	4	30	34	23	30	28	30	48	97		
Hr Total	207	115	104	62	100	112	123	101	142	157	213	227		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	47	67	65	46	48	75	80	64	46	64	70	38		
30	20	62	62	50	77	105	88	61	84	81	100	53		
45	36	54	73	63	84	92	55	62	51	67	58	53		
00	63	88	75	78	67	107	62	62	70	75	70	33		
Hr Total	166	271	275	237	276	379	285	249	251	287	298	177		
24 Hour Total :			4814											
AM Peak Hour Begins :			10:00			AM Peak Volume :			213			AM Peak Hour Factor :		0.55
PM Peak Hour Begins :			17:15			PM Peak Volume :			384			PM Peak Hour Factor :		0.90

Site ID: EB Airport Access Rd (n-o P.O.)														
Station Num: 651004173111/000000000061														
Description: 7 Day Volume														
City: Tampa														
County: Hillsborough														
Start Date/Time: 04-22-2012 00:00														
End Date/Time: 04-24-2012 00:00														
04-22-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	39	16	1	15	6	14	28	27	23	44	47	57		
30	44	3	9	14	17	20	47	31	20	47	38	45		
45	29	7	2	12	34	26	24	17	34	44	50	43		
00	14	22	6	8	17	22	26	21	21	47	59	64		
Hr Total	126	48	18	49	74	82	125	96	98	182	194	209		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	62	79	110	75	64	100	101	71	88	130	95	80		
30	70	54	91	60	81	72	79	61	58	144	107	74		
45	70	67	62	94	88	48	64	75	50	100	83	95		
00	53	40	47	84	89	105	81	79	95	102	60	98		
Hr Total	255	240	310	313	322	325	325	286	291	476	345	347		
24 Hour Total :			5136											
AM Peak Hour Begins :			10:30			AM Peak Volume :			211			AM Peak Hour Factor :		0.82
PM Peak Hour Begins :			21:00			PM Peak Volume :			476			PM Peak Hour Factor :		0.83
04-23-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	55	35	7	8	17	16	32	50	28	84	72	115		
30	58	19	21	22	22	18	44	53	54	78	86	89		
45	65	15	15	7	17	27	31	48	72	93	44	187		
00	55	25	18	16	28	35	69	32	115	106	89	97		
Hr Total	233	94	61	53	84	96	176	183	269	361	291	488		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	51	115	117	100	97	116	105	122	92	81	140	62		
30	86	100	124	111	122	165	116	101	53	81	108	75		
45	82	111	72	119	133	125	127	63	101	111	119	83		
00	106	110	125	135	128	75	99	130	72	71	67	64		
Hr Total	325	436	438	465	480	481	447	416	318	344	434	284		
24 Hour Total :			7257											
AM Peak Hour Begins :			10:45			AM Peak Volume :			480			AM Peak Hour Factor :		0.64
PM Peak Hour Begins :			16:30			PM Peak Volume :			542			PM Peak Hour Factor :		0.82

Site ID: EB Airport Access Rd (n-o P.O.)																	
Station Num: 651004173111/000000000061																	
Description: 7 Day Volume																	
City: Tampa																	
County: Hillsborough																	
Start Date/Time: 04-24-2012 00:00																	
End Date/Time: 04-25-2012 00:00																	
04-24-2012																	
Lane																	
End Time	00	01	02	03	04	05	06	07	08	09	10	11					
15	40	26	8	30	8	17	41	43	61	59	67	80					
30	40	17	27	13	30	21	53	64	57	54	73	80					
45	39	27	25	17	22	37	43	48	48	81	44	96					
00	19	11	29	11	62	26	49	56	51	47	62	82					
Hr Total	138	81	89	71	122	101	186	211	217	241	246	338					
End Time	12	13	14	15	16	17	18	19	20	21	22	23					
15	36	116	53	58	75	106	80	108	89	61	82	74					
30	57	66	74	73	78	85	111	91	65	78	99	67					
45	77	76	61	88	85	93	77	75	57	51	121	37					
00	69	53	113	93	110	114	73	137	76	84	69	43					
Hr Total	239	311	301	312	348	398	341	411	287	274	371	221					
24 Hour Total :			5855														
AM Peak Hour Begins :			10:45			AM Peak Volume :			318			AM Peak Hour Factor :			0.83		
PM Peak Hour Begins :			19:00			PM Peak Volume :			411			PM Peak Hour Factor :			0.75		

Site ID: WB Airport Access Rd (n-o P.O.)															
Station Num: 661004177111/000000000005															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-18-2012 00:00															
End Date/Time: 04-20-2012 00:00															
04-18-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	11	15	5	15	6	24	33	40	41	42	37	36			
30	14	2	12	4	13	11	13	32	35	29	32	27			
45	32	14	7	6	22	19	33	37	38	52	51	41			
00	4	7	8	12	19	24	10	29	40	60	24	34			
Hr Total	61	38	32	37	60	78	89	138	154	183	144	138			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	33	55	38	48	45	35	38	38	41	29	43	30			
30	26	31	43	29	47	51	38	19	32	26	21	16			
45	31	36	58	49	44	63	30	37	13	30	36	30			
00	33	22	29	43	75	42	36	47	28	14	26	24			
Hr Total	123	144	168	169	211	191	142	141	114	99	126	100			
24 Hour Total :			2880												
AM Peak Hour Begins :			09:00			AM Peak Volume :			183			AM Peak Hour Factor :			0.76
PM Peak Hour Begins :			16:45			PM Peak Volume :			224			PM Peak Hour Factor :			0.75
04-19-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	13	10	1	7	8	31	24	36	27	53	47	37			
30	14	5	13	11	5	15	25	35	37	28	52	24			
45	20	16	14	9	29	29	29	46	42	32	39	47			
00	10	6	12	15	21	17	53	33	39	43	26	33			
Hr Total	57	37	40	42	63	92	131	150	145	156	164	141			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	33	48	32	55	69	52	56	62	31	31	16	52			
30	53	30	51	44	42	60	53	39	30	42	34	33			
45	40	37	55	69	70	49	40	27	20	33	26	25			
00	24	48	39	36	52	49	37	33	31	23	31	19			
Hr Total	150	163	177	204	233	210	186	161	112	129	107	129			
24 Hour Total :			3179												
AM Peak Hour Begins :			09:45			AM Peak Volume :			181			AM Peak Hour Factor :			0.85
PM Peak Hour Begins :			16:30			PM Peak Volume :			234			PM Peak Hour Factor :			0.84

Site ID: WB Airport Access Rd (n-o P.O.)														
Station Num: 661004177111/000000000005														
Description: 7 Day Volume														
City: Tampa														
County: Hillsborough														
Start Date/Time: 04-20-2012 00:00														
End Date/Time: 04-22-2012 00:00														
04-20-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	21	15	8	8	9	39	43	58	29	43	54	37		
30	12	6	15	8	5	16	20	43	41	33	36	38		
45	19	15	12	2	27	27	60	59	31	54	31	56		
00	7	7	11	17	24	19	25	39	45	38	63	42		
Hr Total	59	43	46	35	65	101	148	199	146	168	184	173		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	54	43	46	74	77	68	66	41	46	33	21	26		
30	37	53	63	43	46	50	33	25	48	37	32	24		
45	47	63	31	44	50	47	46	49	28	49	33	37		
00	28	39	34	38	58	65	35	48	56	29	19	27		
Hr Total	166	198	174	199	231	230	180	163	178	148	105	114		
24 Hour Total :			3453											
AM Peak Hour Begins :			07:00			AM Peak Volume :			199			AM Peak Hour Factor :		0.79
PM Peak Hour Begins :			16:00			PM Peak Volume :			231			PM Peak Hour Factor :		0.75
04-21-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	24	20	15	7	5	18	24	51	39	64	33	26		
30	17	6	9	2	11	17	14	31	37	22	39	38		
45	28	15	13	5	26	21	27	19	65	34	40	39		
00	15	10	8	9	15	19	29	26	20	64	38	42		
Hr Total	84	51	45	23	57	75	94	127	161	184	150	145		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	13	44	37	84	29	69	58	40	22	51	39	46		
30	15	23	67	68	79	51	45	35	21	31	36	67		
45	55	52	47	41	45	46	27	41	16	46	76	35		
00	25	51	33	57	60	92	27	18	29	34	19	17		
Hr Total	108	170	184	250	213	258	157	134	88	162	170	165		
24 Hour Total :			3255											
AM Peak Hour Begins :			08:15			AM Peak Volume :			186			AM Peak Hour Factor :		0.72
PM Peak Hour Begins :			17:00			PM Peak Volume :			258			PM Peak Hour Factor :		0.70

Site ID: WB Airport Access Rd (n-o P.O.)															
Station Num: 661004177111/000000000005															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-22-2012 00:00															
End Date/Time: 04-24-2012 00:00															
04-22-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	31	11	9	15	5	19	27	46	13	32	27	43			
30	20	3	6	1	20	19	32	26	19	22	30	17			
45	17	7	4	6	24	33	35	22	29	55	53	60			
00	3	9	3	10	20	25	25	27	42	28	59	40			
Hr Total	71	30	22	32	69	96	119	121	103	137	169	160			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	75	61	40	54	60	46	32	47	25	22	16	35			
30	46	38	35	61	83	54	49	34	25	39	33	17			
45	41	19	41	48	35	50	56	27	36	31	31	23			
00	48	53	40	49	52	45	31	24	30	9	17	21			
Hr Total	210	171	156	212	230	195	168	132	116	101	97	96			
24 Hour Total :			3013												
AM Peak Hour Begins :			10:15			AM Peak Volume :			185			AM Peak Hour Factor :			0.77
PM Peak Hour Begins :			15:30			PM Peak Volume :			240			PM Peak Hour Factor :			0.72
04-23-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	20	9	7	4	8	19	35	48	22	31	36	46			
30	18	11	9	8	15	14	14	39	31	27	34	36			
45	25	12	9	11	19	20	32	42	46	24	27	38			
00	19	14	4	10	8	29	36	29	36	34	43	40			
Hr Total	82	46	29	33	50	82	117	158	135	116	140	160			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	44	48	41	58	41	77	38	40	25	34	29	30			
30	22	31	28	37	50	30	21	25	24	18	37	19			
45	25	46	39	61	43	42	42	49	20	58	30	35			
00	44	38	34	38	57	57	54	29	39	32	33	27			
Hr Total	135	163	142	194	191	206	155	143	108	142	129	111			
24 Hour Total :			2967												
AM Peak Hour Begins :			06:45			AM Peak Volume :			165			AM Peak Hour Factor :			0.86
PM Peak Hour Begins :			16:15			PM Peak Volume :			227			PM Peak Hour Factor :			0.74

Site ID: WB Airport Access Rd (n-o P.O.)																		
Station Num: 661004177111/000000000005																		
Description: 7 Day Volume																		
City: Tampa																		
County: Hillsborough																		
Start Date/Time: 04-24-2012 00:00																		
End Date/Time: 04-25-2012 00:00																		
04-24-2012																		
Lane																		
End Time	00	01	02	03	04	05	06	07	08	09	10	11						
15	23	25	9	4	4	27	29	47	40	34	35	46						
30	12	4	14	4	13	20	16	50	57	34	47	31						
45	20	13	17	11	20	23	28	58	31	40	51	47						
00	11	8	7	14	37	25	38	32	26	40	39	33						
Hr Total	66	50	47	33	74	95	111	187	154	148	172	157						
End Time	12	13	14	15	16	17	18	19	20	21	22	23						
15	53	46	38	56	48	52	49	29	30	26	29	27						
30	35	33	50	52	66	40	36	31	24	38	25	27						
45	45	35	33	50	44	80	53	27	33	37	35	15						
00	48	18	34	53	44	52	48	56	21	29	27	30						
Hr Total	181	132	155	211	202	224	186	143	108	130	116	99						
24 Hour Total :			3181															
AM Peak Hour Begins :			06:45				AM Peak Volume :			193			AM Peak Hour Factor :			0.83		
PM Peak Hour Begins :			17:00				PM Peak Volume :			224			PM Peak Hour Factor :			0.70		

Site ID: EB Economy Parking Road															
Station Num: 631004173111/000000000064															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-18-2012 00:00															
End Date/Time: 04-20-2012 00:00															
04-18-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	26	8	9	8	50	32	57	57	53	84	87	78			
30	11	6	7	17	41	41	47	45	60	91	100	53			
45	12	15	14	8	65	73	67	37	67	72	88	68			
00	11	14	24	30	75	66	52	71	91	67	95	80			
Hr Total	60	43	54	63	231	212	223	210	271	314	370	279			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	79	91	65	81	112	98	94	99	60	53	80	52			
30	69	84	70	85	92	86	84	113	77	40	94	49			
45	74	88	74	116	84	114	76	101	71	50	54	36			
00	66	78	84	102	70	81	99	69	62	79	34	26			
Hr Total	288	341	293	384	358	379	353	382	270	222	262	163			
24 Hour Total :			6025												
AM Peak Hour Begins :			10:00			AM Peak Volume :			370			AM Peak Hour Factor :			0.93
PM Peak Hour Begins :			15:30			PM Peak Volume :			422			PM Peak Hour Factor :			0.91
04-19-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	10	12	14	2	38	38	72	46	99	71	115	70			
30	18	15	6	10	59	70	67	43	52	88	91	73			
45	11	4	23	15	59	58	56	59	93	81	105	63			
00	3	17	25	35	58	84	68	49	69	67	72	61			
Hr Total	42	48	68	62	214	250	263	197	313	307	383	267			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	81	104	78	84	112	134	98	96	58	46	81	46			
30	92	78	89	99	91	102	97	170	69	47	57	66			
45	80	89	113	99	109	113	96	88	82	92	64	37			
00	85	96	81	117	80	110	101	56	68	72	51	38			
Hr Total	338	367	361	399	392	459	392	410	277	257	253	187			
24 Hour Total :			6506												
AM Peak Hour Begins :			10:00			AM Peak Volume :			383			AM Peak Hour Factor :			0.83
PM Peak Hour Begins :			18:30			PM Peak Volume :			463			PM Peak Hour Factor :			0.68

Site ID: EB Economy Parking Road															
Station Num: 631004173111/000000000064															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-20-2012 00:00															
End Date/Time: 04-22-2012 00:00															
04-20-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	20	8	10	12	45	44	62	59	70	75	107	81			
30	16	17	8	15	73	51	62	50	86	101	94	53			
45	18	15	15	6	67	82	55	54	101	85	81	54			
00	4	15	19	25	61	67	47	61	79	52	89	72			
Hr Total	58	55	52	58	246	244	226	224	336	313	371	260			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	66	66	71	57	94	85	108	108	99	53	81	60			
30	77	85	86	76	121	80	127	140	59	85	54	52			
45	81	91	84	123	102	86	131	90	68	78	62	42			
00	81	84	88	87	91	107	113	93	72	55	65	48			
Hr Total	305	326	329	343	408	358	479	431	298	271	262	202			
24 Hour Total :			6455												
AM Peak Hour Begins :			10:00			AM Peak Volume :			371			AM Peak Hour Factor :			0.87
PM Peak Hour Begins :			18:30			PM Peak Volume :			492			PM Peak Hour Factor :			0.88
04-21-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	45	9	10	15	43	38	55	32	31	54	54	50			
30	36	15	4	16	52	25	42	64	64	43	46	68			
45	29	17	16	8	52	62	32	36	57	78	49	57			
00	17	5	18	22	27	58	45	50	58	70	45	41			
Hr Total	127	46	48	61	174	183	174	182	210	245	194	216			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	46	73	94	65	74	59	100	66	51	45	55	39			
30	60	58	83	48	72	64	74	54	61	43	43	36			
45	61	82	84	93	49	59	94	76	54	55	51	46			
00	71	66	77	62	90	93	84	43	67	42	37	11			
Hr Total	238	279	338	268	285	275	352	239	233	185	186	132			
24 Hour Total :			4870												
AM Peak Hour Begins :			09:30			AM Peak Volume :			248			AM Peak Hour Factor :			0.79
PM Peak Hour Begins :			17:45			PM Peak Volume :			361			PM Peak Hour Factor :			0.90

Site ID: EB Economy Parking Road														
Station Num: 631004173111/000000000064														
Description: 7 Day Volume														
City: Tampa														
County: Hillsborough														
Start Date/Time: 04-22-2012 00:00														
End Date/Time: 04-24-2012 00:00														
04-22-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	15	2	6	8	16	38	26	43	22	26	54	62		
30	8	22	0	12	19	44	47	26	27	45	53	59		
45	8	3	1	2	19	33	29	17	29	51	59	57		
00	2	11	7	5	22	32	45	26	19	38	45	56		
Hr Total	33	38	14	27	76	147	147	112	97	160	211	234		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	52	67	43	69	63	51	45	77	73	63	43	38		
30	57	67	77	77	72	76	76	68	56	47	42	38		
45	68	66	56	88	75	86	56	88	47	44	31	25		
00	75	45	63	55	65	78	69	71	48	67	46	63		
Hr Total	252	245	239	289	275	291	246	304	224	221	162	164		
24 Hour Total :			4208											
AM Peak Hour Begins :			10:30			AM Peak Volume :			225			AM Peak Hour Factor :		0.91
PM Peak Hour Begins :			19:00			PM Peak Volume :			304			PM Peak Hour Factor :		0.86
04-23-2012		Lane												
End Time	00	01	02	03	04	05	06	07	08	09	10	11		
15	41	6	7	14	55	73	70	57	66	78	97	89		
30	33	15	7	16	57	65	67	55	60	56	82	65		
45	19	7	7	18	79	78	52	58	110	78	96	66		
00	18	8	32	16	55	99	76	50	72	72	86	76		
Hr Total	111	36	53	64	246	315	265	220	308	284	361	296		
End Time	12	13	14	15	16	17	18	19	20	21	22	23		
15	69	78	93	86	103	78	72	94	49	78	53	45		
30	64	55	86	92	83	83	100	100	64	55	62	44		
45	103	88	82	105	103	97	91	89	53	50	37	43		
00	85	83	63	79	70	90	103	71	72	45	41	28		
Hr Total	321	304	324	362	359	348	366	354	238	228	193	160		
24 Hour Total :			6116											
AM Peak Hour Begins :			10:00			AM Peak Volume :			361			AM Peak Hour Factor :		0.82
PM Peak Hour Begins :			18:15			PM Peak Volume :			388			PM Peak Hour Factor :		0.92

Site ID: EB Economy Parking Road													
Station Num: 631004173111/000000000064													
Description: 7 Day Volume													
City: Tampa													
County: Hillsborough													
Start Date/Time: 04-24-2012 00:00													
End Date/Time: 04-25-2012 00:00													
04-24-2012 Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11	
15	6	8	7	10	33	35	66	50	79	61	94	77	
30	17	1	15	10	71	51	46	71	46	61	82	57	
45	9	14	15	21	52	61	73	49	47	82	65	45	
00	10	13	21	28	54	79	51	49	51	83	92	62	
Hr Total	42	36	58	69	210	226	236	219	223	287	333	241	
End Time	12	13	14	15	16	17	18	19	20	21	22	23	
15	60	60	61	84	113	69	94	84	54	43	65	41	
30	56	50	71	76	91	77	86	115	61	68	56	19	
45	72	60	53	99	82	76	66	81	64	66	47	31	
00	100	60	64	81	67	105	90	54	33	72	39	38	
Hr Total	288	230	249	340	353	327	336	334	212	249	207	129	
24 Hour Total :			5434										
AM Peak Hour Begins :			09:30		AM Peak Volume :			341		AM Peak Hour Factor :			0.91
PM Peak Hour Begins :			15:30		PM Peak Volume :			384		PM Peak Hour Factor :			0.83

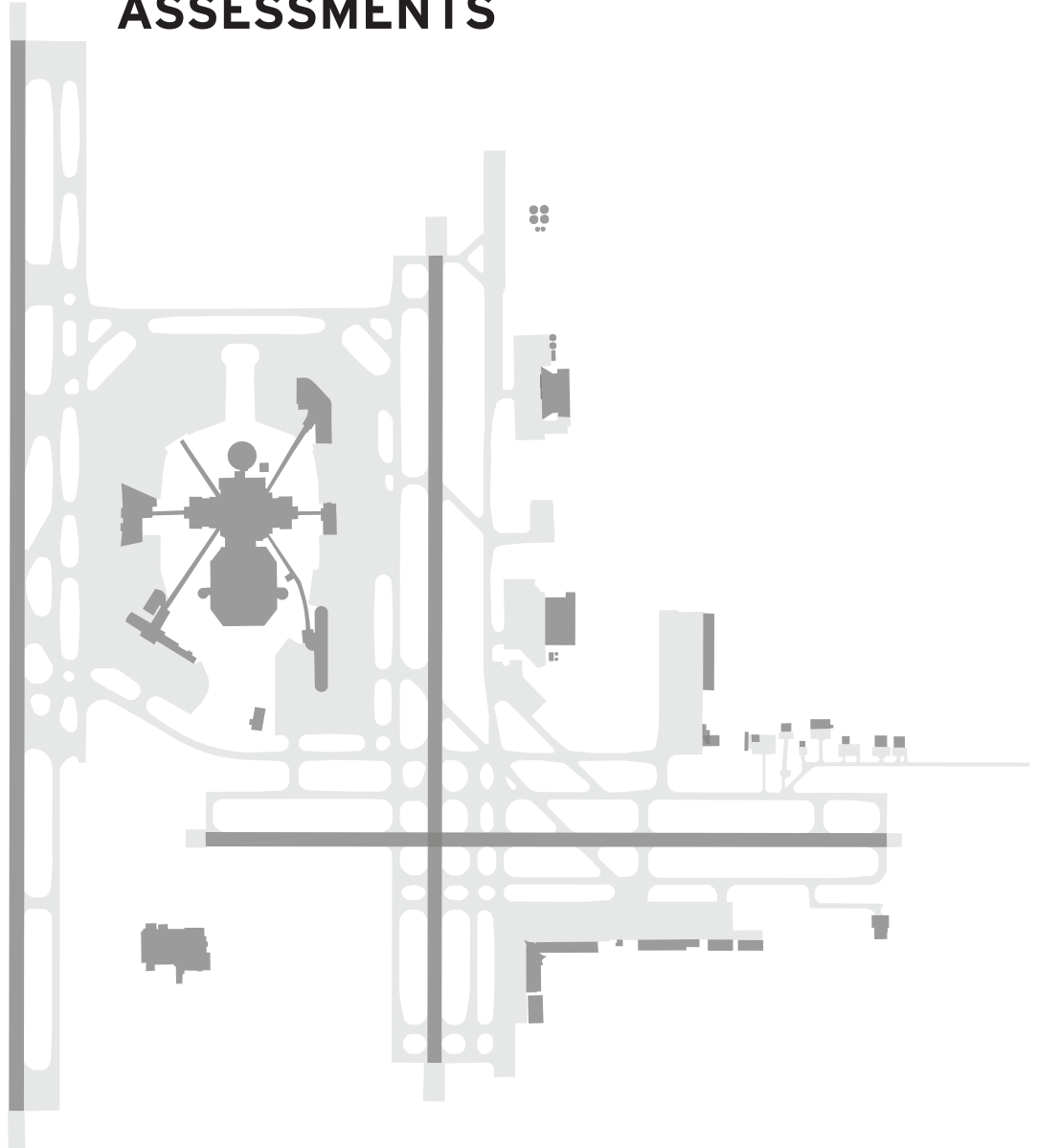
Site ID: Economy Parking Road													
Station Num: 641004177111/000000000069													
Description: 7 Day Volume													
City: Tampa													
County: Hillsborough													
Start Date/Time: 04-18-2012 00:00													
End Date/Time: 04-20-2012 00:00													
04-18-2012 Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11	
15	18	1	2	6	4	15	8	4	9	17	22	39	
30	11	4	2	11	0	5	26	3	10	14	29	46	
45	2	2	4	2	4	6	5	5	20	37	31	40	
00	4	7	7	3	13	5	6	4	31	39	39	22	
Hr Total	35	14	15	22	21	31	45	16	70	107	121	147	
End Time	12	13	14	15	16	17	18	19	20	21	22	23	
15	25	29	46	43	56	31	31	31	46	31	43	17	
30	24	44	29	30	66	47	47	40	29	9	46	19	
45	22	36	27	35	58	43	28	52	37	8	33	23	
00	28	34	30	42	27	42	37	39	29	23	28	30	
Hr Total	99	143	132	150	207	163	143	162	141	71	150	89	
24 Hour Total :			2294										
AM Peak Hour Begins :			10:45		AM Peak Volume :			164		AM Peak Hour Factor :			0.89
PM Peak Hour Begins :			15:45		PM Peak Volume :			222		PM Peak Hour Factor :			0.84
04-19-2012 Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11	
15	8	1	0	4	1	5	6	6	7	19	21	34	
30	9	0	1	9	2	3	19	6	10	16	20	38	
45	6	1	5	0	0	3	3	10	19	32	16	39	
00	10	5	3	2	18	8	2	7	19	25	40	30	
Hr Total	33	7	9	15	21	19	30	29	55	92	97	141	
End Time	12	13	14	15	16	17	18	19	20	21	22	23	
15	21	37	42	55	41	26	37	26	22	24	37	20	
30	17	36	36	34	55	38	49	41	24	16	32	35	
45	26	34	25	33	60	57	60	70	24	24	28	26	
00	41	29	17	45	38	59	43	65	29	41	19	38	
Hr Total	105	136	120	167	194	180	189	202	99	105	116	119	
24 Hour Total :			2280										
AM Peak Hour Begins :			10:45		AM Peak Volume :			151		AM Peak Hour Factor :			0.94
PM Peak Hour Begins :			17:45		PM Peak Volume :			205		PM Peak Hour Factor :			0.73

Site ID: Economy Parking Road																	
Station Num: 641004177111/000000000069																	
Description: 7 Day Volume																	
City: Tampa																	
County: Hillsborough																	
Start Date/Time: 04-20-2012 00:00																	
End Date/Time: 04-22-2012 00:00																	
04-20-2012 Lane																	
End Time	00	01	02	03	04	05	06	07	08	09	10	11					
15	17	3	1	2	2	11	9	5	10	36	28	32					
30	14	1	3	7	3	6	22	2	17	25	35	36					
45	4	6	2	5	2	6	3	10	14	27	36	36					
00	6	8	9	2	14	2	4	4	15	26	30	31					
Hr Total	41	18	15	16	21	25	38	21	56	114	129	135					
End Time	12	13	14	15	16	17	18	19	20	21	22	23					
15	16	29	40	40	39	36	33	48	61	25	40	26					
30	24	30	30	28	44	56	32	32	28	11	46	18					
45	20	35	34	23	54	45	50	44	30	22	27	28					
00	37	41	26	34	35	45	47	48	31	35	17	25					
Hr Total	97	135	130	125	172	182	162	172	150	93	130	97					
24 Hour Total :			2274														
AM Peak Hour Begins :			10:30			AM Peak Volume :			134			AM Peak Hour Factor :			0.93		
PM Peak Hour Begins :			19:15			PM Peak Volume :			185			PM Peak Hour Factor :			0.76		
04-21-2012 Lane																	
End Time	00	01	02	03	04	05	06	07	08	09	10	11					
15	20	8	3	9	2	9	15	8	8	17	23	18					
30	41	6	1	11	3	8	6	6	7	13	23	23					
45	28	4	2	0	2	4	17	8	10	19	19	34					
00	15	11	5	3	12	2	5	4	15	23	19	34					
Hr Total	104	29	11	23	19	23	43	26	40	72	84	109					
End Time	12	13	14	15	16	17	18	19	20	21	22	23					
15	21	34	31	17	31	43	25	39	35	22	24	24					
30	17	26	45	30	41	50	26	35	14	26	24	13					
45	17	23	41	21	46	31	32	33	21	26	16	18					
00	30	20	28	27	36	38	47	30	23	33	16	11					
Hr Total	85	103	145	95	154	162	130	137	93	107	80	66					
24 Hour Total :			1940														
AM Peak Hour Begins :			00:00			AM Peak Volume :			104			AM Peak Hour Factor :			0.63		
PM Peak Hour Begins :			16:30			PM Peak Volume :			175			PM Peak Hour Factor :			0.88		

Site ID: Economy Parking Road															
Station Num: 641004177111/000000000069															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-22-2012 00:00															
End Date/Time: 04-24-2012 00:00															
04-22-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	23	5	2	1	1	5	8	9	8	9	15	30			
30	11	0	1	0	6	5	3	6	8	6	16	22			
45	3	1	0	0	1	5	4	10	10	15	12	24			
00	2	3	0	2	4	4	5	8	8	10	21	19			
Hr Total	39	9	3	3	12	19	20	33	34	40	64	95			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	19	35	29	36	31	20	23	29	32	52	25	7			
30	25	38	8	25	32	31	39	44	32	20	22	16			
45	31	31	22	46	58	43	34	37	35	19	17	27			
00	24	34	11	34	40	36	37	32	32	28	9	17			
Hr Total	99	138	70	141	161	130	133	142	131	119	73	67			
24 Hour Total :			1775												
AM Peak Hour Begins :			10:45			AM Peak Volume :			97			AM Peak Hour Factor :			0.81
PM Peak Hour Begins :			16:00			PM Peak Volume :			161			PM Peak Hour Factor :			0.69
04-23-2012		Lane													
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	21	13	4	14	5	5	13	3	11	12	22	33			
30	14	10	4	3	1	9	22	7	11	26	21	38			
45	20	2	3	0	0	2	10	1	21	15	15	39			
00	9	4	8	4	14	4	8	5	24	21	29	23			
Hr Total	64	29	19	21	20	20	53	16	67	74	87	133			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	23	36	34	18	29	30	30	21	23	29	22	21			
30	14	25	27	42	60	40	36	28	17	36	18	18			
45	23	28	9	44	51	25	27	31	20	24	34	19			
00	48	38	37	26	42	54	44	31	22	24	8	22			
Hr Total	108	127	107	130	182	149	137	111	82	113	82	80			
24 Hour Total :			2011												
AM Peak Hour Begins :			10:45			AM Peak Volume :			139			AM Peak Hour Factor :			0.89
PM Peak Hour Begins :			16:15			PM Peak Volume :			183			PM Peak Hour Factor :			0.76

Site ID: Economy Parking Road															
Station Num: 641004177111/000000000069															
Description: 7 Day Volume															
City: Tampa															
County: Hillsborough															
Start Date/Time: 04-24-2012 00:00															
End Date/Time: 04-25-2012 00:00															
04-24-2012															
Lane															
End Time	00	01	02	03	04	05	06	07	08	09	10	11			
15	16	2	3	8	1	7	5	6	7	13	30	50			
30	7	1	1	6	2	3	24	4	18	19	18	35			
45	4	3	3	6	0	5	4	6	17	20	28	21			
00	5	2	5	2	11	7	5	7	16	19	38	17			
Hr Total	32	8	12	22	14	22	38	23	58	71	114	123			
End Time	12	13	14	15	16	17	18	19	20	21	22	23			
15	19	40	16	29	37	46	22	37	29	12	28	14			
30	10	33	30	29	33	34	35	25	24	16	35	14			
45	28	21	26	59	65	33	22	33	23	16	30	4			
00	32	31	31	37	43	33	40	39	7	31	17	15			
Hr Total	89	125	103	154	178	146	119	134	83	75	110	47			
24 Hour Total :			1900												
AM Peak Hour Begins :			10:30			AM Peak Volume :			151			AM Peak Hour Factor :			0.76
PM Peak Hour Begins :			16:30			PM Peak Volume :			188			PM Peak Hour Factor :			0.72

APPENDIX I - MARKET ASSESSMENTS



APPENDIX I: C&S Market Assessments

The following reports are included in this Appendix:

- C&S Airport-Adjacent Aviation Development Summary Matrix
- C&S TPA South Development Area Market Assessment
- MRO Supplier Proximity Research

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
Office/Industrial										
Office	NetJets Aviation: Headquarters & Flight Center	Port Columbus International Airport (CMH)	17	148,500	.21	1 - 2	yes	1,300	offers fractional ownership of aircraft; NetJets site located entirely on airport-owned property; Flight Center includes owner services, logistics, operations center & planning depts. for company	The city of Columbus and state of Ohio offered nearly \$100 million in tax breaks and job incentives, including \$67.6 million for workforce-development tax breaks and job credits. \$30 million in incentives were offered for area site improvements, loans and marketing.
Industrial	Boeing: South Carolina Campus - Manufacturing & Delivery Center	Charleston Air Force Base / International Airport (CHS)	240	1,407,000	.13	1 - 2	yes	5,000	existing fuselage assembly plant; expanding to include new assembly facility for Boeing 787 Dreamliner, new space for employees, new space under development for aircraft delivery/pick-up center	The state of South Carolina approved financial incentives valued at approximately \$450 million. Boeing would need to create at least 3,800 jobs and invest more than \$750 million within seven years to take advantage.
Office, Industrial	Dell Computer Corporation: East Coast Fulfillment & Call Center	Nashville International Airport (BNA)	72	660,000	.21	2 - 3	yes (cargo through the fence)	1,000	Dell facility relies on strategic relationship with air cargo carriers to provide daily shipments of computer parts and components used to satisfy customer orders in its assembly & distribution center located just off but adjacent to airport property	Economic incentives that lured Dell to Nashville included: free land for the site worth \$6.5 million, 40 years of property tax abatements, \$20 million in infrastructure improvements at the site funded by the city and state, one-time credits of \$2,000 per employee against state franchise and excise taxes, Metro Nashville tax credits of \$500 per employee for 40 years, industrial machinery state tax credits, and \$4,000 per employee to pay for job training costs (refundable after workers were hired).
Industrial, Office	Cessna Manufacturing Facility (includes Citation Service Center)	Wichita Mid-Continent Airport (ICT)	1,400	3,500,000	.06	1 - 2	yes	8,000	50% of Cessna site located on airport-owned property; surrounding development includes: aircraft maintenance training center; military/aerospace interconnect products and services supplier/distributor; high-quality aerospace components supplier; aerospace inventory logistics firm; aircraft instruments sales, service, and repair	In 2008, the Kansas Senate authorized \$33 million in funding for Cessna for the construction of an assembly facility for the Citation Columbus program. The money would also be used to pay for research, development, engineering, and manufacturing.
Industrial	FedEx SuperHub	Memphis International Airport (MEM)	518	3,450,000	.15	1 - 2	yes	15,000	FedEx packaging design and development offices	A land exchange agreement was created to relocate the existing Tennessee Air National Guard facilities to a new location at the airport and allowed a landlocked FedEx to expand its operations by 103 acres.
Industrial	UPS WorldPort	Louisville International Airport (SDF)	600	5,200,000	.20	1 - 2	yes	20,000	Embry-Riddle Aeronautical University	UPS received preliminary approval for \$31.6 million in tax incentives for up to 10 years for the WorldPort Expansion in 2006. The incentives were based on job creation.

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
Industrial	Bombardier Learjet Manufacturing Facility	Wichita Mid-Continent Airport (ICT)	76	1,400,000	.42	1 - 2	yes	300	Learjet site partially located on airport-owned property; surrounding development includes: military/aerospace interconnect products and services supplier/distributor; aerospace components supplier; aerospace parts manufacturer and sub-assembly	In 2010, the state of Kansas agreed to \$27 million in bond financing to invest in improvements to the facility including a paint facility, customer delivery center, production flight test facility and expanded production hangers.
Industrial	Vought Aircraft	Nashville International Airport (BNA)	97	2,100,000	.50	1 - 2	yes (through the fence)	870	facility produces aircraft wings and tail sections, manufactures composites and metal bonded structures, conducts design and stress tests	Legacy company with numerous buyouts. No specific information available.
Industrial	Vought Aircraft	Witham Field Airport (SUA) [Stuart, FL]	66	411,000	.14	1	yes	250	aircraft parts and technical systems production, specific aircraft component repair station services	In 2009, Vought received an incentive package from the state of Florida and Martin County totaling \$300,000 for the expansion of their facility.
Industrial	Honda Aircraft Company	Piedmont Triad International Airport (GSO) (Greensboro, NC)	80	500,000	.14	1 - 3	yes	650	world headquarters, production and R&D facility; campus includes admin, engineering, sales & support, marketing, construction & assembly, world delivery center	In 2007, state and local government granted Honda Aircraft Company \$8 million to build its \$100 million headquarters at Piedmont Triad International.
Industrial	GE Engine Services Distribution	Cincinnati-Northern Kentucky International Airport (CVG)	25	300,000	.28	1	yes (through the fence)	110	provides engine component repair, on-wing support, testing	No information available.
Industrial	Cessna Orlando Citation Service Center	Orlando International Airport (MCO)	13	193,838	.33	1 - 2	yes	200	second largest Cessna Citation service center in the country (Wichita location is the largest)	Incentives included a \$323,000 investment by the city through fee waivers and the state's Qualified Targeted Industry Tax Program. Additionally, Enterprise Florida and the Greater Orlando Aviation Authority agreed to pay for \$1.8 million in infrastructure, roadway and taxiway extension work once promised new jobs were created.
Office	Dick's Sporting Goods Corporate Headquarters	Pittsburgh International Airport (PIT)	116	735,000	.15	7	yes	1,200	site selected by company for corporate travel accessibility: 60,000 SF aviation center included in total SF; 1st phase of planned 2 million SF corporate complex	Dick's Sporting Goods received \$7.25 million in grants from the state as well as a 10-year 50 percent tax abatement.
Industrial, Office	Clinton Commerce Park	Pittsburgh International Airport (PIT)	400	700,000	.04	1	no	600	Warehouse distribution park with proximity to expressway; sites from 10 to 40 acres; Current tenants include FedEx, Knepper Press, Flabeg (solar panel manufacturer), and American Tire Distributors	Received about \$7 million from the state for site improvements & \$5 million from a TIF district set up for the project; located in a foreign trade zone
Industrial, Office	Alaska CargoPort	Ted Stevens Anchorage Int'l Airport (ANC)	20	120,000	.14	1	yes	500	Located adjacent to UPS and FedEx facilities in the North Airpark location; site offers warehouse, maintenance shop, office, and aircraft parking space	The developer secured approximately \$30 million in financing on its own, but later required more for the project. ANC took ownership of the facility to obtain tax exempt financing and then leased the facility back to the developer.

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
Office	Embraer Engineering Center	Melbourne International Airport (MLB)	13	67,000	0.12	2	no	200	Site is located across from Embraer's assembly plant and customer center at the airport.	Incentives offered by the airport included renovating and making available a temporary facility at the airport rent free for up to 18 months while the new facility was under construction.
MRO - Commercial										
MRO - commercial	Proposed Midair USA, Inc. - maintenance, repair, painting and overhaul of wide body aircraft	Melbourne Int'l Airport, FL (MLB)	24	360,000	.35	1	Yes - space to provide for the parking of not less than 4 Boeing 747 aircraft	Projected to be 450	AAR Aviation Worldwide Services announced it will bring an additional 225 jobs to Melbourne	40-year land lease with 2-five year options; Airport Authority obligated to apply for State Economic Development Transportation Fund Grant to construct taxiway access and apply for FAA-AIP grant to construct apron; Budget \$200,000 of Authority funds for utility and storm water work; Midair provided with a no-cost 5-year Option to Lease for immediately adjacent 10 acre parcel; tax incentives
MRO - commercial	Proposed Laurentian - heavy maintenance of wide body aircraft	Plattsburgh Int'l Airport (PBG), NY	18	273,000	.36	1	Yes	Projected to be 800	Proximity to Montreal aerospace community	40-year land lease; Incentive Proposal from Empire State Development (estimated to equal \$12 million) including financial grants for construction and series of tax credits against NYS income tax, real property tax, sales tax refund on construction materials and exemption of 4% sales tax on purchases of goods and services; Clinton County Industrial Development Agency to issue tax-exempt bonds to finance a portion of the overall cost of the project; employee training through County sponsored training center
MRO - commercial	AeroTurbine - heavy maintenance of wide body and narrow body aircraft	Goodyear Airport, AZ (GYR)	40	262,000	.15	1	Yes - storage parking for 150 aircraft	100-250	Lockheed Martin 500ksf campus centered near Goodyear Airport.	Under an asset purchase agreement, Aeroturbine, Inc. purchased the Goodyear, Arizona MRO facility from Triad International Maintenance Corporation (TIMCO).
MRO - commercial	AAR Aircraft Services	Miami International Airport (MIA)	23	226,000	0.23	2	yes	1,200	The facility includes three hangars. The facility also includes a two-story office/shop annex, engine maintenance facilities, warehousing and material storage. Located in an industrial area on the north side of the airport. In 2008, AAR acquired Avborne Heavy Maintenance, Inc.	No information available.
MRO - commercial	Delta TechOps Technical Operations Center - full service maintenance (engine & components)	Hartsfield-Jackson Atlanta International Airport (ATL)	63	2,700,000	0.98	1-4	yes	N/A	The Technical Operations center consists of three interconnected buildings/hangars. Building TOC-2 is one of the world's largest cantilevered buildings. TOC-3 houses 750,000 sq ft of shop and warehouse space and three state-of-the-are paint hangar bays spread out over four floors.	No information available.

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
MRO-commercial	American Airlines Maintenance & Engineering Center	Tulsa International Airport (TUL)	260	3,300,000	0.29	No information available	yes	6,800	The Maintenance and Engineering Center is located on the eastern edge of the Tulsa International Airport. The aviation facility is one of the largest aviation maintenance facilities in the world.	In September 2003, American received \$22.3 million from Tulsa County's Vision 2025 improvement and incentive package for capital improvements. Between 1995 and 2006, the company received \$32.5 million in payroll tax reimbursements as part of the Oklahoma Quality Jobs Program. In 2007, American received \$5.7 million in state funds and \$4.3 million in local funds to build a new overhaul and repair hangar.
MRO - Regional/Business Jet										
MRO - regional jet	Proposed Pinnacle/Colgan Air - maintenance facility for Q400s	Albany International Airport (ALB), NY - Building 211 - 85 Sicker Rd	5	23,257	.10	1	Yes	Projected increase of 30 employees (50 employed currently)	Expansion of existing facility to accommodate 2 aircraft simultaneously; adjacent industrial park and airport property both provide for aviation and non-aviation related commercial development	New York State through regional economic development council will provide \$3.78 million and the Airport Authority will provide remaining \$0.42 million (total project cost (\$4.2 million))
MRO - business jet	Honda Aircraft Company - extensive repair and overhaul of HondaJet	Greensboro Piedmont Triad Airport (GSO), North Carolina	20	80,000	.09	1	Yes	419	An \$80 million expansion of company's headquarters at the airport was announced in October 2011--\$20 million is for MRO construction. State of NC has 180 aerospace companies employing more than 9,500 workers with a concentration on the Piedmont Triad Region which also benefits from shipping resources from the FedEx hub	\$1 million grant from the One North Carolina Fund; other partners included NC Department of Commerce, NC Department of Transportation, N.C. Community Colleges, Guilford County, City of Greensboro, Golden LEAF (\$1 million grant to airport for taxiway construction), Piedmont Triad Int'l Airport (\$8.1 million in infrastructure improvements), and Greensboro Economic Development Alliance
MRO - business jet	Standard Aero - interior refurbishment, painting, avionics retrofit, cabin electronics retrofit	Augusta Regional/Bush Field, Augusta, GA (AGS) - 1550 Hangar Rd	8	136,000	.39	1-2	Yes	185	Located on airport property; primarily surrounded by industrial/warehouse space	Senate passed bill in April 2011 that extends a sales-tax exemption on parts used to repair out-of-state airplanes. It will benefit Standard Aero that repairs planes belonging to out-of-state owners who could fly them anywhere to avoid the tax. Signed a new 10-year lease in August 2011, which includes an additional 10-year option.
MRO - business jet	Cessna Citation Service Center	Phoenix - Mesa Gateway Airport, Mesa, AZ (IWA)	12	101,000	.19	1	Yes	75	Room for expansion; more than 100 aerospace/aviation companies employing 10,000 adjacent to two airports - PHX Mesa Gateway and Falcon Field; proximity to CA, CO, UT, NM and NV; New and proposed infrastructure development	No primary Mesa property tax; Foreign Trade Zone benefits include real and personal property tax reductions; Military Reuse Zone benefits include reduction in property tax, tax credit for new employees and elimination of County and State sales tax on new construction; Customized job training

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
MRO - business jet	Embraer Executive Jets - Phenom 100 and Phenom 300 assembly plant	Melbourne Int'l Airport, FL (MLB) - 1205 General Aviation Dr	28	150,000	.12	1	Yes	200	Includes production facility and customer support facility. MLB has inventory of more than 130 acres of prime office, commercial and mixed-use property. Parcels range from 4acres to nearly 30acres. Major tenants - Northrop Grumman, Harris Corp, GE, Embraer, Rockwell Collins, DRS, L-3 Communications, and LiveTV	County grant of \$1.8 million, which is equivalent to and in lieu of a 10-year tax abatement; \$8.5 million from the state of Florida; \$1.2 million from Melbourne; \$800,000 from county workforce development board for labor recruitment, screening, and training, plus a \$280,000 grant that Embraer has agreed to match; \$260,000 land lease waiver from Airport Authority
MRO - Components										
MRO - components	TIMCO Aerosystems Interiors Engineering and Manufacturing - production of aircraft interiors products	Greensboro Piedmont Triad Airport (GSO), North Carolina	90	600,000	.15	1	Yes	1,300	State of NC has 180 aerospace companies employing more than 9,500 workers with a concentration on the Piedmont Triad Region which also benefits from shipping resources from the FedEx hub. The TIMCO complex includes three wide body hangars as well as a fourth hangar for narrow body aircraft. The facility complex also includes corporate and customer offices, an on-site training center, shipping and receiving, and TIMCO's engineering design, integration and manufacturing division.	In 2002, TIMCO moved its corporate headquarters from Miami to Greensboro with no state assistance or incentives.
MRO - components	Avidyne - developer of Integrated Flight Deck Systems for light GA aircraft	Near Melbourne Int'l Airport, FL (MLB)- 710 North Dr	4	80,000	.44	1	No	180	MLB has inventory of more than 130 acres of prime office, commercial and mixed-use property. Parcels range from 4acres to nearly 30acres. Major tenants - Northrop Grumman, Harris Corp, GE, Embraer, Rockwell Collins, DRS, L-3 Communications, and LiveTV	EDC aggressively pursued several incentives for Avidyne including the Brevard County Ad Valorem Tax (AVT) Abatement and the AVT Abatement from the City of Melbourne. Most recently, the EDC assisted Avidyne in securing the state-level Qualified Target Industry (QTI) Tax Refund incentive, a state-level incentive available for companies that create high wage jobs in targeted high value-added industries.
MRO - components	AMG Aero Technologies - overhaul and repair services for pneumatic, hydraulic, avionics, and electro-mechanical components and accessories for Airbus, Boeing, and regional jets	Near Miami International Airport (MIA) - 2200 NW 84th Ave	2	32,000	.39	1	No	120	MIA cargo facilities comprise 17 warehouses amounting to over 2.7 million square feet of space. Most of MIA's facilities offer airside-to-landside access	No information available.
MRO - components	AMG Precision Electronics - repair of electronic and electro-mechanical accessories and instruments used on aircraft	Near Atlanta International Airport (ATL) - 5000-A Clark Howell Hwy	3	26,000	.24	1	No	70	Located in an industrial parks comprised of warehouses/flex space.	Acquired by AMG in 2007

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
MRO - components	GA Telesis, LLC - composite and structural repair for commercial and regional aircraft	Near Fort Lauderdale Executive Airport (FXE) - 3420 NW 53rd St	4	45,000	.26	1	No	50	Over 1.5 million square feet of office and warehouse space in the Airport's Industrial Airpark and over 5 million square feet in the surrounding Uptown Business District. Businesses at the Industrial Airpark include Elite Panel Products, Telematics, Marriott Hotels, Citicorp Latino, Walgreens, Dry Clean USA, Lucent Technologies, and GE	GA Telesis acquired Ultimate Aircraft Composites' MRO facility in Fort Lauderdale in January of 2011.
MRO - components	Spirit Aerosystems - fuselages, under-wing components, composites, wings, spares/repairs	Mc Connell Air Force Base (IAB) - 3801 S Oliver St	550	10,000,000	.42	1-3	No	10,700	Located on the Air Force base; primarily surrounded by residential properties.	In 2008, Spirit AeroSystems selected its Wichita facility as the site where the company would design and manufacture the fuselage for the new Cessna Citation Columbus. A new 375,000 s.f. factory was planned to accommodate the manufacturing and testing of the new product as well as provide additional capacity for existing products and other new programs. The Kansas Department of Commerce committed \$14.5 million in funding to help secure the Spirit investment through its Investments in Major Projects and Comprehensive Training program and Kansas Economic Opportunity Initiatives Fund. The City of Wichita and Sedgwick County will commit \$3.2 million total or \$1.6 million each and 10-year property tax abatement.
MRO - components	AMG American Composites - specializes in repair of flight control surfaces, thrust reversers and cowling, interior panels, doors, radomes, and other sheet metal and composite repairs	Near Opa-Locka Executive Airport (OPF) and Miami International (MIA) - 9730 NW 114th Way, Miami FL	2	74,000	.77	1-2	No	50	MIA cargo facilities comprise 17 warehouses amounting to over 2.7 million square feet of space. Most of MIA's facilities offer airside-to-landside access	Aero Maintenance Group (AMG) acquired American Composites in 2009.
MRO - components and overhaul	AMG Flite Components - repair, overhaul, and distribution of rotatable and expendable components for regional and narrow body aircraft	Near Dallas Love Field, TX (DAL) - 1235 Profit Dr	1	30,000	.63	1	No	29	Located in an industrial park area comprised of warehouses/flex space.	Aero Maintenance Group (AMG) acquired Flite Components in 2006.
MRO - components	Regent Aerospace - aircraft seating, interior refurbishment, parts support, and window repair services	Near Indianapolis Int'l Airport, IN (IND) - Plainfield, IN - 2501 Perry Rd	8	100,000	.29	1-2	No	300	IND is home to the second largest FedEx Express operation in the world. According to ACI, IND is the nation's 8th largest cargo facility; 21st largest internationally.	In 2004, the Town of Plainfield approved a ten-year property tax abatement for Regent Aerospace's move to Plainfield.

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
MRO - components	Leading Edge Aviation Services - aircraft painting Company also has locations at the following airports: Meacham Int'l Airport, Fort Worth, TX (FTW); Rick Husband Amarillo Int'l Airport, Amarillo, TX (AMA); Mid Delta Regional Airport, Greenville, MS (GLH); Donaldson Center Airport, Greenville, SC (GYH)	Southern California Logistics Airport, Victorville, CA (VCV)	20	235,000	.27	1	Yes	350	State-of-the-art facility includes 5 hangars. Southern California Logistics Airport is a 5,000-acre multi-modal business complex that integrates manufacturing, industrial and office facilities with a dedicated international airport. Airport also offers 24-hour, seven-day-a-week operations with on-site U.S. Customs.	Companies located at the airport can benefit from the following incentives, where applicable: 90,000-acre Redevelopment Project Area; Local Agency Military Base Recovery Act (LAMBRA) Zone credits and incentives; 2,600-acre Foreign Trade Zone (FTZ #243); Tax assistance from the State of California for employee training and equipment purchases; San Bernardino County incentives, including tax-exempt bonds; FAA program support; Local tax-exempt bond financing; City tax credits for hiring and equipment purchases; Victorville Municipal Utility Service, providing reliable electricity and gas at reduced rates
Fulfillment & Education Centers										
Fulfillment Center	Amazon.com	Coffeyville Municipal Airport (CFV)	104	750,000	0.17	1	yes	500+	The site is located in an industrial park at the airport along with neighboring John Deere Coffeyville Works.	Coffeyville made \$1 million in infrastructure improvements and offered up to \$3.5 million in cash grants based upon Amazon employing 1,000 people a year for 10 years.
Fulfillment Center	Amazon.com	Near New Castle Airport, DE (ILG)	15	200,000	0.31	1	no	500	Center is located a few miles southeast of New Castle airport in an industrial area.	No information available.
Fulfillment Center	Amazon.com	Near Phoenix Goodyear Airport (GYR)	45	800,000	0.41	1	no	600+	Located at Goodyear Crossing, a 250-acre industrial park located 2 miles West of Phoenix Goodyear Airport.	No information available.
Fulfillment Center	Trilogy Fulfillment, a division of Eddie Bauer	Near Rickenbacker International Airport (LCK)	127	2,200,000	0.40	1-2	no	650	Located at the Rickenbacker Global Logistics Park north of Rickenbacker International Airport. The facility is responsible for handling two retailers' fulfillment services.	In 2010, the retailer received a \$75,000 grant from the state, as well as a tax credit valued at \$400,000 for machinery, equipment, and renovations to the facility.
Fulfillment Center	Macy's/Bloomingdale's	Near Phoenix Goodyear Airport (GYR)	35	600,000	0.39	1	no	250-500	Located at Goodyear Crossing, a 250-acre industrial park located 2 miles West of Phoenix Goodyear Airport. In December 2010, Macy's purchased a 12-acre parcel adjacent to the current facility for a possible expansion. The center handles direct-to-consumer and online orders for the company's growing businesses, including macys.com, bloomingdales.com, Bloomingdale's By Mail, macysweddingchannel.com and bloomingdalesweddingchannel.com.	No information available.

TPA EASTSIDE DEVELOPMENT AREA: INDUSTRY BENCHMARKING FOR SELECT CATALYTIC AVIATION-RELATED USES

Land Use	Tenant	Airport Location	Estimated Land Size (acres)	Estimated Building Size (SF)	Estimated FAR ¹	# Stories	Airside/Ramp Access	On-site Employment	Site Information / Surrounding Related Development	Special Economic Incentives Leveraged
Fulfillment Center	Nordstrom Direct Contact and Fulfillment Center	Near The Eastern Iowa Airport (CID)	50	600,000	0.28	1-3	no	960	Located north of the Eastern Iowa Airport, the facility fulfills orders for the retailer's online division, Nordstrom Direct.	No information available.
Education Center	Southern Illinois Carbondale Transportation Education Center (TEC)	Southern Illinois Airport (MDH)	15	230,000	0.35	1-2	yes	750 (employees and students)	The TEC complex includes five existing buildings and three new buildings including classrooms, corporate facilities and meeting rooms, a computer center, libraries, laboratories, flight simulator and an engine test cell to safely test operating airplane engines.	\$56.7 million came from a statewide capital construction plan

*Italicized figures are estimates

¹ FARs presented reflect calculations based on non-rounded acreages which contain additional significant digits beyond those acreages presented in the estimated land size column



MEMORANDUM

TO: Tom Rossbach, Aviation Buildings Market Sector Director
HNTB

FROM: Matt Taylor, AICP, National Director of Land Use and Market Strategies
Barbara Schalmo, AICP, Senior Research Analyst
Monica Fabregat, Market Research Assistant
C&S Companies

DATE: April 6, 2012

RE: **Tampa International Airport (TPA) South Development Area Market Assessment**
(C&S Project No. I55.002.001)

INTRODUCTION

In November 2011, the Hillsborough County Aviation Authority (HCAA) and HNTB as its prime consultant for the 2012 TPA master plan update retained C&S to evaluate the Tampa International Airport's (the airport/TPA/subject property) existing real estate portfolio to assess market potential for commercial properties at the airport in order to explore revenue diversification opportunities to maintain and enhance the airport's competitive position. Our work focused specifically on what market-supported real estate opportunities exist, at what scale and when in order to support HCAA decision-making regarding how to best capitalize on said opportunities over a 20-year planning horizon (2012-2031). Specifically, the work product presented here is intended to support land use decisions being made as part of the 2012 master plan update for the airport.

The following executive memorandum summarizes the methodology, research, findings and recommendations of the commercial real estate portfolio review and market assessment. This document is designed and developed to serve as a value-added decision support tool for the HCAA and its stakeholders and is not intended to be a voluminous document. Additional detail on our team's market research and data is available upon request.

MSA PROFILE & NATIONAL CONTEXT



Located on Florida's west coast, the Tampa-St. Petersburg-Clearwater MSA is a four county metropolitan statistical area comprised of Hernando, Hillsborough, Pasco, and Pinellas counties. With a population of 2.7 million, the MSA is the second most populous metropolitan area in Florida falling behind the Miami-Fort Lauderdale-Pompano Beach MSA. The Tampa-St. Petersburg-Clearwater MSA ranks 19th-largest in population among other MSA's nationwide.

The MSA is often times referred to as the Tampa Bay area, however, definitions of the Tampa Bay region vary among organizations promoting economic growth.

The Tampa Bay Partnership, for example, defines the Tampa Bay region as the three contiguous metropolitan areas of Tampa-St. Petersburg-Clearwater; North Port-Sarasota-Bradenton; and Lakeland-Winter Haven in addition to the micropolitan area of Homosassa Springs. These metropolitan areas include the eight counties of Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota.

Hillsborough County, the largest county in the MSA, has a total land area over 1,000 square miles. Approximately 38% of the land in Hillsborough County is used for agricultural production. In fact, in 2009, the county was ranked the 4th largest producer of agricultural products in the state. Most of the county is unincorporated with only three incorporated cities including Tampa, Plant City, and Temple Terrace. The city of Tampa is the largest city in the MSA and serves as the county seat for Hillsborough County.

Pinellas County is Florida’s second smallest county in land mass and also the most densely populated. The 280-square mile peninsula is bordered by the Gulf of Mexico and Tampa Bay and has a concentrated population of 3,348 people per square mile. St. Petersburg, the largest city in Pinellas County, is the fourth populous city in the state of Florida.

Population— According to the Bureau of Economic and Business Research at the University of Florida, the 2010 population for the Tampa-St. Petersburg-Clearwater MSA was 2,783,243 people, representing a 16.2 percent increase from 2000. The city of Tampa, with a population of 335,709, ranks third in 2010 population in the state of Florida between the cities of Miami, ranked second, and St. Petersburg, ranked fourth, with an estimated 2010 population of 244,669. The city of Clearwater has a 2010 population estimate of 107,685 ranking 16th in the state. According to Woods & Poole Economics, the median age of population in the MSA is 41.2 years old.

The following table presents the population and average annual growth rates historically and projected for the MSA. Although it appears the population growth will slow over the next 30 years, the MSA’s population is still expected to grow to nearly 4 million by 2040.

TOTAL POPULATION, 1990 - 2040									
Tampa-St. Petersburg-Clearwater MSA									
	Census			Projections*					
	1990	2000	2010	2015	2020	2025	2030	2035	2040
MSA Population	2,067,959	2,395,997	2,783,243	2,946,000	3,135,200	3,319,100	3,492,700	3,653,400	3,803,900
Avg Annual Growth Rate		1.5%	1.5%	1.1%	1.3%	1.1%	1.0%	0.9%	0.8%

* Medium projections: Projections of Florida Population by County, 2010 - 2040. June 2011. University of Florida Bureau of Economic and Business Research (BEER)

Source: University of Florida Bureau of Economic and Business Research; C&S Companies

Employment and Labor Force— From 2007-2010, the Tampa-St. Petersburg-Clearwater MSA saw its unemployment rate balloon due to the economic slowdown. The labor force, fueled by migration and graduating students, also increased, though not as aggressively. Unemployment rates improved in 2011 lowering to 10.9% compared with the 12.1% unemployment figure in 2010. In 2011, the MSA led all Florida metro areas in annual job gains in manufacturing, financial activities, professional and business services, leisure and hospitality, and total government.

SELECTED UNEMPLOYMENT RATES FOR GEOGRAPHY AND TIMEFRAME			
Timeframe	MSA	Florida*	U.S.*
December 2011	10.0%	9.9%	8.5%
2010 Annual Average	12.1%	11.5%	9.6%

*seasonally adjusted

Source: Florida Department of Economic Opportunity; C&S Companies

Florida's unemployment rate has been higher than the national average since February 2008. Employment projections for the MSA released by the Florida Department of Economic Opportunity indicate an estimated average annual increase of 1.9% employment for the 2011 to 2019 timeframe. The following tables summarize MSA labor force and employment annual averages as well as employment-related trends over a recent ten-year period.

TOTAL NONAGRICULTURAL EMPLOYMENT			
Tampa-St. Petersburg-Clearwater MSA			
Year	Labor Force	Employment	Unemployment Rate
2000	1,200,043	1,159,650	3.4%
2001	1,210,351	1,157,951	4.3%
2002	1,222,916	1,154,464	5.6%
2003	1,226,349	1,161,672	5.3%
2004	1,254,912	1,198,396	4.5%
2005	1,248,335	1,199,763	3.9%
2006	1,270,621	1,227,509	3.4%
2007	1,291,155	1,237,510	4.2%
2008	1,305,604	1,220,482	6.5%
2009	1,298,947	1,160,446	10.7%
2010	1,302,921	1,145,341	12.1%
2011	1,303,278	1,161,198	10.9%

Source: Florida Department of Economic Opportunity; C&S Companies

LABOR FORCE AND EMPLOYMENT RATES		
Tampa-St. Petersburg-Clearwater MSA		
Year	Average Annual Growth Rates	
	Labor Force	Employment
2000-2001	0.9%	-0.1%
2001-2002	1.0%	-0.3%
2002-2003	0.3%	0.6%
2003-2004	2.3%	3.2%
2004-2005	-0.5%	0.1%
2005-2006	1.8%	2.3%
2006-2007	1.6%	0.8%
2007-2008	1.1%	-1.4%
2008-2009	-0.5%	-4.9%
2009-2010	0.3%	-1.3%
2010-2011	0.0%	1.4%
Avg. Annual	0.8%	0.0%

Source: Florida Department of Economic Opportunity; C&S Companies

Industry— The area boasts a diverse mix of businesses including financial services, bioscience, technology, and international trade. The Tampa Bay Partnership has identified four target sectors as the area’s future value-added industries:

- Applied Medicine & Human Performance
 - Senior health and wellness
 - Human performance
 - Clinical trials & destination medicine
 - Medical industry instruments & devices
 - Health information technology & bioinformatics
- Business, Financial, & Data Management Services
 - Business process outsourcing & shared services
 - Financial transactions processing
 - Florida data centers, disaster recovery, & data management industry
 - Health information technology & bioinformatics
- High-Tech Electronics & Instruments
 - Avionics/aviation electronics manufacturing
 - Marine instruments, sensors, remote monitors, & optics manufacturing
 - Medical instruments & medical device manufacturing
- Marine & Environmental Activities
 - Aquaculture industry
 - Biofuels/algae
 - Energy efficiency & conservation
 - Marine instruments, sensors, remote monitors, & optics manufacturing

Area Tourism/Visitation—Tourism is a key economic strength for the MSA, generating billions of dollars annually. According to Tampa Bay & Company, visitor spending increased by 10.5% in 2010, totaling \$3.2 billion. An estimated 13.9 million people visited Tampa/Hillsborough County in 2010, a decrease of 7.4% over 2009 visitation. The majority of visitors to the Tampa area, approximately 61.9%, come from other domestic US markets. In-state visitors represented 25.5% while international visitors made up 12.6% of the total market. Tourists are drawn to the diverse mix of activities including theme park attractions, beaches, shopping, sports, and nightlife.

The MSA is also home to two international airports, Tampa International and St. Pete-Clearwater International, as well as the Port of Tampa, Florida’s largest seaport. In 2010, Tampa International Airport was ranked 30th among North American airports for passenger traffic with an estimated 16.6 million passengers.

Market Inventory— As of January 2012, the total commercial market inventory for the Tampa-St. Petersburg-Clearwater MSA amounted to more than 273 million square feet in more than 27,000 buildings. The following is a breakdown of inventory for each market in the MSA.

MARKET INVENTORY									
Tampa-St. Petersburg-Clearwater MSA									
Market Sector	Hillsborough	% of total	Pinellas	% of total	Pasco	% of total	Hernando	% of total	Totals
Office									
Square Feet	62,427,991	57%	38,652,592	36%	6,759,657	6%	1,475,237	1%	109,315,477
No. of Buildings	3,993		3,469		1,038		195		8,695
Retail									
Square Feet	67,600,209	45%	52,262,084	35%	22,087,770	15%	7,723,733	5%	149,673,796
No. of Buildings	4,982		4,488		1,397		434		11,301
Industrial									
Square Feet	96,083,495	55%	65,841,874	37%	11,259,416	6%	2,838,178	2%	176,022,963
No. of Buildings	3,036		3,492		605		145		7,278

Source: CoStar; C&S Companies

Education— According to the Tampa Bay Partnership, the Tampa Bay region is home to 83 colleges and career institutions including the University of South Florida (USF). The university is one of the nation’s top public research universities and is ranked 8th as an “Up-and-Comer” among the country’s national universities in the 2012 edition of *U.S. News & World Report’s Best Colleges* edition. A Nielson estimate of the Tampa Bay area in 2010 revealed that approximately 33% of the population had attended college and attained an associate degree or higher.

National Context

According to the US Census Bureau 2010 Census, the US population grew at a rate of 9.7 percent over the last decade compared to the 16.2 percent in the Tampa-St. Petersburg-Clearwater MSA over the same timeframe. As noted above, the Tampa-St. Petersburg-Clearwater MSA had observed a lower overall unemployment rate than the national average for much of the past decade until 2008 when the impact of the economic downturn caused it to surge past the US average. This above-national-average trend in unemployment for the Tampa MSA has continued from that point through the close of 2011. On a national scale, total growth in employment and labor force has performed more unevenly due to turbulent economic conditions. The national unemployment rate hovered around 9 percent on average in 2011.

The national outlook for the office market sector in 2012 and forward is more positive than in the last five years. In the more than 2,500 submarkets tracked throughout the country, more than 60 percent saw an increase in occupancy in 2011. Office leasing activity has also shown signs of improvement in many primary and some secondary markets, which will positively impact tertiary markets over time. Nationally, the average vacancy rate for the office sector stood at 13 percent at the close of 2011, which was down slightly from the same period the year before. Average office vacancy in the Tampa metro area also trended down over the same period, ending 2011 at 13.6 percent. Though they have decreased since their highest point in 2010 of 14.1 percent, vacancy rates in the Tampa market are still considerably higher than their lowest point in the last decade of 8.4 percent in 2007.

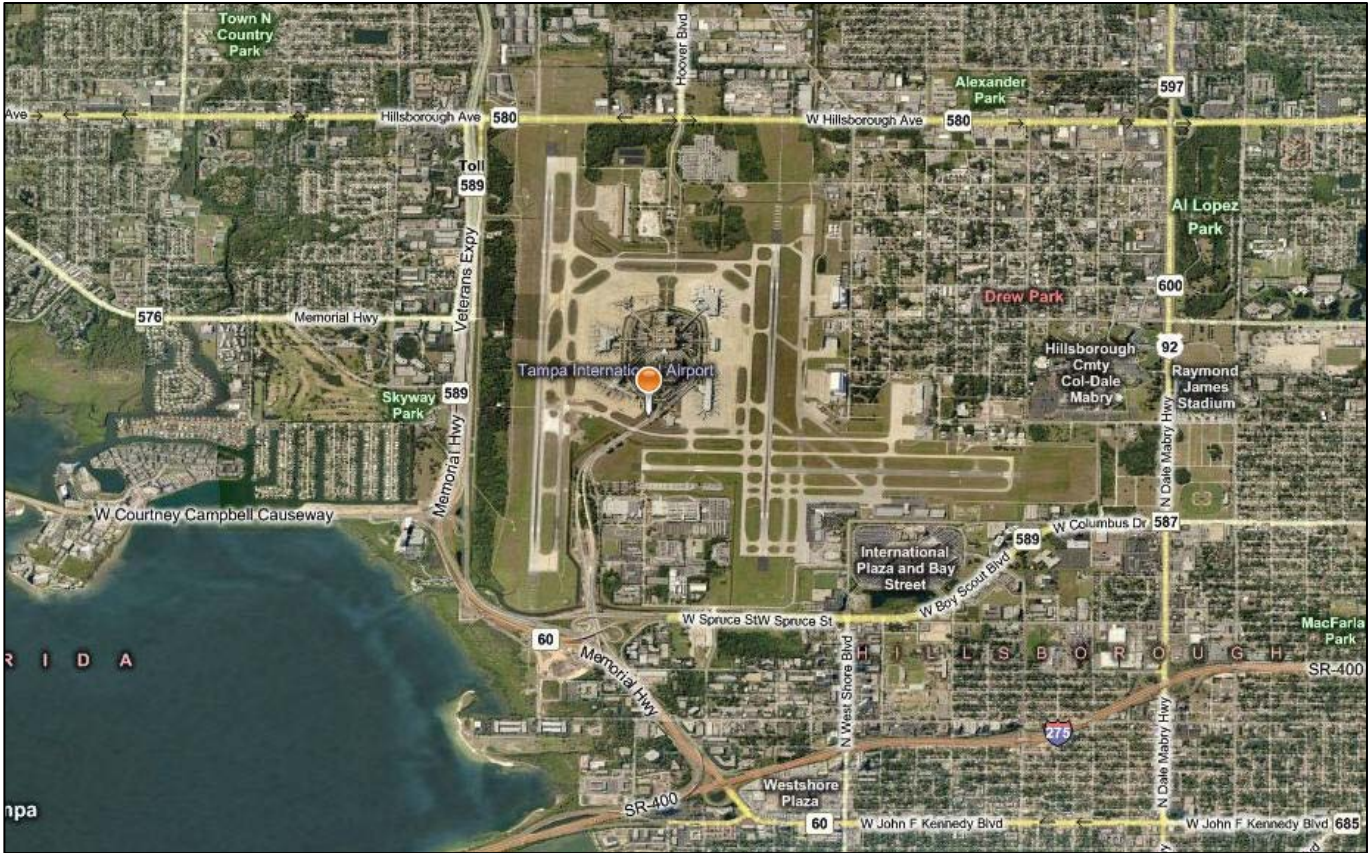
With regard to the national retail market, consolidation of retail space and tenants has continued as a theme over the past year and is expected to continue through the near-term, resulting in the overall decline of total retail square feet per capita. This trend in consolidation is the result of several factors, including tight financial markets and little capital available, few new retailers and existing retailers cautious about expansion, the popularity of online retail sales, and diversification of other retail sectors such as the off-price and online segments, which have performed very well during the recession given consumer interest in savings. Together these factors have led to an overall lack of new supply additions to the market nationally and increased vacancies.

However, over time a decrease in new space additions actually strengthens market fundamentals: underperforming or outdated products are retired and for good centers, occupancy tightens as fewer retail square feet are available which causes a rise in rental rates for available space which increases competition and efficiency among tenants, leading to the addition of new supply merited by the market. Average vacancy for the retail sector across the US was 4.7 percent at the end of 2011, down from a year before. The Tampa market saw 7.1 percent in retail vacancy for the same period, which is down from year-end levels observed for both 2010 and 2009. Retail vacancy in the Tampa market has not been at this level since mid-2009.

For the national industrial sector, the recent recession eliminated scores of established manufacturing and other industrial jobs that are unlikely to ever return in the same form. However, analysts believe that overall, the industrial sector has reached the bottom of this cycle and is now stabilizing. Despite employment losses, technological improvements have actually resulted in strong manufacturing output relative to the number of jobs in the sector. With a number of recent supply chain disruptors (i.e. tsunami in Japan), manufacturers are reconsidering the proximity of supply to consumption points, resulting in potential demand for space due to this “near-shoring” of industrial processes. Though rental rates have not grown of late, larger format space is becoming less available in major industrial markets. This, along with the functional obsolescence of existing product, will likely drive demand for new industrial additions. Industrial vacancy rates on the national scale have been falling over the past year, ending the past year at 9.6 percent. The Tampa metro market also observed slowly declining vacancies with a 2011 year-end rate of 10.8 percent, down from 11.4 percent the year before.

SUBJECT PROPERTY PORTFOLIO AND LAND DEVELOPMENT INVENTORY

The airport's land holdings include approximately 3,400 acres located on the east shore of Tampa Bay, five miles west of the Tampa central business district. Primary access routes to the airport include Interstate 275 and Highway 60. Other significant transportation corridors proximate the airport are Hillsborough Avenue to the north, Dale Mabry Highway to the east, Spruce Street to the south and the Veterans Expressway to the west. The following map presents the airport and its surrounds.



Source: Bing Maps Aerial; C&S Companies

The airport currently has existing leaseholds in place with aviation and aviation-related tenants, rental car agencies, government agencies and authorities, and commercial tenants. Among the existing commercial tenant leases are hotel and medical office uses, surface parking areas, and a compressed natural gas station with lease expirations ranging from years 2031 through 2048. Appraisals for airport commercial property made during the 2010-2011 timeframe have indicated values for commercial land in the range of \$8 to \$11 per square foot. This range of value is consistent with observed prevailing local market commercial land values.

The focus of this market assessment is the area designated as the South Development Area which is generally bounded by George J. Bean Parkway to the west, Spruce Street to the south, runway 1-19 to the east, and runway 10-28 to the north. The area includes approximately 175 acres of land and existing developments such as rental car support facilities, parking garages and surface lots, a taxi staging area, and a regional US postal facility. Approximately 24 acres of land are either vacant or unimproved surface parking lots which may be available for future development.

MARKET ASSESSMENT FOR SUBJECT PROPERTY

Methodology

C&S staff conducted a real estate portfolio review and market assessment of relevant land uses for commercial property in the south development area at the Tampa International Airport. Relevant land uses tested included office, retail/restaurant/service, and hotel. For the assessment process, C&S staff employed a comprehensive methodology for identifying market-supported real estate opportunities at TPA, a multi-step approach involving the following elements:

Client meetings— Our market assessment work began with an initial project kick-off meeting with the client to understand the goals and objectives of this process, the portfolio of airport properties, and any ongoing or future plans that may affect or impact these assets. We worked closely with the client team to identify key stakeholders to be interviewed by C&S staff, appropriate land uses to be tested for market supportability, and composite constraints and opportunities associated with the airport’s land holdings. We coordinated with airport staff to establish target areas and site priorities for our analysis and request necessary data and information to support our assessment work.

Market fieldwork & inventory— C&S staff conducted extensive local fieldwork in order to observe physical conditions, evaluate market dynamics and understand development patterns of the local market. Key economic anchors throughout the community and proximate the airport were also identified through this process. A thorough analysis of the airport’s inventory of real estate assets was also undertaken.

Competitive context— C&S staff examined the broader local market to identify and analyze the competitive context for relevant commercial land uses. From this analysis, a reference market and a study area were defined in relation to the subject site in order to reflect the local competitive commercial market context.

- The reference market is a broad geographical area with specific boundaries that serve to delineate core areas that are competitive with each other, constituting a generally accepted primary competitive set of areas. Generally, the selected reference market (or area) is a county or MSA but may be another substantial contiguous geographic area containing a number of core areas competitive with each other.
- The study area is a discrete limited area within the broader reference market defined by specific geographic boundaries that serve to delineate a core group of buildings/properties that are competitive with each other and constitute a competitive set. Depending on the product, this is the geographic area from which one can expect the primary demand for a specific product or service provided at a fixed location.

Data sources— A variety of relevant data and background information from a number of trusted sources informed our analysis. The following sources were utilized in this assessment.

- CoStar Group with ESRI demographics
- Hillsborough County Aviation Authority
- Westshore Alliance
- Tampa Bay & Company
- Tampa Bay Partnership
- Tampa Hillsborough Economic Development Corporation
- Woods & Poole Economics
- ULI *Dollars & Cents of Shopping Centers*
- US Census Bureau
 - Economic Census
 - County Business Patterns
 - Center for Economic Studies; Local Employment Dynamics
- University of Florida Bureau of Economic and Business Research
- St. Petersburg-Clearwater Area Convention and Visitor’s Bureau

- Florida Department of Economic Opportunity
- Enterprise Florida
- City of Tampa Economic & Urban Development
- Hillsborough County Economic Development
- Hillsborough County Property Appraiser
- The Florida Department of Revenue
- US Department of Commerce, International Trade Administration

Demographic & economic profiles— Relevant demographic and socio-economic data were collected and trends analyzed in order to establish a baseline context for the study area and evaluate its characteristics against other geographic areas deemed relevant for comparison. Such information was also utilized to establish TPA’s regional context relative to population, employment, and economic generators.

Market analytics— To understand real estate market dynamics in the reference and study area markets, pertinent market performance metrics were analyzed, including prevailing land values and product rents, occupancy and vacancy rates, and the scale and timing of historical additions to the market. The range of prevailing floor-to-area ratios (FAR), which is total building area divided by the total land area, was also considered for each product type. Commercial broker and tenant interviews were also conducted to provide local on-the-ground context.

GIS analytics— Geographical Information Systems (GIS) analytics were employed to profile the local land use inventory. This spatial analysis tool was utilized to examine prevailing characteristics of the built environment, including scale, nature, and age of the local building inventory, as well as identify patterns of commercial product concentration and competitive/comparable land substitutes to airport property.

Benchmarking— C&S staff profiled development patterns at airports of a similar scale and slightly larger for contextual purposes. This same exercise was also conducted for relevant intermodal transportation facilities.

Demand models & projections— To determine supportable demand for office and retail space at the subject property for the set planning horizon, we utilized proprietary demand projection and allocation models customized to each real estate sector. These sector-specific models consider relevant market metrics, demographic and economic data, and observed market conditions for applicable geographies to generate estimated supportable demand for each type of use. The models are based on a fair share allocation approach of future growth and associated demand.

Employment-based Sector Projection (ESP). This model generates estimates of supportable demand for office space at the subject property for the set planning horizon. Office demand is driven largely by non-agricultural employment growth at the county or metro level in industry sectors that actually utilize these particular types of space for business operations. The ESP model considers approximately 20 two-digit North American Industry Classification System (NAICS) industry sectors.

For office-using employment in the ESP model, the major NAICS-based industry sectors considered include:

- Finance and Insurance
- Real estate and rental and leasing
- Information
- Professional and Technical Services
- Management of Companies and Enterprises
- Administrative and waste management
- Educational services
- Health care and social assistance

The ESP model relies on employment projections data by industry sector from Woods and Poole Economics, a trusted third-party source in national economic and demographic forecasting. In order to estimate future needs for office space at the subject site, this derivative model considers trends in relationships between office-using

employment and occupied space of that type within the local market as reported by CoStar, local commercial brokers, and local surveys. From this data, the average square feet per employee for the local area is derived and multiplied by the employment projected for the relevant industry sectors at a given point in time.

Using the prevailing vacancy rate, total estimated space demanded is compared with total occupied. Once demand for office space has been determined for the larger reference market – generally either the county or the MSA – the ESP model employs a fair share allocation method to distribute future demand among existing geographic concentrations of office space in the reference area to the study area and then to the subject site. We also consider and analyze shifting competitive and locational advantages over time of various market concentrations within the reference area.

C&S staff conducted fieldwork and market metrics analysis to identify and estimate the existing inventory of office square footage, potential retail development planned, proposed, or under construction in the area, and available vacant commercial sites. These competitive projects – both potential and existing – and vacant parcels were factored into our estimates of on-site capture of office demand.

Localized Area Retail, Restaurant, Services (LARRS). This model projects estimated supportable demand for retail space at the subject property for the set planning horizon. It is a distributive, constrained-gravity model that addresses retail choices and spatial concentrations and distribution of consumer spending. This expenditure-driven model generates the amount and nature of retail and restaurant space supportable within a given competitive area based upon the eligible population segments within the defined area and their effective buying income at a given point in time.

Here, the impact of consumer spending was considered for the following eligible population segments within the defined geographical area: resident households, daytime employment, and tourist visitation. Together these segments serve as the effective population. Demand for commercial and personal services space was estimated by incorporating population growth, employment, and the number of establishments for different service facility types within a specific physical construct.

To reflect the local retail context, the LARRS model was calibrated using effective buying income for each relevant population segment and based on relevant local establishment data from the most recent Economic Census and County Business Pattern data from the US Census Bureau for the Tampa-St. Petersburg-Clearwater Metropolitan Statistical Area (MSA). The model includes the following industry sector categories:

- Apparel & accessories
- Appliances & electronics
- Beer, wine & liquor
- Building materials & hardware
- Convenience stores & gasoline
- Cosmetic, health & beauty
- Department stores & general merchandise
- Discount stores & warehouse clubs
- Drug stores & pharmacies
- Finance, insurance & real estate
- Food stores & supermarkets
- Furniture & home furnishings
- Medical services
- Miscellaneous retail stores
- Personal services
- Professional & business services

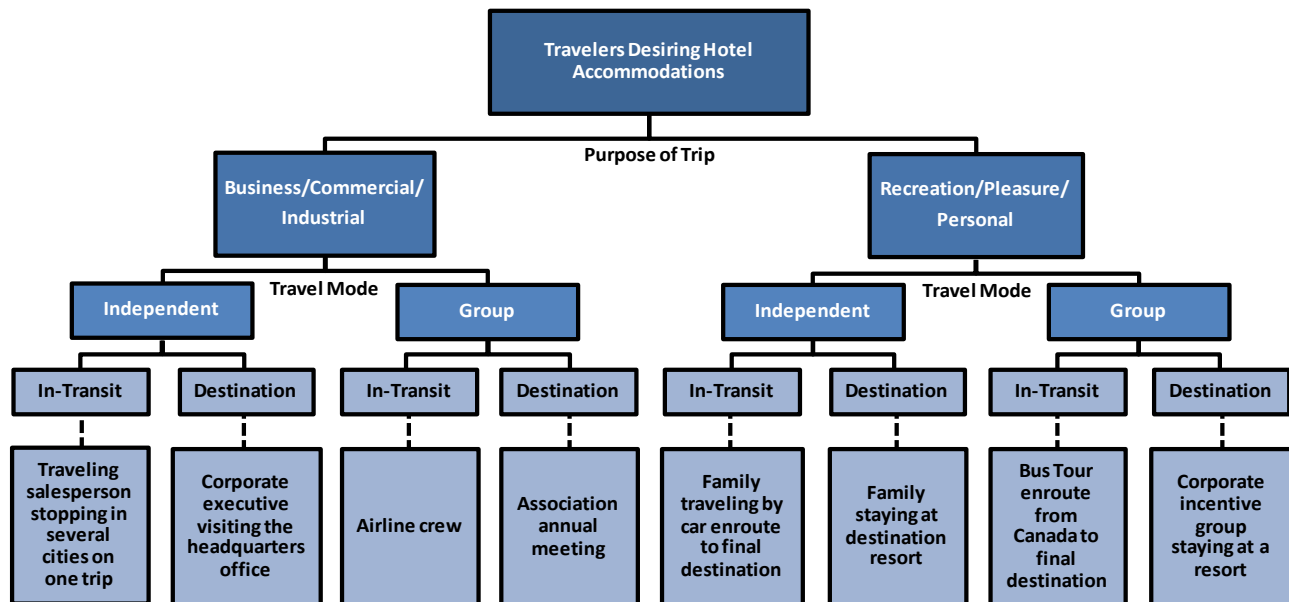
From these same sources, spending patterns at the MSA level were identified for each retail category and subsequently applied to total spending estimated for the effective population in the study area. An average sales per square foot estimate for each retail category was then applied. The average sales per square foot metrics utilized in the LARRS model are based on the current *Dollars and Cents of Shopping Centers Guide* from the Urban Land Institute (ULI).

From these multiple inputs, the LARRS model estimated total demand generated by the effective population within the study area for destination retail, convenience commercial retail, restaurant, and services space. The model then employs a fair share allocation method to distribute future demand among existing geographic concentrations of retail space in the competitive area and to the subject site. As such, capture rates were applied based on existing retail and restaurant concentrations in the competitive area and potential development sites within the study area to generate estimated incremental retail demand on the subject site.

C&S staff conducted fieldwork and market metrics analysis to identify and estimate the existing competitive inventory of retail square footage, potential retail development planned, proposed, or under construction in the area, and available vacant commercial sites. These competitive projects – both potential and existing – were factored into our estimates of on-site capture of retail, restaurant, and services demand.

Hotel-Study Area (HoSt). To determine supportable demand for hotel space at the subject property for the set planning horizon, we relied on correlation demand, utilizing our Hotel-Study Area (HoSt) projection and allocation process. From our national experience, demand for hotel rooms proximate airports is typically correlated with airport passenger traffic. This relationship is expressed as the ratio of rooms per airport passengers. By observing this ratio over time, a baseline trend for the relevant market is established. While this metric may change from positive to negative or flatten over time given the maturation and scale of the local market and airport passenger traffic, a demonstrable correlation remains. The ratio is an important component in estimating future demand for hotel product in the study area. In projecting future demand, the HoSt process considers and analyzes the existing hotel inventory, recent hotel occupancy rates and average daily rates, historical room additions over time, and future passenger estimates based on the 2012 airport master plan projections.

Projected hotel demand in the local market is also impacted by the profile of visitors to the area and the type of accommodations required by these consumers. The following relationship diagram illustrates typical travelers desiring hotel accommodations. As shown, travelers are divided into two basic segments: business and personal.



Sources: Urban Land Institute; C&S Companies

The following table briefly profiles the characteristics of travelers for the following types of travel: commercial/individual, commercial/group (convention), and pleasure/individual.

Characteristics	Commercial/Individual	Commercial/Group (Convention)	Pleasure/Individual (Tourist)
<i>Fluctuations in Demand</i>	Monday through Thursday nights. Limited monthly fluctuations, although demand decreases somewhat during summer months and around holidays.	Either weekdays or weekends. Spring and fall months most popular for large associations.	Summer months most popular overall. Seasonality varies widely, based on geographic destination and on activities to be pursued.
<i>Number of Guests per Room</i>	One	Two	Two or more
<i>Length of Stay</i>	One to four nights	Two to four nights	Two to six nights or longer
<i>Preferences for Facilities/Amenities</i>	Varies based on price sensitivity: corporate executive often wants quality restaurants, bars, perhaps a health club, and is concerned with image; traveling salesperson may be more price sensitive, wants convenience, reasonably priced restaurants, and lively bars. Highly location sensitive.	Specific need for varied amounts of meeting, banquet, and exhibition space; for flexibility in space; for excellent audiovisual support; for knowledgeable and proven convention coordinators; and sometimes for recreational amenities.	Often wants swimming pool, tennis. Golf, game room, or other recreational amenities. Desire for a variety of restaurants and bars varies, based on extent of development and on alternative facilities in the surrounding area.
<i>Price Sensitivity</i>	Varies based on position and income level of the guest, and on whether or not guest is traveling on an expense account.	Little, because of discounts on room rates due to the volume of rooms booked, and due to the amount of food and beverage business generated.	Full spectrum—from high price sensitivity to none.
<i>Extent of Repeat Patronage</i>	Considerable amount of repeat business, because many commercial travelers must be in an area on a recurring basis. Also depends on incentives available for increasing frequency.	Frequently, rotation of one group through several geographic areas occurs, with large groups going from one property to another within a chain.	Repeat visits occur, but for each trip the tourist selects this destination, does not need to go there. Many competitive influences vie for this market: travel agents, advertising, recommendations of friends or relatives, and past experience.
<i>Source of Room Demand</i>	Influenced primarily by the specific demand generators located within the market area.	Varies from small meetings for local companies' salespeople, to large state or regional events, to national groups.	Fluctuates widely, based on the size of the resort, the facilities and attractions available, marketing efforts, and reputation.

Source: Urban Land Institute; C&S Companies

As outlined here, there are a variety of consumer preferences for hotel stays. Hotel developers have recognized the wide array of demand and have attempted to match amenities to consumer preferences. Hotel product generally falls into one of four major types—resort hotels, all-suite concept hotels, meeting/conference hotels, and tourist-class hotels. Each is different in the product it offers and the rates charged to the consumer.

For this assessment, hotel product in the relevant market area has been defined by actual or estimated average room rate. The five price categories include:

- Luxury – top 15% average room rates
- Upscale – next 15% average room rates
- Midscale – middle 30% average room rates
- Economy – next 20% average room rates
- Budget – lowest 20% average room rates

Once hotel room demand was projected for the study area, we employed a fair-share allocation of the demand to the subject property given competitive properties and their attributes.

Competitive Market Context

As described in the previous section, our assessment work employs a distributive approach that allocates future market demand from a larger reference market to specific limited geographical areas, such as a study area, in order to reflect the competitive context of the broader local market.

Reference area

Given the market characteristics of the larger region and the location of the subject property within that context, Hillsborough County was identified as the reference market for this particular assessment. The study area was identified similarly. The reference market and relevant study area are presented in the following map.



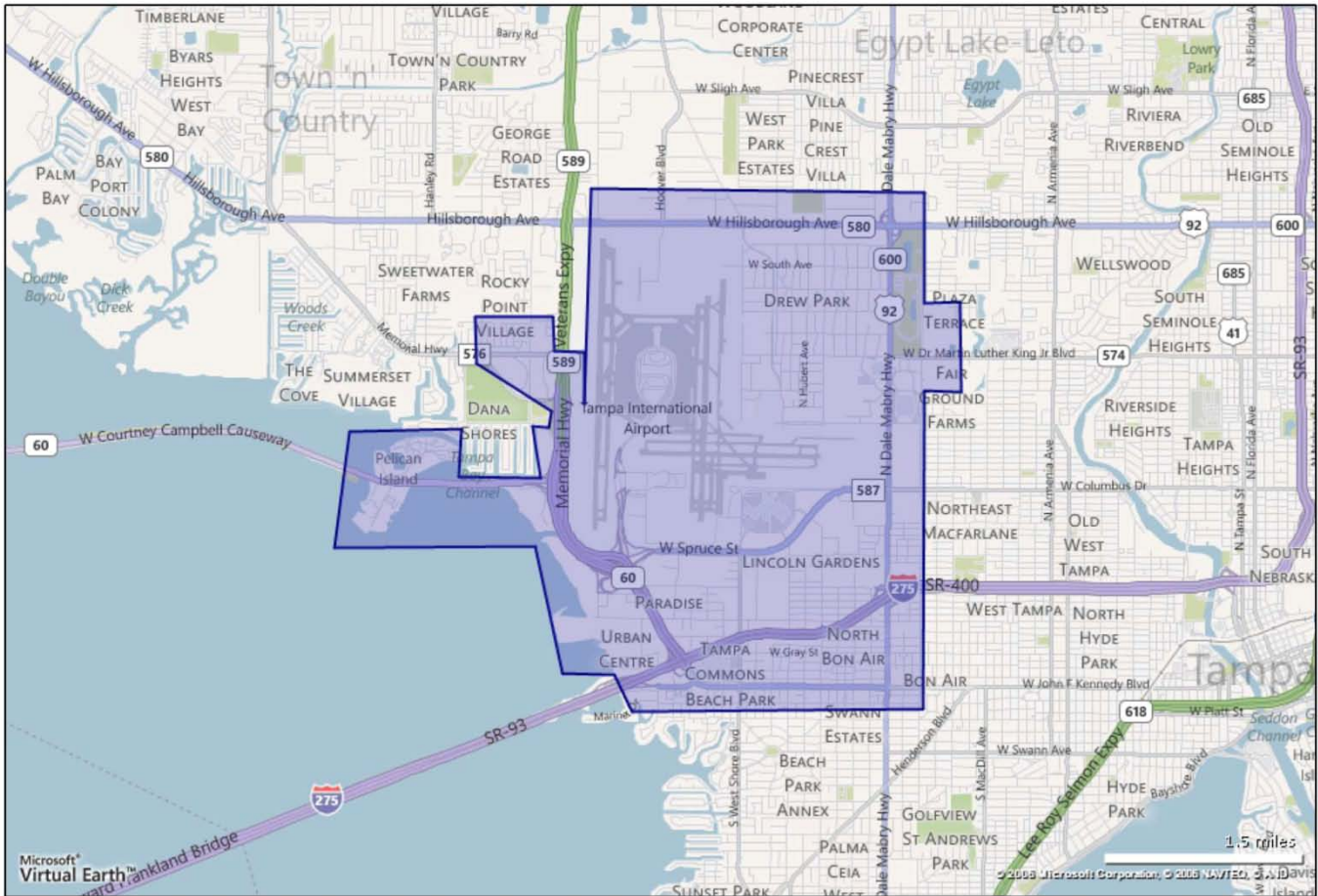
Source: Tampa Bay Regional Planning Council; C&S Companies

Study area

The particular study area surrounding the subject site was identified based on a number of significant factors, including extensive fieldwork and observations of local market context, interviews with key stakeholders, discussions with local brokers and select property management and developers, staff industry knowledge and insight into local market patterns.

For this assessment, the study area generally follows the bounds of the established Westshore commercial business district. The Westshore district is located within the City of Tampa less than five miles from downtown and contains the whole of the Tampa International Airport. Westshore boasts the largest concentration of commercial office space in the state as well as a variety of mid to upscale hotel and meeting space properties, various destination retail centers including two superregional malls, numerous fine dining and casual restaurant options, sports/recreation venues, and several residential areas as well. The Westshore Alliance, a not-for-profit business organization established in 1983, provides leadership for the mainly commercial district, marketing the area, coordinating improvement initiatives and representing district interests to government and other entities. The district was also designated a Development of Regional Impact (DRI) in the State of Florida, which set up a specific plan for development in the area.

The study area general boundaries extend just north of West Hillsborough Avenue, several blocks east of North Dale Mabry Highway, a block south of West John F. Kennedy Boulevard, and west to the Veterans Expressway and Old Tampa Bay including Pelican Island. The study area is approximately 11 square miles, or roughly 7,000 acres, in size and is presented in the following map.



Source: C&S Companies

Market Research & Findings

Observed market conditions

Market fieldwork was conducted both regionally and locally in November and December 2011 to observe market conditions. Within the study area, Dale Mabry Highway, Westshore Boulevard and Spruce Street are significant commercial corridors which host offices, hotels, retail, restaurants and services space. Auto dealerships and major sporting venues exist along Dale Mabry as well and new commercial product is mainly concentrated along West Spruce Street, anchored by the International Plaza regional shopping mall. Another regional shopping mall, Westshore Plaza, anchors the south end of Westshore Boulevard just south of I-275. The Dale Mabry and Hillsborough Avenue corridors have a number of standalone and inline independent retail and restaurant tenants and these corridors are in a mature/decline cycle overall with concentrated redevelopment projects having occurred along Dale Mabry proximate I-275.

Residential neighborhoods prevail to the northeast, southeast and west just beyond the major roads that surround airport property. Industrial and flex space development is prominent to the north and east of the

airport along Hillsborough Avenue and includes light manufacturing, warehouse, distribution and freight uses with limited convenience commercial. Commercial development is also found along the Courtney Campbell Causeway west of the airport and includes office, hotel and restaurant developments.

The development pattern within the study area where new real estate product has been focused is more urban in nature, resulting in 8 to 12 story office development, one to two story retail, single story restaurant and services space, and 8 to 15 story upscale and 4 to 7 story midscale hotel product. The following table summarizes the prevailing scale of development within the study area by product type.

Prevailing Scale of Commercial Development in TPA Study Area		
Use	Floor-to-area ratio	# of floors
Office	1.25 – 1.75	8-12
Retail & Services	.25 - .30	1
Restaurants	.10 - .15	1
	Rooms per acre	
Midscale, limited service hotel	50 - 65	4-7
Upscale, full service hotel	65 – 75	8-15

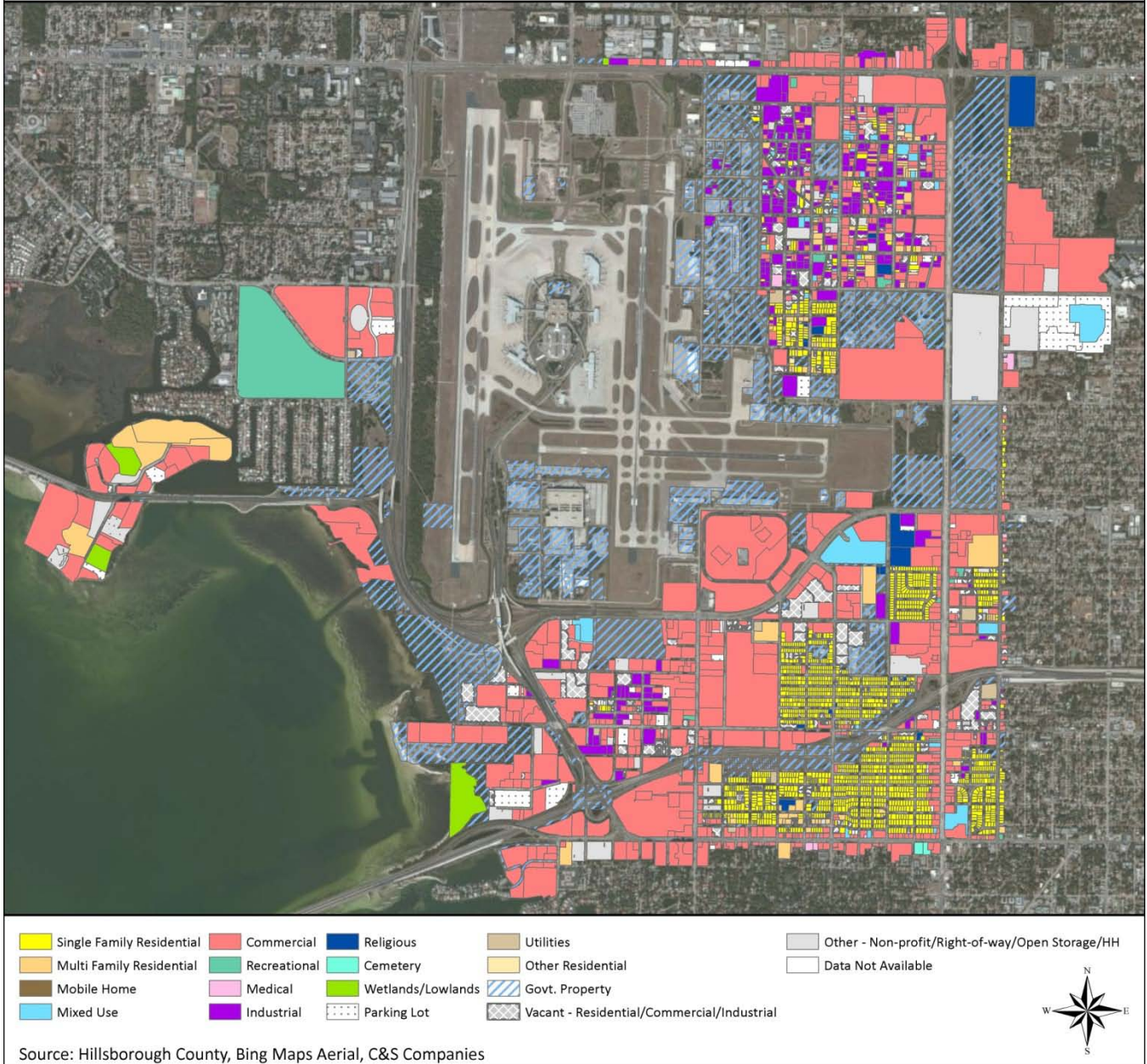
Source: C&S Companies

Land use & building inventories

The following maps generated using GIS analytics reinforce the observed local market conditions and prevailing development patterns of the study area as described above and in relation to the subject site, Tampa International Airport. All land uses and building inventories profiled here currently exist within the bounds of the study area.

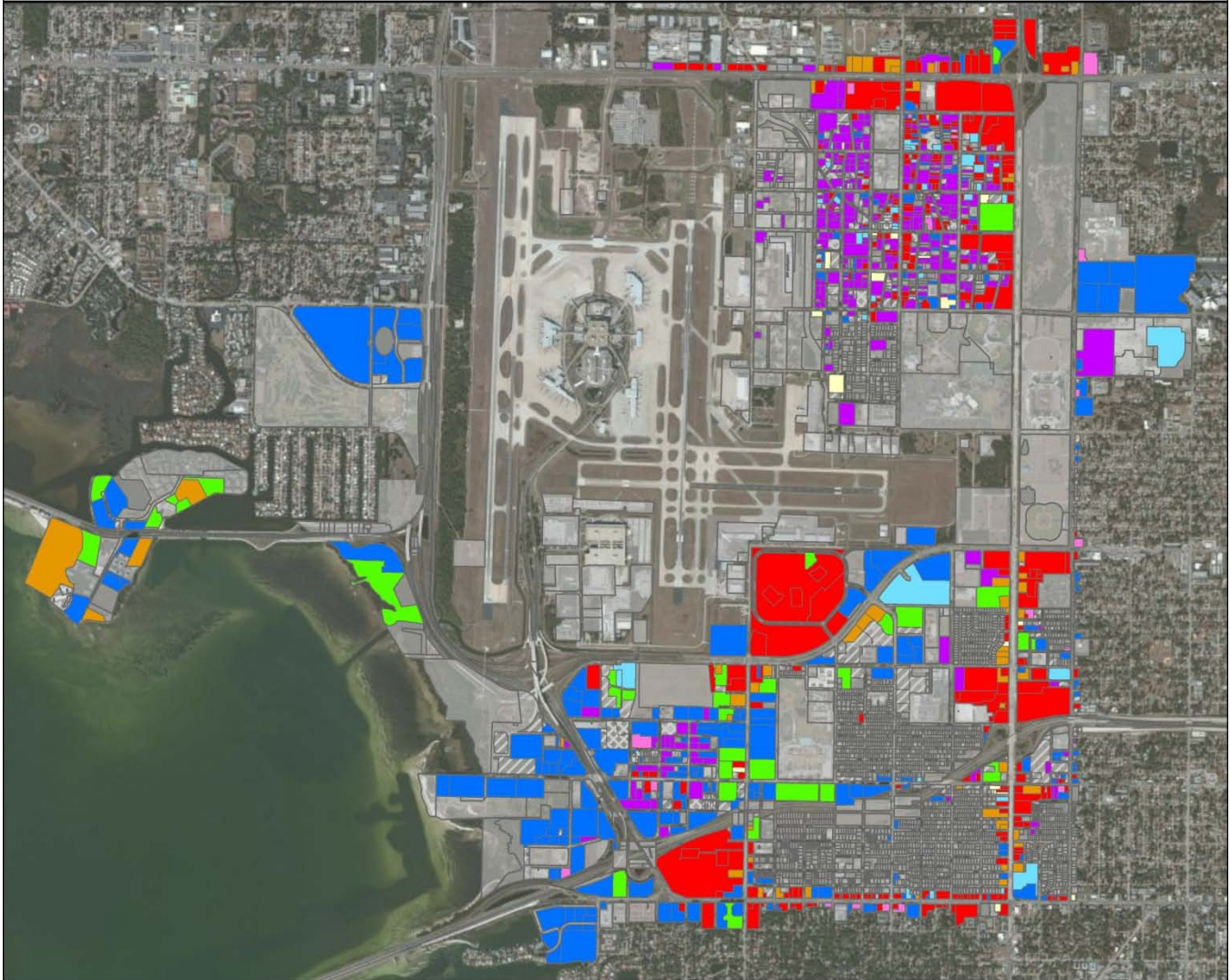
The study area has a diverse mix of land uses within its bounds. In addition to airport and government property, the designated commercial and industrial uses also comprise a significant portion of the total land within the study area bounds. Though commercial uses are prevalent throughout the study area, industrial uses are mainly clustered in the northeastern and southwestern quadrants. Residential uses, while primarily concentrated in the southeastern quadrant, can also be found scattered throughout the northeastern quadrant and on Pelican Island at the western edge of the study area. These development patterns can be seen in the following map.

Existing General Land Use



The following map presents only the existing commercial land uses in the study area, from which particular development patterns and concentrations can be observed. The northeastern portion of the study area is characterized by smaller parcels and a concentration of industrial/flex space. Retail is clustered in the south-central and eastern portions of the study area on larger parcels generally. While commercial office can be found throughout the study area, this use is mainly concentrated to the west, south and southeast of Tampa International Airport. Hotel generally is found in these same areas as well.

Existing Commercial Land Use



Entertainment	Industrial/Flex	Office	Retail	Vacant - Commercial
Hotel/Motel	Mixed Use	Restaurant	Services	Vacant - Industrial



Source: Hillsborough County, Bing Maps Aerial, C&S Companies

As observed in the previous map, the study area contains a mix of commercial land use designations with evident concentrations of office, industrial/flex, retail, and hotel. However, when comparing the existing number of square feet built for these commercial uses, office constitutes the largest portion of the total inventory within the study area. In fact, the study area closely follows the bounds of the Westshore business district, which contains the largest concentration of commercial office in the state, as mentioned previously. The following table presents commercial use inventories by percent of total and decade built for the study area with significant decades for product delivery highlighted.

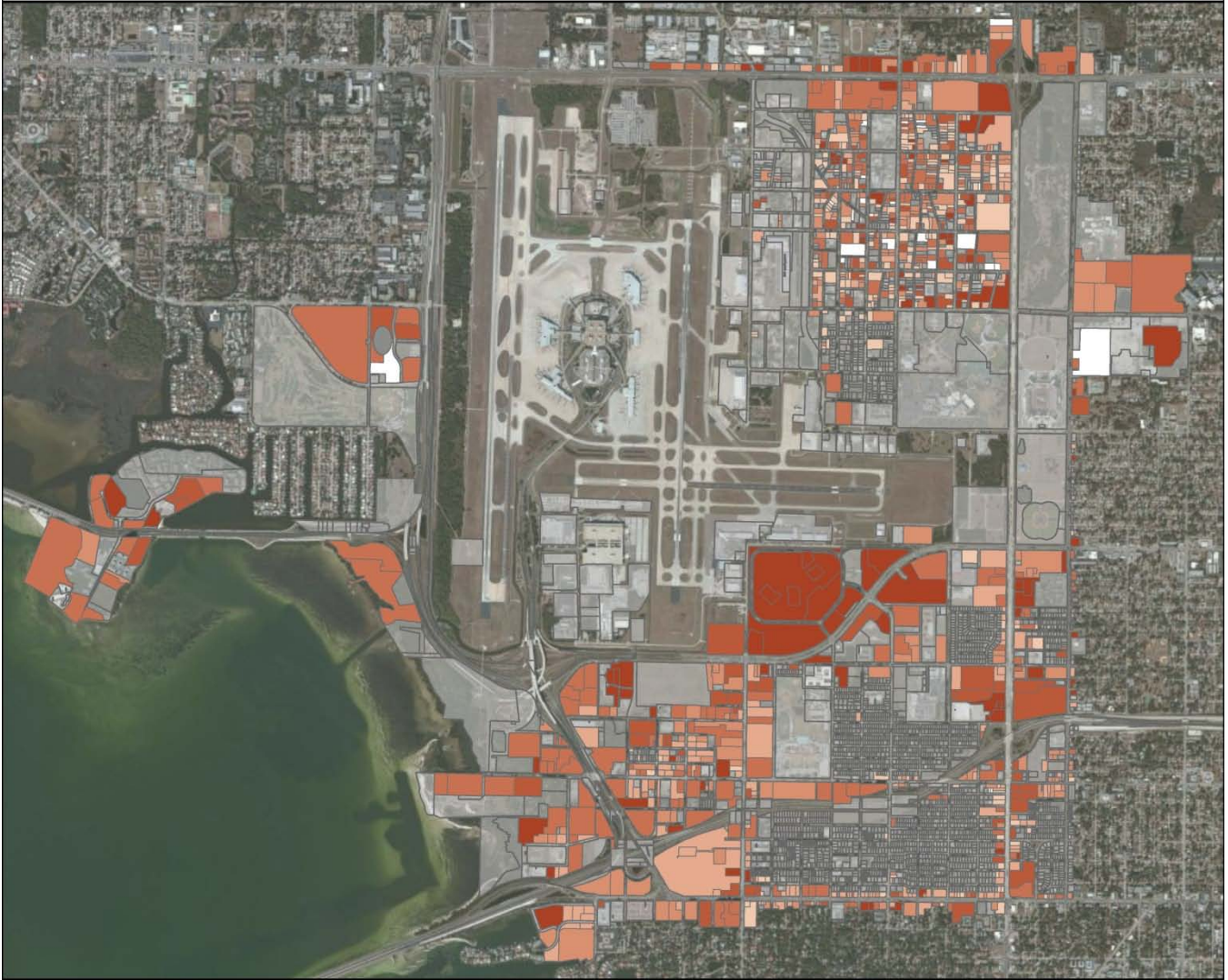
Commercial Land Use Inventory by Percentage and Decade Built for TPA Study Area						
	Prior to 1960	1960-69	1970-79	1980-89	1990-99	2000-present
Office	2%	5%	9%	64%	5%	15%
Retail	2%	16%	10%	8%	8%	56%
Restaurant	3%	13%	10%	31%	20%	23%
Services	6%	20%	9%	34%	18%	13%

Source: Hillsborough County Property Appraiser; C&S Companies

Of note, the 1980s was a significant decade for commercial development within the study area, especially office. Overall, nearly two-thirds of the office product and one-third of the restaurant and services space were built in the 1980s with more than half of the retail product developed in the 2000s. The retail inventory in the study area expanded drastically in this most recent time period due to the addition of several shopping centers and a super-regional mall, as well as the expansion of an existing mall property during a major renovation.

The confluence of inventory delivery timing identified in the previous table and commercial land use distribution observed in the map above can be observed in the following map. For instance, the substantial concentration of office space previously noted in the southwest quadrant of the study area is predominantly shaded with the color representing inventory built between 1980 and 1989, confirming and contextualizing the aforesaid trend. While more recent development has occurred mainly to the southeast of the airport property concentrated along West Boy Scout Boulevard, newer development is also scattered throughout the study area. These additions to inventory are identified by the deepest shading in the following map.

Commercial Inventory by Year Built

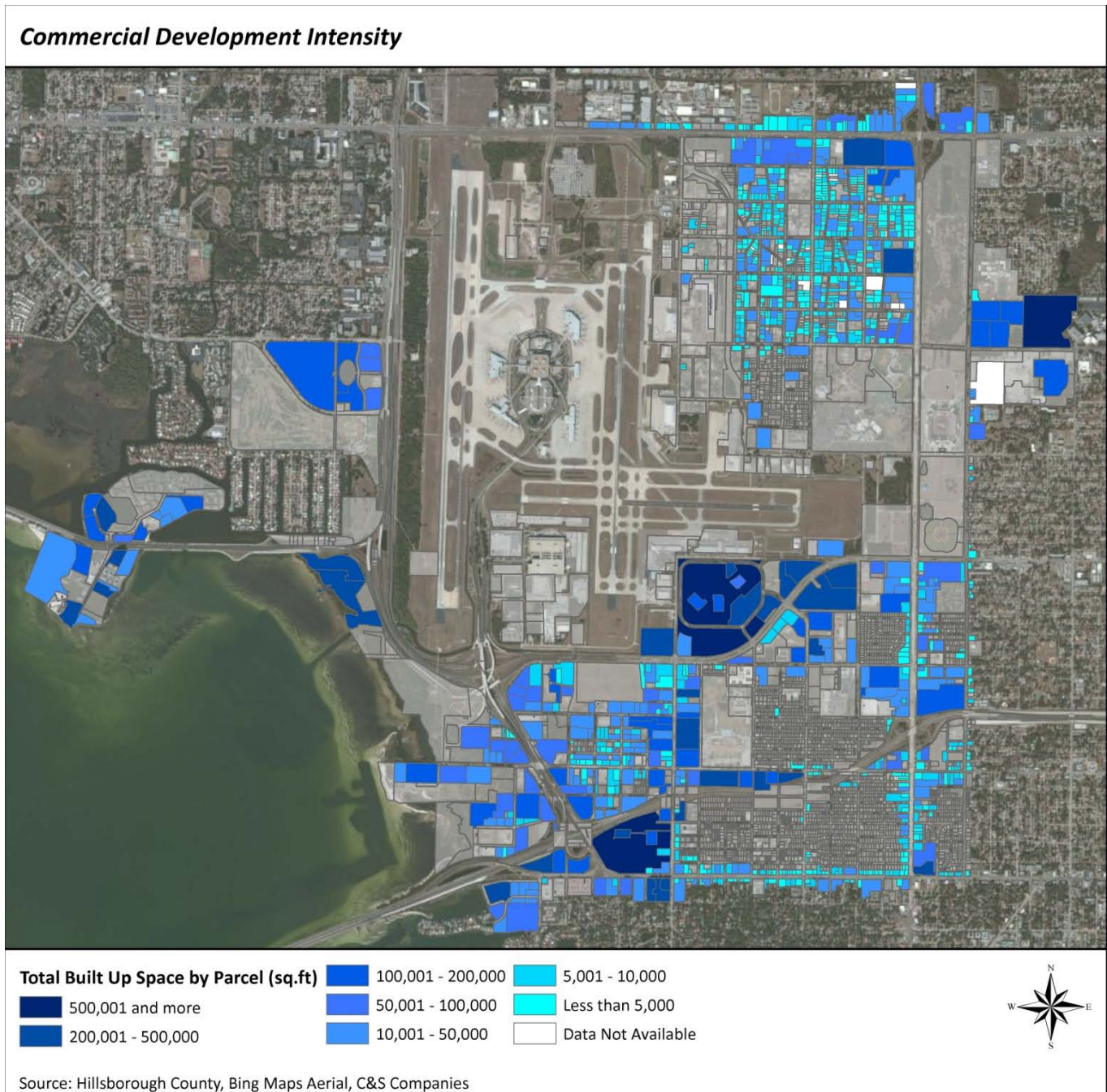


Year Built	
 1981 - 1990	 Before 1960
 2001 and after	 1971 - 1980
 1991 - 2000	 1961 - 1970
	 Data Not Available



Source: Hillsborough County, Bing Maps Aerial, C&S Companies

The prevailing development pattern of the built environment in the study area is one of moderate to higher intensity, which is demonstrated in the following map by the predominance of medium to darker tone blue.



Few vacant commercial and industrial parcels remain within the study area as demonstrated in the following map. Of those still available, even fewer are designated as industrial. For the most part, vacant parcels in the northeast quadrant are relatively small in size and scattered in layout, complicating/precluding land consolidation for larger development sites. By comparison, vacant parcels in the southern portion of the study area appear to be larger in size and more clustered, several with contiguous boundaries. These parcels are also surrounded by existing retail and office concentrations. The average vacant parcel size within the study area is just under an acre.

Commercial & Industrial Vacant Land



Vacant Parcel Acreage (ac)	1.01 - 3.00	Vacant - Commercial
5.01 and more	0.51 - 1.00	Vacant - Industrial
3.01 - 5.00	Less than 0.50	



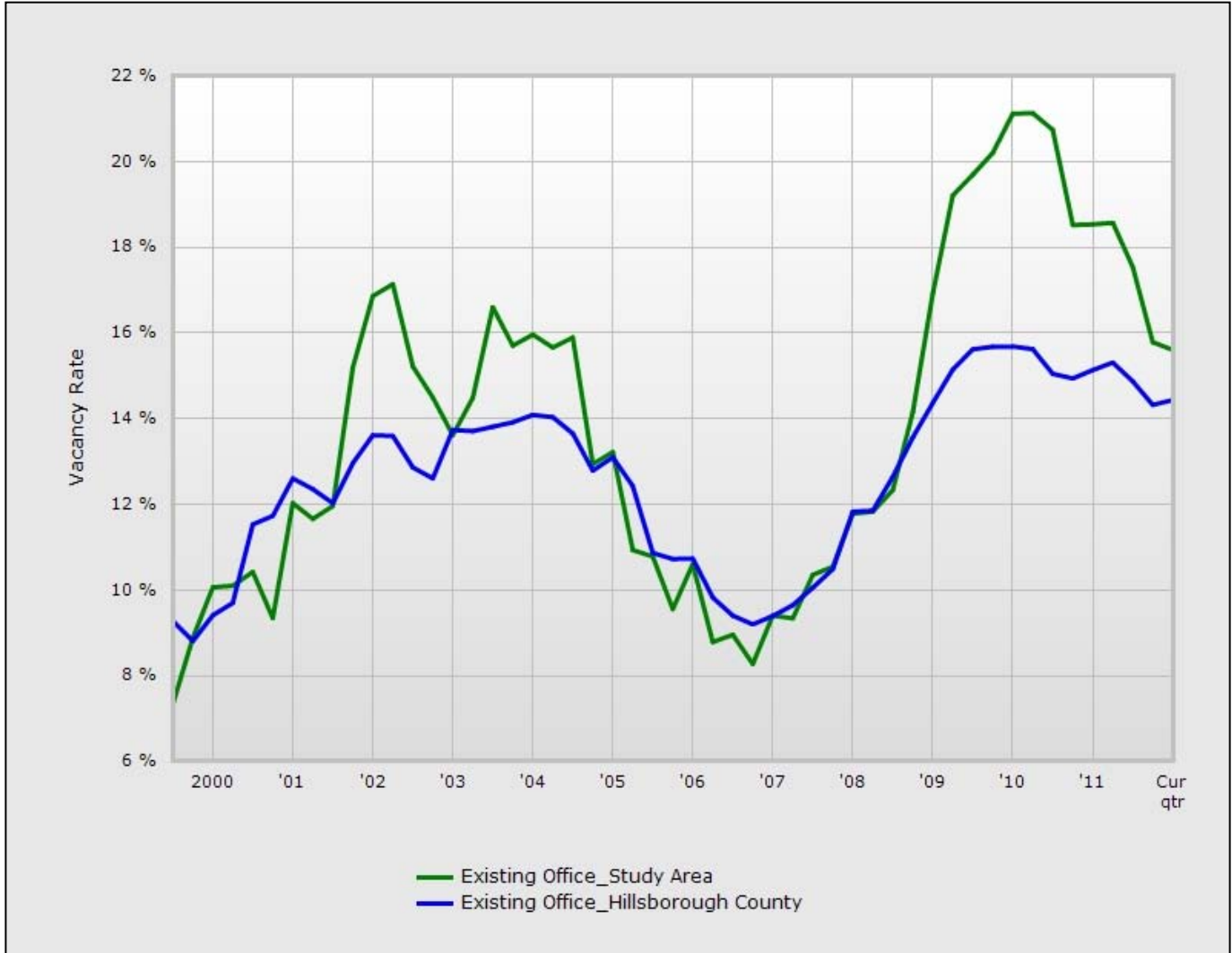
Source: Hillsborough County, Bing Maps Aerial, C&S Companies

Office

At present, there are nearly 4,000 office buildings which account for almost 63 million square feet of space in Hillsborough County. Overall, office demand and corresponding development in the marketplace has been strong reflecting the addition of regional demand generators such as corporate expansions and relocations, government offices and niche industry sector growth. During the past two decades, the Tampa-St. Petersburg office market has had average annual additions delivered to the marketplace on the order of three million square feet. Current vacancy in the county stands at 14.5 percent and approximately three-fourths of the inventory is multi-tenanted; about one-third of the county's office space is classified as Class A. Given existing supply and recovering rental rates, moderate new office development is anticipated in the near-term. Stable employment growth is projected over the planning horizon leading to more opportunities for office development in the mid- to long-terms.

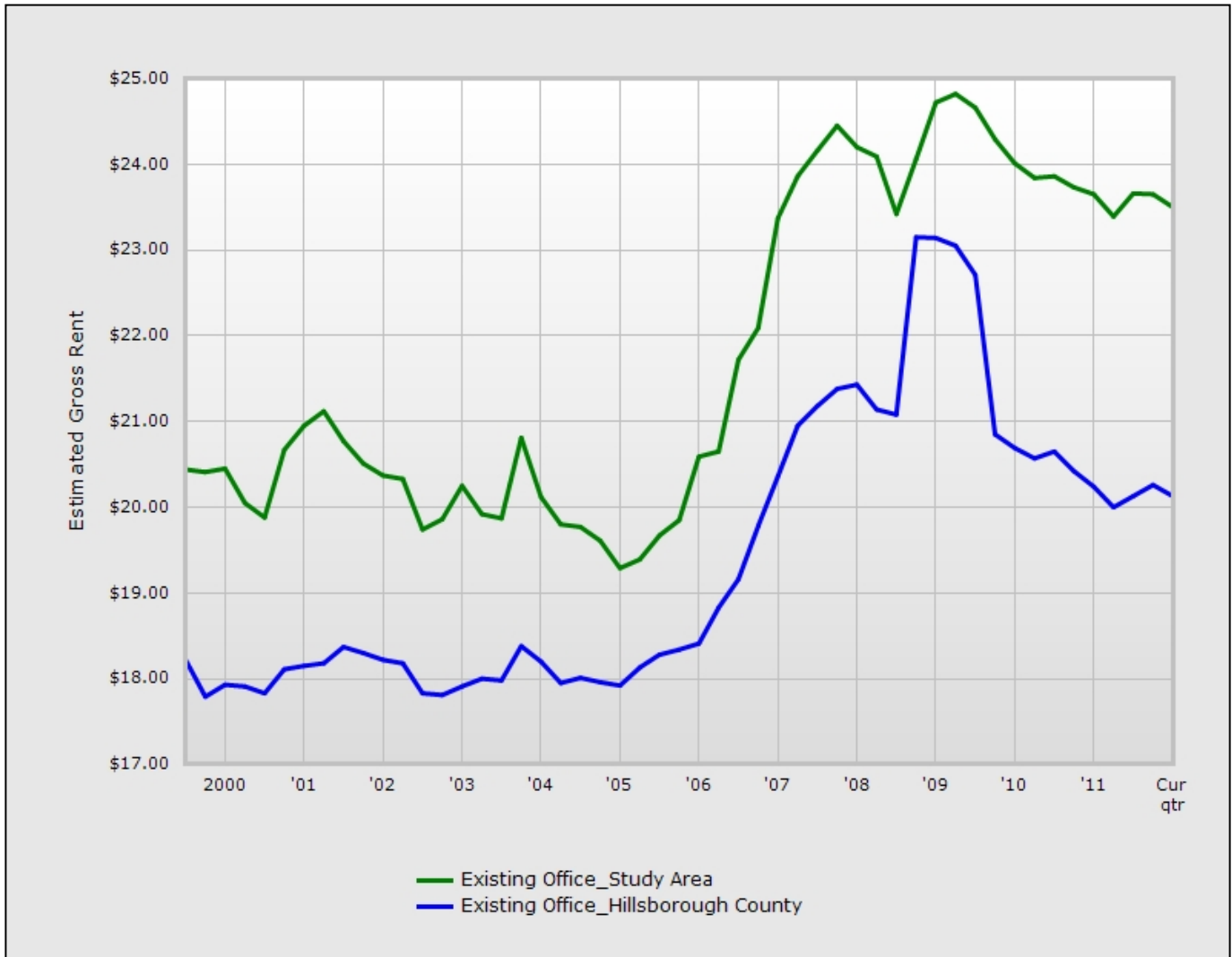
The study area office inventory comprises almost 13.5 million square feet of space in nearly 300 buildings or roughly 21 percent of the county’s total office space. Current study area vacancy stands at 15.6 percent which is less favorable than that of the county. However, study area rental rates are significantly higher than the county overall. The following charts illustrate these comparisons.

Office Vacancy Rates



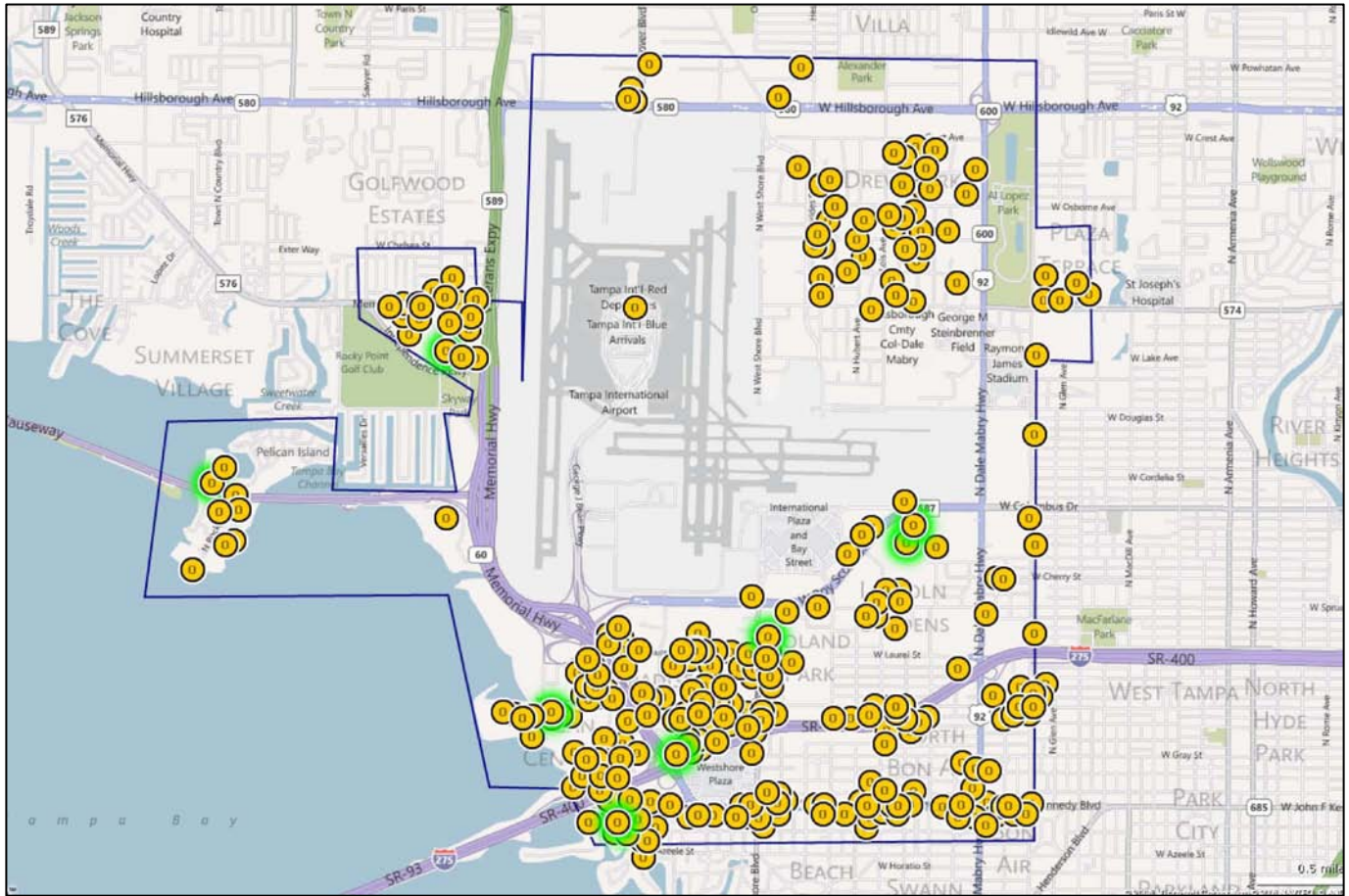
Source: C&S Companies

Office Rental Rates



Source: C&S Companies

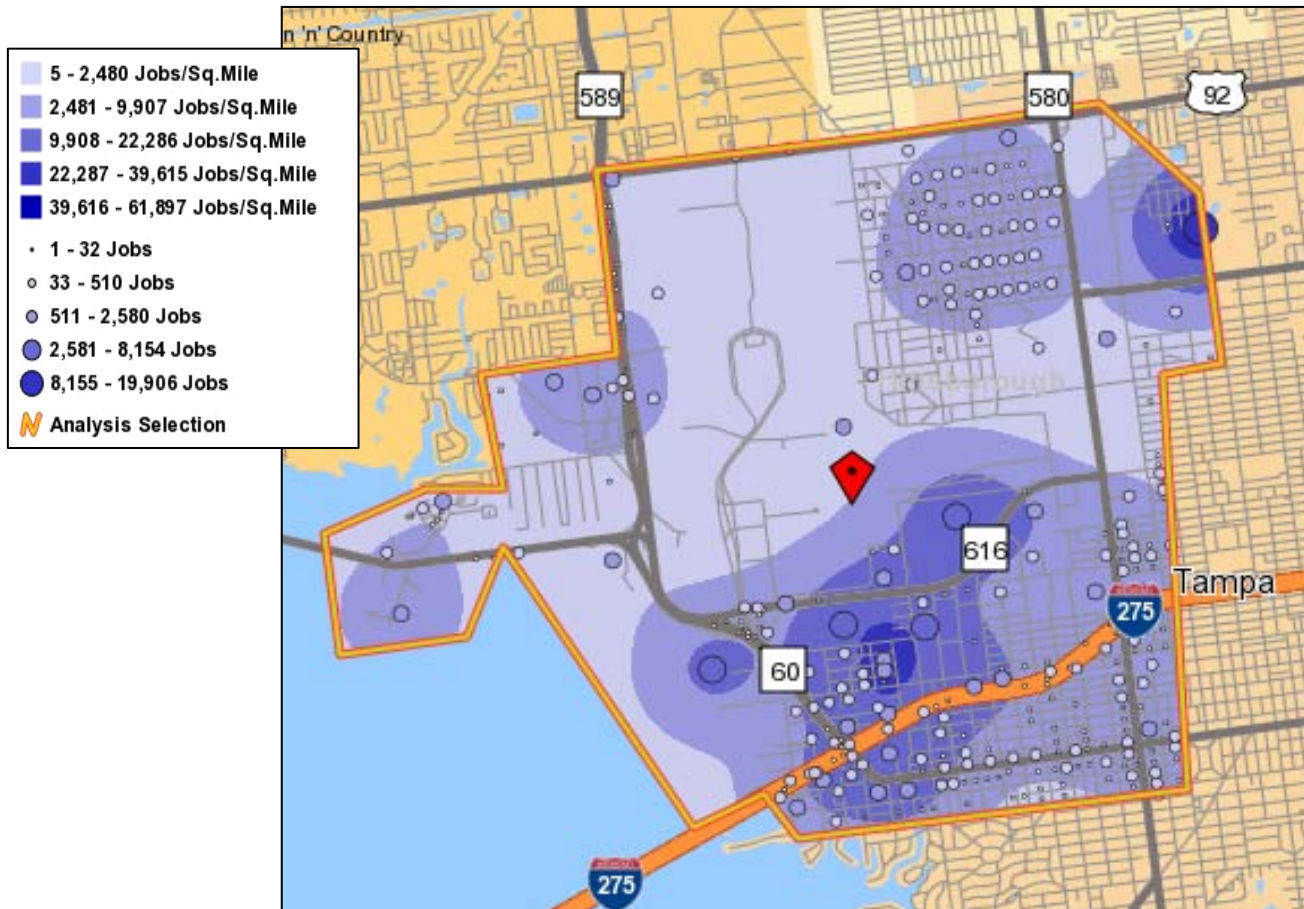
Modern suburban Class A office stock generally ranges in size from 100,000 to 300,000 square feet and was built within the last decade. Product within the study area is concentrated as presented in the following map.



Source: C&S Companies

Within the study area, there are nearly two dozen office buildings 200,000 square feet or larger and these buildings have been developed at 1.25-1.75 floor-to-area ratios with typical suburban office floor plates generally ranging from 20,000 to 30,000 square feet in size. There are available sites for office development within the study area, and those projects planned, proposed or under construction include office buildings at MetWest, Tampa Bay 1, Independence Park, Highwoods Bay Center, and Avion Park, among others.

In support of the office demand analysis, we researched and utilized location-based total employment to test commercial office supportability within the general context of the Westshore area, approximated by the study area bounds. The following thermal density map presents the localized employment patterns for the study area.



Source: US Census Bureau; C&S Companies

Of note, this employment density profile map indicates the two most intensely concentrated employment centers within the study area include the major office node south of the airport as well as the office campus and medical center just north of Martin Luther King, Jr. Boulevard.

Supported Office Demand

Nominal office demand exists on site for the first phase of the planning horizon. However, supportable demand for office product grows to a more significant scale in the second phase of five years. On-site office demand more than doubles in the final ten-year phase, totaling 760,000 square feet over the planning horizon.

TPA Estimated Incremental Office Demand (SF) Supported by Phase				
Office	2012 - 2016	2017 - 2021	2022 - 2031	Total - All Periods
Reference Market	2,690,000	5,680,000	12,390,000	20,760,000
Study Area	400,000	1,190,000	2,600,000	4,190,000
Subject Property	0	240,000	520,000	760,000

Source: C&S Companies

Retail/Restaurant/Services

Existing retail, restaurant and services space inventory currently includes just more than 67.7 million square feet within almost 5,000 buildings in Hillsborough County. Overall, demand and corresponding development in the marketplace has been consistent with other commercial uses. During the past two decades, the Tampa-St. Petersburg retail, restaurant and services market has had average annual additions delivered to the marketplace on the order of 4.2 million square feet. Current vacancy in the county stands at six percent, and the majority of retail inventory is classified as either general retail or as shopping centers; however, shopping centers have the highest vacancy of any retail category in the market, accounting for more than half of the vacant space. No major retail developments are currently under construction, though several projects have been proposed in outlying areas of the county. Given existing supply and suppressed rental rates, limited new retail development is anticipated in the near-term; however, replacement demand in premium locations for functionally obsolete retail product along with new tenants entering the marketplace over the planning horizon should lead to more opportunities for retail, restaurant and services space development in the mid- to long-terms.

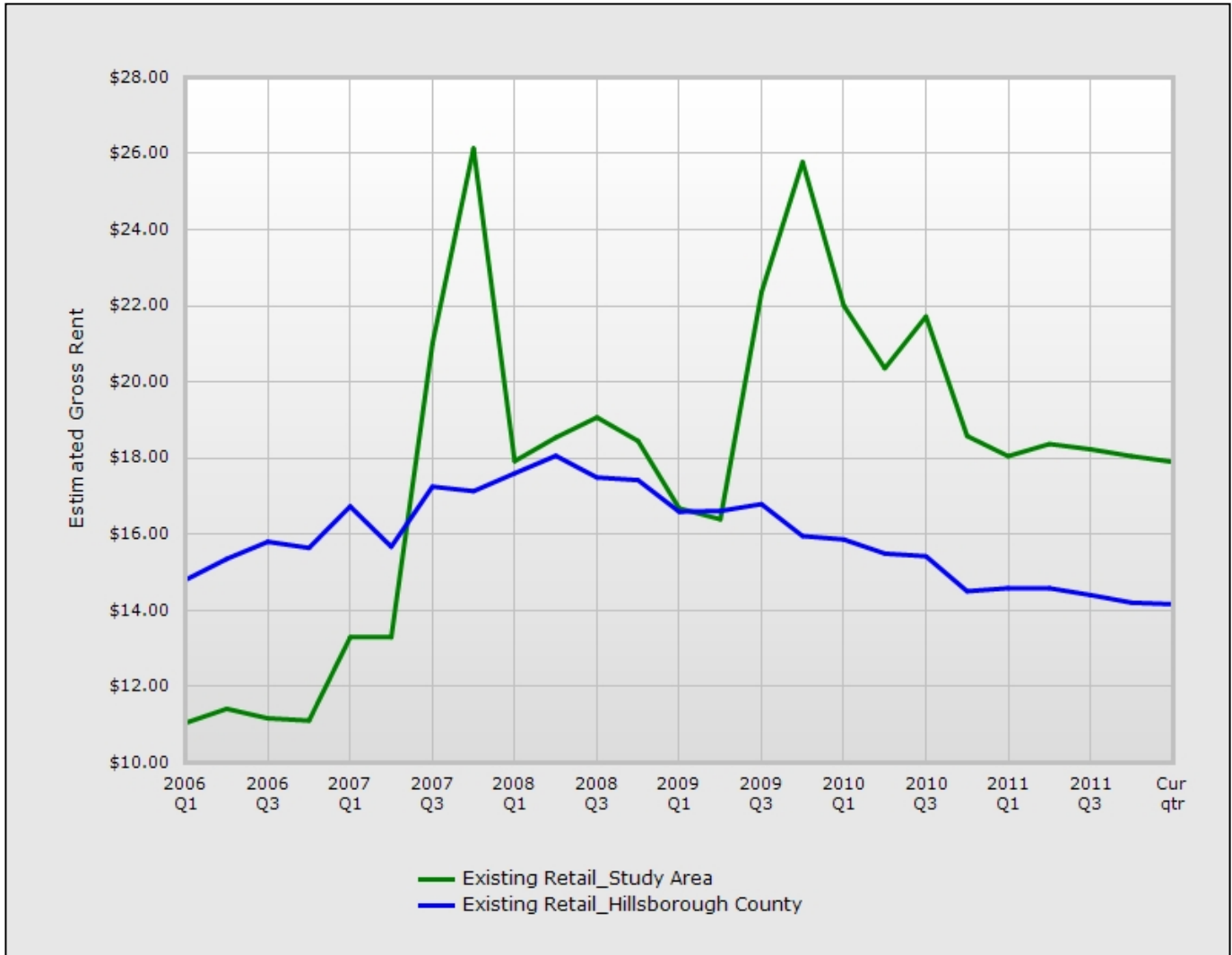
The study area retail, restaurant and services space inventory includes approximately 6.5 million square feet of space in about 400 buildings or roughly ten percent of the county’s total retail space. Current study area vacancy is about 4.3 percent which is lower than the county’s rate. Study area rental rates are also higher than the county overall. The following charts illustrate these comparisons.

Retail Vacancy Rates



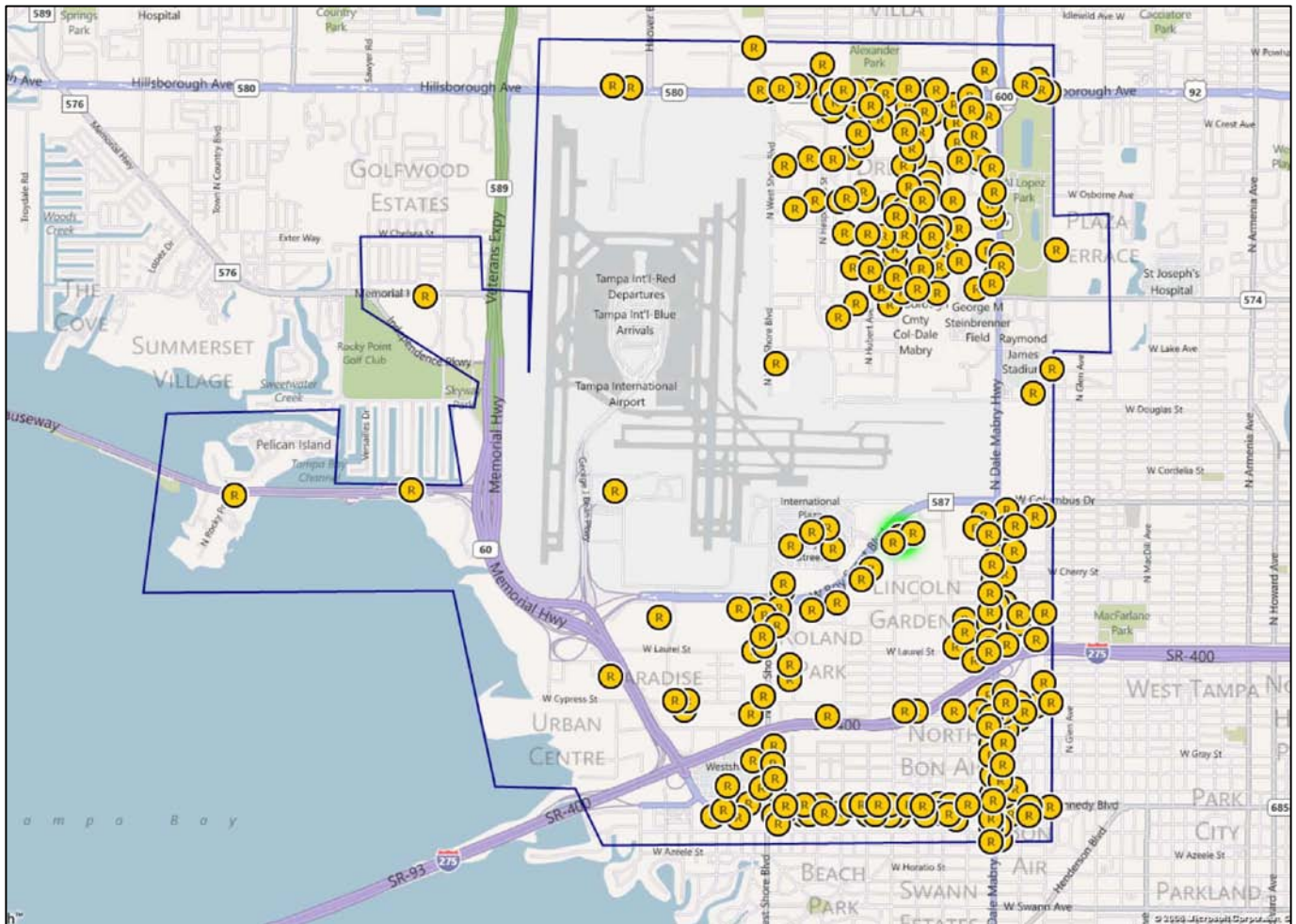
Source: C&S Companies

Retail Rental Rates



Source: C&S Companies

Commercial retail stock in the study area is generally larger in size with several retail shopping centers greater than 150,000 square feet, a power center of nearly 500,000 square feet and two superregional malls. Retail product in the market is a mix of newer development and mature space, though many of the older buildings have been renovated over time. While much of the existing physical inventory is well-suited to accommodate the requirements of more modern retail tenant operations in terms of visibility, access, standard of quality and configuration, opportunities may exist for replacement of functionally obsolete space. Product within the study area is concentrated as presented in the following map.

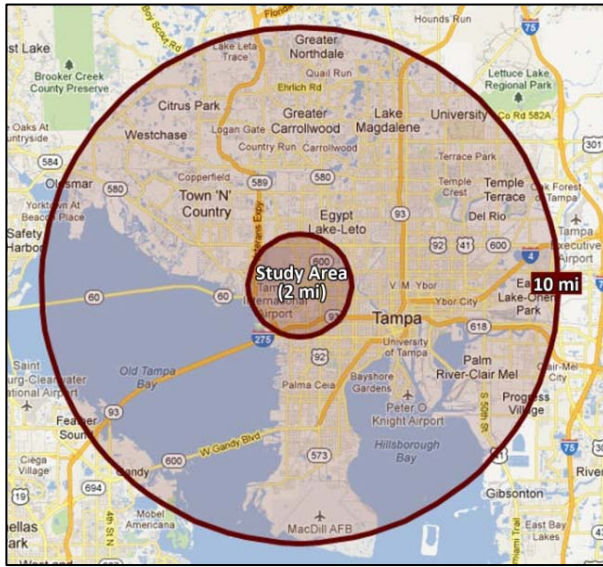


Source: C&S Companies

Within the study area, there are about 34 buildings between 20,000 and 100,000 square feet and these buildings have been developed at .25-.30 floor-to-area ratios. There are few available larger sites for commercial retail development, many of which are controlled by government agencies within the study area. Proposed projects within the study area include several smaller-scale retail developments of 25,000 square feet or less. Timelines for planning, permitting and development of these projects are unknown at this time/have not been established.

There are currently two retail projects under construction on the south side of the airport adjacent the International Plaza Mall. Both are located on a parcel at the southwest corner of West Boy Scout and Westshore Boulevards. The Corner at International Plaza is a 38,000 square foot retail center with anticipated completion and delivery to market in early 2013. The second project is a 40,000 square foot center that will include a 24,500 square foot Container Store; it is scheduled to deliver later this year. Other tenants also reportedly considering retail center space at this site include several banks and wireless service providers.

In support of the retail, restaurant and services demand analysis, we researched and employed prevailing demographics within a 2-mile radius for convenience commercial demand and within a 10-mile radius for destination retail demand. The following table presents the relevant demographics for these geographic areas.



	Study Area (2-mile radius)	10-mile radius
2000 Population	19,498	597,515
2010 Population	19,997	645,348
2015 Population	19,768	649,396
2010 Med Age	41.2	36
% Pop Grwth 2000-2010	2.6	8
% Pop Grwth 2010-2015	-1.1	0.6
2010 Households	8,462	263,807
2010 Avg HH Size	2.29	2.39
2015 Households	8,384	266,309
% HH Grwth 2000-2010	2.4	8.2
% HH Grwth 2010-2015	-0.9	0.9
2000 Avg HH Inc	\$ 40,199	\$ 52,273
2000 Med HH Inc	\$ 30,208	\$ 37,070
2010 Avg HH Inc	\$ 47,686	\$ 62,650
2010 Med HH Inc	\$ 38,667	\$ 47,314
2015 Avg HH Inc	\$ 53,240	\$ 69,268
2015 Med HH Inc	\$ 45,840	\$ 54,618
2010 Owner Occ'd Housing	4,596	146,592
2010 Renter Occ'd Housing	3,866	117,215
2010 Med Val Owner-Occ'd HH Units	96,612	115,883
Total Consum Spend 2010 Cons Spdng \$	\$ 139,564,404	\$ 5,641,933,931
Total Consum Spend 2015 Cons Spdng \$	\$ 155,819,504	\$ 6,237,916,672
All Industries # Emp	60,388	399,472
All Industries # Bus	3,461	31,347

Source: ESRI; Census 2010; C&S Companies

Of note, households within both geographies trend higher at approximately the same rate towards owner-occupied, but average household incomes in the 2-mile radius are about one-fourth lower than those within the 10-mile radius. While both population and households decline in the study area through 2015, both measures increase in the 10-mile radius for the same period.

Supported Retail/Restaurant/Services Demand

For this assessment, we tested retail, restaurant and services demand specific to the TPA south development area. As such, increasing levels of on-site supportable demand are anticipated for the span of the planning horizon. While supportable demand captured on-site is more constrained in the first period, estimates grow to more moderate levels in the second phase. Supportable levels of demand increase substantially in the last phase, totaling 215,000 square feet across the planning horizon.

TPA Estimated Incremental Retail Demand (SF) by Phase				
Retail Type	2012 - 2016	2017 - 2021	2022 - 2031	Total - All Phases
Destination Retail	20,000	28,000	77,000	125,000
Convenience Retail	5,000	7,000	20,000	32,000
Restaurants	7,000	9,000	20,000	36,000
Services	5,000	10,000	7,000	22,000
Total	37,000	54,000	124,000	215,000

Source: C&S Companies

Potential Intermodal Facility

As part of our due diligence process for this assessment of TPA's south development area, C&S staff conducted research of selected intermodal facilities nationally to gauge what level of commercial space has been supported relative to the transportation systems interfacing at such facilities and their respective passenger thresholds. Facilities were selected and profiled based on geographic diversity, transportation technologies, successful outcomes and project relevance.

C&S staff researched and profiled facilities in the northeast, mountain west, west coast, and southeast regions of the US. Of note, passenger thresholds vary widely among the profiled facilities and by the modes served at each, from a low of 7,000 bus and streetcar riders a day in San Francisco to a high of 65,000-75,000 riders a day in Boston. The intermodal facilities located in Colorado and Florida all have plans to expand access to additional transportation modes through the facility in the future. At least three facilities were developed through the utilization of public-private partnerships, and many rely on revenues from lease, rental, and parking fees to support facility operating costs.

All intermodal locations profiled have an assortment of uses based on their facility size, capacity, location, and connection. The mix of uses ranges from retail, restaurant and services to office space, hotel and meeting facilities to entertainment options, and parking garages to specialty uses like event space and even a farmers market. The following benchmarking matrix profiles these selected facilities and their key characteristics.

INTERMODAL FACILITY BENCHMARKING				
City	Boston, MA		Orlando, FL	San Francisco, CA
Facility	South Station	South Station Bus Terminal	LYNX Downtown Orlando Regional Intermodal Center	Ferry Building
Location	Atlantic Avenue, Downtown Boston, MA		N. Garland Avenue Orlando, FL	Embarcadero & Market Street, San Francisco, CA
Owner/Operator	MBTA/Cushman Wakefield - The Massachusetts Bay Transportation Authority owns all of South Station but leases the main South Station building to Equity Office which hired Cushman Wakefield to manage the building.	MBTA/Newmark Knight Frank	Central Florida Regional Transportation Authority	Port of San Francisco/Equity Office
Interviewee/Source	Paul Casey – Cushman Wakefield	Steve Squibb – Newmark Knight Frank	C&S Research	C&S Research
Building Size (SF-square feet)	210,000 SF	312,000 SF	85,500 SF; Headquarter offices and terminal	Site: 2.8 Acres
Hours of Operation	5:00 AM – Midnight No Rail Service Currently from Midnight to 5:00 AM	24 Hours/Day, 7 Days/Week Limited Access Midnight-6:00 AM	6:00 AM - 8:00 PM M-F 8:00 AM - 5:30 PM Sat-Sun	Minimum Hours: 10:00 AM - 6:00 PM Mon-Fri, 9:00 AM - 6:00 PM Sat, 11:00 AM - 5:00 PM Sun
Mix of uses	184,000 SF Office; 26,000 SF retail/restaurant/service; Parking garage operated by others	223 Space Garage; Limited office/retail	67,500 SF/Office Space; 2,400 SF/Retail Space	65,000 SF retail/Farmer's Market; 175,000 SF Class A Office Space; Event Space
Modes	Heavy Rail (Amtrak, commuter rail, subway), Red Line on Rapid Transit System, Silver Line to Airport, Auto, Bike Lockers' 65,000-75,000 passengers daily	10 Inter-city Bus Companies; 12,000-15,000 passengers daily	Currently - Bus (fixed and flex routes), rideshare services, paratransit van service, community service shuttles, Road Rangers; Future - Light rail and commuter rail transit; high speed rail;	Ferry, Transit, Light Rail (cable/streetcars), Auto, Bike/Ped (Heavy Rail - BART within walking distance); Daily Passengers - 11,000 Ferry, 34,000 Rail, 7,000 Bus/Streetcar
Development Cost	Not Available	Not Available	\$29.2 million	2003 Renovation = \$110 mil (public-private partnership - all private investment)
Funding sources	Revenues from lease/rental fees	Currently Self-sustaining: Revenues from leases with bus companies, retail tenants & parking; Development: 80% Federal Railroad Agency & Dept of Trans, 20% MBTA & State	Stand alone governmental unit; the majority of the agency's funding comes from four local funding partners: Orange County, Osceola County, Seminole County, and the City of Orlando	Public Private Partnership - Port of San Francisco, using federal and state grants, and Ferry Building Investors, LLC (Equity Office Properties trust, Wilson Meany Sullivan, Banc of America Historic Capital Assets, LLC, Primus Infrastructure)
Important attributes	US National Register of Historic Places New England's 2 nd Largest Trans Center 3 rd Party Management Direct Connections to Airport Public Space for Art/Events	3 rd Party Management Self-sustaining 5-year Leasing Agreements Direct Connections to Airport		US National Register of Historic Places 3rd Party Management Marketplace

Source: C&S Companies

INTERMODAL FACILITY BENCHMARKING			
City	Denver, CO		Miami, FL
Facility	Union Station	South Terminal - Denver International Airport	Miami Intermodal Center
Location	Wynkoop Street, Downtown Denver, CO	20 Miles East of Downtown Denver	East of Miami international Airport Miami, FL
Owner/Operator	Denver Regional Transportation District/Denver Union Station Project Authority (DUSPA) - financing, acquiring, owning, equipping, designing, constructing, renovating, operating and maintaining the Denver Union Station redevelopment project	City of Denver/RTD Will Own Tracks	Miami-Dade Aviation Department
Interviewee/Source	Jerry Nary - RTD Project Manager	C&S Research	C&S Research
Building Size (SF-square feet)	Site - 19.5 Acres; Historic building - 70,000 SF	825,000 SF; May have decreased with recent project changes	3.4 million SF rental car center; 16.5 acre central station; 1.4 million SF joint development facilities
Hours of Operation	Currently 6:00 AM - 6:00 PM Future - 24 Hours/Day, 7 Days/Week with Hotel as Operator	Not Available	Not Available
Mix of uses	Currently - Office/Service; Future - 132 room hotel/restaurant/retail/office; Future-development of outparcels	Hotel & Conference Center; Open-air plaza with new concessions & leasable space; Improved baggage & train systems	A joint development strategy envisions approximately 1.4 million SF of ground lease and air-rights development including office, hotel and meeting space, restaurants, retail, and entertainment.
Modes	Currently - Bus, Light Rail, Heavy Rail (Amtrak, commuter rail), Mall Shuttle Provides Service Throughout Facility & Beyond; Future - Bike Station, Bus Rapid Transit, Ticketing/Baggage Area for DIA, Heavy Rail Connection to DIA; Currently - 15,000 passengers daily Future - 200,000 passengers daily by 2030	Currently - Air; Future - Heavy rail (commuter rail connection to Union Station), Bus	Currently - Rental car services, air; Future - tri-county and metro rail; metro bus, intercity buses, taxis, bicycles and private passenger vehicles, national Amtrak and Greyhound services, automated people mover
Development Cost	Current Project (public-private partnership) - \$500 million Hotel Development - \$49 million	Current Project (public-private partnership) - \$500 million	\$2 billion
Funding sources	Currently lease/rental fees and parking fees Development: 2 Loans for total of \$300 mil and rest from State, RTD, FHWA, FTA and Stimulus Monies	Similar funding at Denver Union Station (East Corridor track connects the two facilities)	Funded with a \$539 million federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, various Miami-Dade County sources, an FDOT state infrastructure bank loan, customer facility charges and lease revenue generated by its tenants.
Important attributes	Created Authority for Redevelopment Project Looking to Hotel Developer as 3rd Party Manager US National Register of Historic Places		Designated a <i>Project of National Significance and Major Project</i> by the federal government; Located in the federally designated Empowerment Zone and in the state/county designated Enterprise Zone; Rental car center features the first multilevel fueling system designed in the US

Source: C&S Companies

Supported Retail/Restaurant/Services Demand at Potential Intermodal Facility

In addition to organic demand for retail, restaurant, and services identified for the TPA south development area, additional generators of such demand could come from a potential intermodal facility proposed for this site. Based on national trends and benchmarking data, convenience commercial retail and limited food and beverage space were identified as compatible uses and tested for supportability at the potential intermodal facility. In order to project estimated supportable demand for the identified product types, the LARRS demand model was adapted to consider the following parameters specific to the intermodal facility:

- Facility utilization sensitivity analysis of low, medium and high scenarios for passenger ridership, grown at an average annual rate of two percent after stabilization for remainder of planning horizon
 - Low – 5,000 daily users
 - Medium – 7,500 daily users
 - High – 10,000 daily users
- Historical TPA concessions data for airport passenger retail and food and beverage expenditures, grown at an average annual rate of two percent for planning horizon to adjust for CPI
 - Retail - \$1.50 per passenger
 - Food and Beverage - \$3.20 per passenger

From these inputs, the modified LARRS model estimated total demand generated by the ridership scenarios for convenience commercial retail and limited food and beverage space. The model then employed a fair share allocation method to distribute estimated demand between in-airport retail space and the proposed facility. As such, category-specific capture rates were applied based on the distribution of airport passenger concessions expenditures among the existing tenant mix and product offerings in the airport terminal and landsides complex to generate estimated demand within the potential intermodal facility.

Given an estimated ridership range of 5,000 to 10,000 daily passengers, convenience commercial and limited food and beverage demand on the order of 3,500 to 6,000 square feet could be supported within the potential intermodal facility and should be considered as part of the planning process.

TPA Intermodal Facility Estimated Supportable Commercial Demand (SF) by Scenario			
Ridership	Facility Utilization Scenarios		
	Low	Medium	High
Daily Passengers	5,000	7,500	10,000
Retail Type			
Convenience Commercial	1,500	2,000	2,500
Limited Service Food and Beverage	2,000	3,000	3,500
Total	3,500	5,000	6,000

Source: C&S Companies

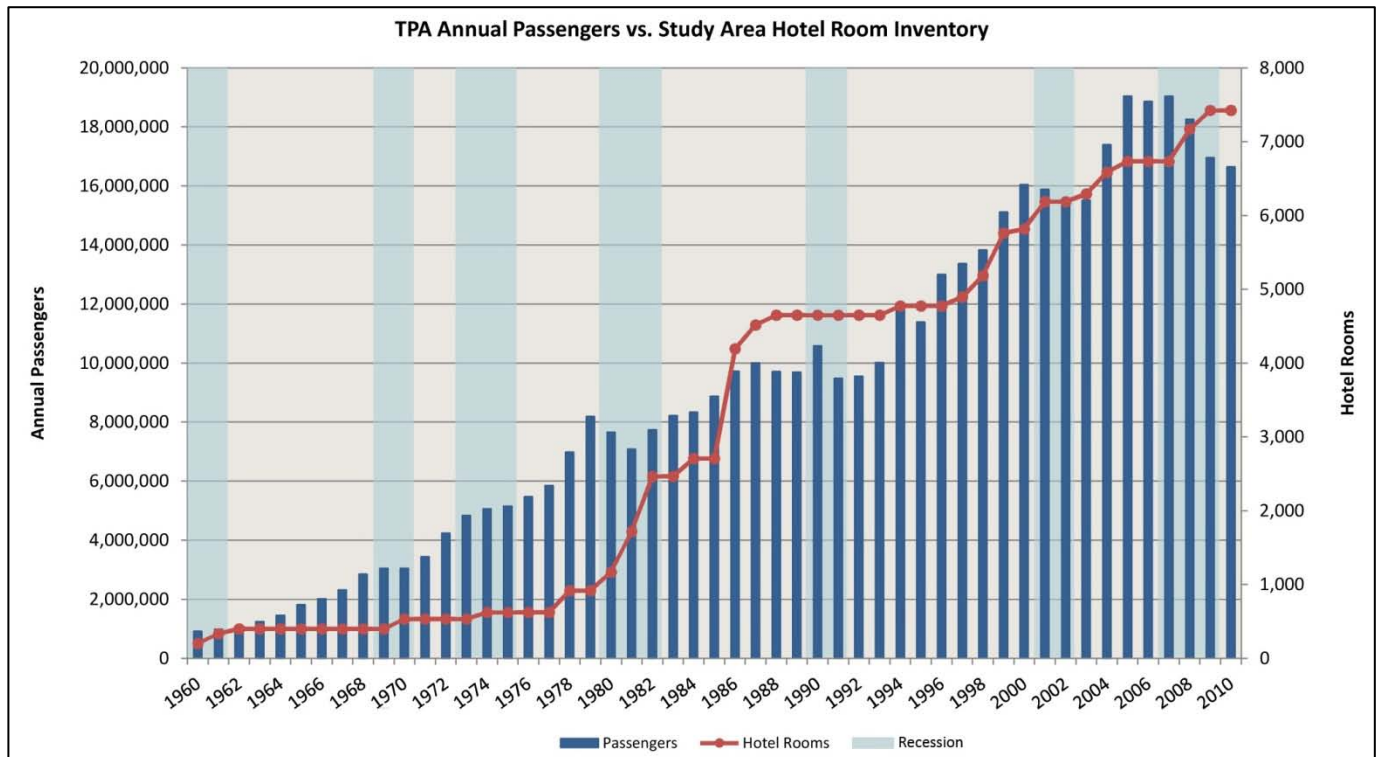
The following potential concepts to accommodate estimated supportable demand in the intermodal facility were identified.

- news stand/small-scale bookstore
- “grab-and-go” quick convenience kiosks for food and beverage
- smaller format limited service restaurants as well as specialty beverage shops or counters
- small format drugstore/convenience store with health, beauty, personal, and incidental needs

Hotels

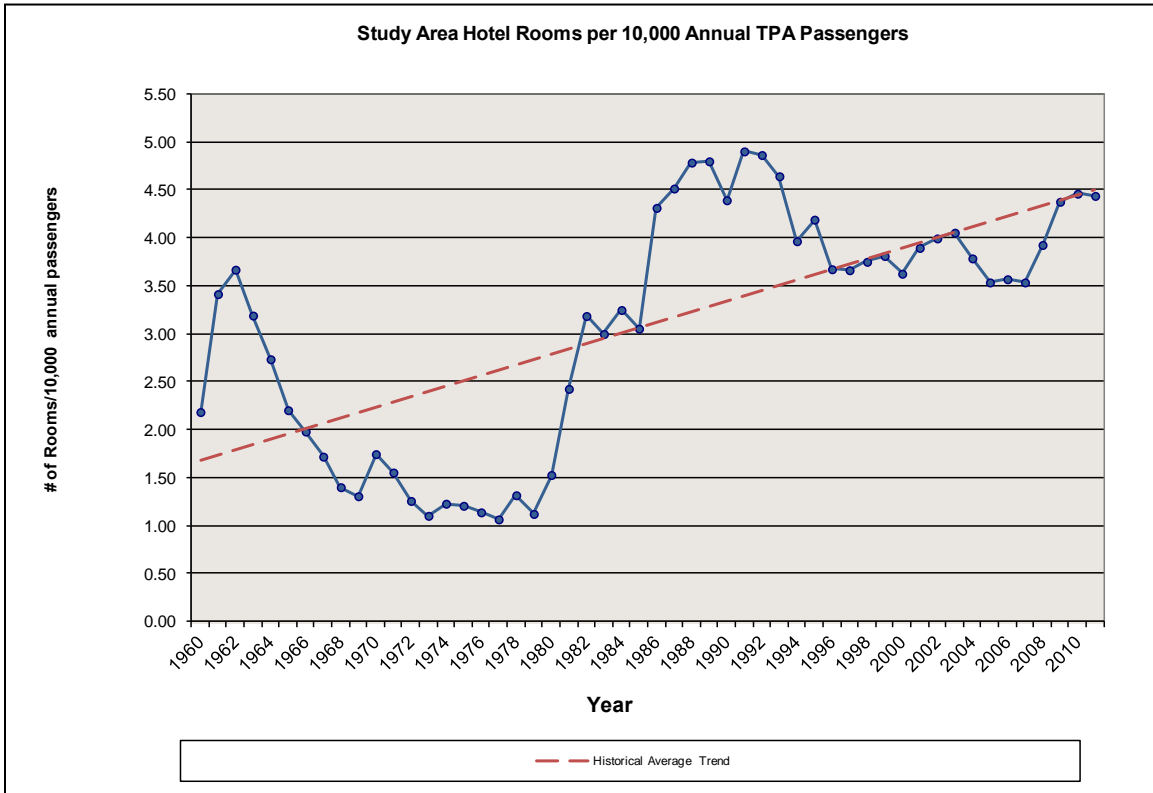
At year-end 2011, the central Tampa area (Downtown/Airport area) had approximately 11,500 hotel rooms in inventory within just more than 60 properties. Prevailing occupancy in the market was approximately 71 percent with average daily room rates (ADRs) hovering just above \$108 and revenue per available room (RevPAR) just less than \$77. Occupancy, ADR and RevPAR all improved over the same timeframe in 2010. The central Tampa hotel market is on par with the performance of the Clearwater and St. Petersburg hotel markets but better than the performance of hotels in the North and East Tampa markets and the Tarpon Springs area.

The following chart presents the relationship between annual TPA airport passengers and room additions to inventory over time. Overall, as passenger numbers have increased over the period of analysis, hotel inventory has continued to grow. For context, the chart also highlights historical recessionary periods in the U.S. economy.



Source: C&S Companies

From our national experience, demand for hotel rooms proximate airports is typically correlated with airport passenger traffic. The following chart fits an average trend line to hotel room inventory to establish a ratio of rooms to airport passengers over time. In secondary markets, the number of rooms per annual passengers metric generally continues to increase over time and eventually levels off as the market reaches maturity. At maturity, inventory replacement cycles become more pronounced resulting in properties being taken offline for renovation or permanently removed from product inventory.



Source: C&S Companies

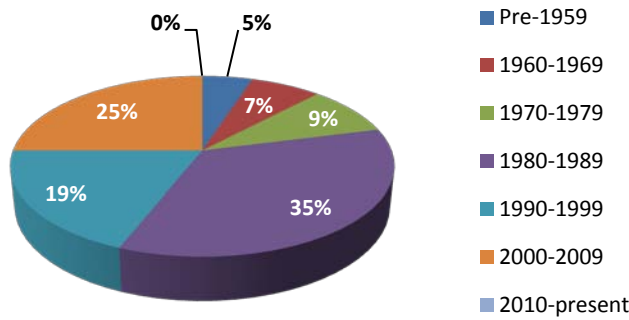
Within the study area, there are 43 hotel properties ranging in size from 30 to 489 rooms. Over the past 20 years, approximately 139 hotel rooms were added annually on average to the study area inventory. Hotel flag-affiliated properties developed during that timeframe averaged 146 rooms in size. The following table presents the hotel room inventory within the study area, opening dates and chain scale.

HOTEL PROPERTIES BY YEAR BUILT			
Westshore Hotel Submarket			
Property	Rooms	Opening Date	Chain Scale
Homestead Tampa North Airport	122	1997	Economy
Extended Stay Deluxe Hotel Tampa - Airport - N. West Shore	132	1998	Economy
Extended Stay Deluxe Tampa - Airport	84	1999	Economy
Suburban Extended Stay Airport Tampa	134	1999	Economy
Microtel Inn and Suites Tampa Stadium	63	2001	Economy
Extended Stay America Tampa - Airport - West Shore	104	2003	Economy
Villager Lodge	30	1947	Independent
Tahitian Inn	89	1955	Independent
Tampa Airport Stadium Inn	296	1961	Independent
Sailport Waterfront Suites	214	1982	Independent
Mainsail Suites Hotel & Confer	358	1999	Independent
Grand Hyatt Tampa Bay	445	1986	Luxury
InterContinental Hotel Tampa	323	1987	Luxury
Howard Johnson Hotel - Tampa Airport/Stadium	120	1962	Midscale
Quality Inn Airport Tampa	74	1970	Midscale
La Quinta Inn Tampa Bay Airport	121	1978	Midscale
Best Western Bay Harbor Hotel Tampa	252	1980	Midscale
Ramada	237	1981	Midscale
Best Western Tampa	54	2000	Midscale
Comfort Inn Airport at RJ Stadium	187	1960	Upper Midscale
Chase Suite Hotel	160	1986	Upper Midscale
Hampton Inn Tampa-International Airport/Westshore	133	1988	Upper Midscale
Hampton Inn Tampa Rocky Point	70	1998	Upper Midscale
Holiday Inn Express Hotel & Suites Tampa/Rocky Point Island	88	1998	Upper Midscale
Holiday Inn Express Hotel & Suites Tampa	147	2005	Upper Midscale
TownePlace Suites Tampa Westshore/Airport	122	2008	Upper Midscale
Tampa Marriott Westshore	310	1981	Upper Upscale
Hilton Tampa Airport Westshore	238	1982	Upper Upscale
Tampa Airport Marriott	296	1982	Upper Upscale
Embassy Suites Tampa - Airport/Westshore	243	1984	Upper Upscale
Sheraton Suites Tampa Airport	261	1986	Upper Upscale
Wyndham Tampa Westshore	272	1986	Upper Upscale
Renaissance Tampa International Plaza Hotel	293	2004	Upper Upscale
Westin Tampa Bay	255	2009	Upper Upscale
Crowne Plaza Hotel Tampa-Westshore	222	1970	Upscale
Doubletree	489	1974	Upscale
Courtyard Tampa Westshore/Airport	145	1986	Upscale
DoubleTree by Hilton Guest Suites Tampa Bay	203	1986	Upscale
Hyatt Place Tampa Airport/Westshore	124	1994	Upscale
Residence Inn Tampa Westshore/Airport	160	2001	Upscale
SpringHill Suites Tampa Westshore Airport	149	2001	Upscale
Hilton Garden Inn Tampa Airport Westshore	171	2008	Upscale
Homewood Suites by Hilton Tampa Airport - Westshore	144	2008	Upscale

Source: C&S Companies

More than half of all room inventory was developed in the 1980s and 1990s and roughly 70 percent of all properties fall within the midscale and upscale categories. The following pie charts present the hotel room inventory age and scale distribution.

Study Area Hotels by Age



Source: C&S Companies

There are a limited number of available sites proximate interstate highways and main corridors for hotel development within the study area. Historically, midscale, limited service hotel properties have been developed at 50 to 65 rooms per acre and upscale, full service hotel properties have been developed at 65 to 75 rooms per acre. Therefore average size hotels in this market require sites that are approximately three to four acres in size.

Our assessment work focused specifically on the performance and market supportability of product in the midscale and upscale segments within the relevant market area. This represents the middle to upper portion of the market and the product types having the greatest feasibility based on site requirements, construction costs and anticipated operating income. The cost-benefit of developing properties in the luxury category is not feasible given high construction costs and larger acreage requirements and therefore was not included in the analysis.

Supported Hotel Demand

Limited new on-site hotel demand can be supported within the first phase of the planning horizon. Demand grows to more moderate levels in the second phase, enough to support a 150 – 160 room limited service, midscale hotel on site. Hotel demand supportable on site reaches its highest levels by the final phase, potentially accommodating a full service, upscale hotel of 330 – 370 rooms on airport property.

TPA Estimated Incremental Hotel Demand (Rooms) Supported on Site by Phase				
	2012 - 2016	2017 - 2021	2022 - 2031	Total – All Phases
Hotel rooms	100-110	150-160	330-370	580-640

Source: C&S Companies

Market Findings & Land Use Implications

Overall, the following estimated incremental demand levels are supported in the south development area (not including the intermodal facility) at TPA for each type of commercial real estate product during the phases indicated.

TPA Total Estimated Incremental Demand Supported on Site by Phase					
Type of Space	Unit	2012 - 2016	2017 - 2021	2022 - 2031	Total - All Phases
Office	SF	-	240,000	520,000	760,000
Retail & Services	SF	30,000	45,000	104,000	179,000
Restaurant	SF	7,000	9,000	20,000	36,000
Total		37,000	294,000	644,000	975,000
Hotel	Rooms	100 - 110	150 - 160	330 - 370	580 - 640

Source: C&S Companies

Given the estimated demand identified here, the following land use requirements should be anticipated to accommodate the supported demand consistent with development intensities found in the prevailing local marketplace.

TPA Commercial Land Use Requirements				
Use	Demand (SF/rooms)	Special Requirements	FAR Range	Acreage Required
Office	760,000	visibility, access	1.25 - 1.75	10 - 14
Retail & Services	179,000	visibility, access	.25 - .30	14 - 16
Restaurant	36,000	visibility, access	.10 - .15	6 - 8
Hotel (max supported)	640	visibility, access	50 - 75	10 - 12
Total Range of Acreage Required				40 - 50

Source: C&S Companies

Potential Real Estate Product Concepts

The following potential concepts have been identified to accommodate estimated supportable demand in the south development area (not including the intermodal facility) on airport property over the planning horizon.

- Corporate offices
- Convenience store & gas station
- Unanchored, convenience retail center
- Junior retail anchors/medium boxes
- Full service, limited service & fast casual restaurants
- Limited service, midscale hotel
- Full service, upscale hotel

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Miami International Airport

Primary MROs (on airport property)

- AAR Aircraft Services
- Miami Tech Maintenance
- Commercial Jet
- AeroThrust

Component Repair (within 2 mile radius of airport)

- GA Telesis—MRO and logistics support to the commercial and military rotor and fixed wing aircraft markets
- General MRO Aerospace, Inc.—Repair, overhaul, sales and service of hydraulic, pneumatic, electronic, electrical, and electro mechanical aircraft components
- Summit Aerospace (Aerospace Engineering Group)—Repair and overhaul of power generation components
- Avionics International (Aerospace Engineering Group)—Avionics, instruments, electro-mechanical, and electronics repair
- Summit Accessory Services (Aerospace Engineering Group)—Repair, overhaul and modification of aircraft pneumatics, hydraulics, fuel, surface controls, and auxiliary power units
- JetAir Support—Jet engine component repair
- Air-Pro (Aero Maintenance Group)—Provides airframe and engine rotatable and expendable part distribution, hose manufacturing and aircraft interior and safety system repair services
- Aero Technologies (Aero Maintenance Group)—Overhaul and repair services for pneumatic, hydraulic, avionics, and electro-mechanical components and accessories

Parts Suppliers/Manufacturing/Distribution (within 3 mile radius of airport)

- Dixie Aerospace—Aerospace bearings
- AAXICO
- AVICO
- B&G Instruments
- Pinnacle Aircraft

Piedmont Triad International Airport

Primary MROs (on airport property)

- Cessna Citation Service Center
- TIMCO
- HondaJet
- Comair

- Landmark Aviation
- Atlantic Aero

Component Repair (within 2 mile radius of airport)

- Genesis Aviation—Repair, overhaul, sales and service of hydraulic, pneumatic, electronic, electrical, and electro mechanical aircraft components

Parts Suppliers/Manufacturing/Distribution (within 3 mile radius of airport)

- Purolator Facet, Inc.
- Aerosphere Aviation Services

Wichita Mid-Continent Airport

Primary MROs (on airport property)

- Bombardier
- Cessna Citation Service Center
- Hawker Beechcraft Services
- Yingling Aviation

Component Repair (within 2 mile radius of airport)

- Honeywell—Avionics repair & overhaul
- Rockwell Collins—Calibration and repair for manufacturing and process equipment

Parts Suppliers/Manufacturing/Distribution (within 3 mile radius of airport)

- Garmin International (on airport property)
- Bevan-Rabell
- PWI, Inc.
- Globe Engineering Company
- Weaver Manufacturing
- B&B Airparts
- Wilco

APPENDIX J - LAND USE ASSESSMENT

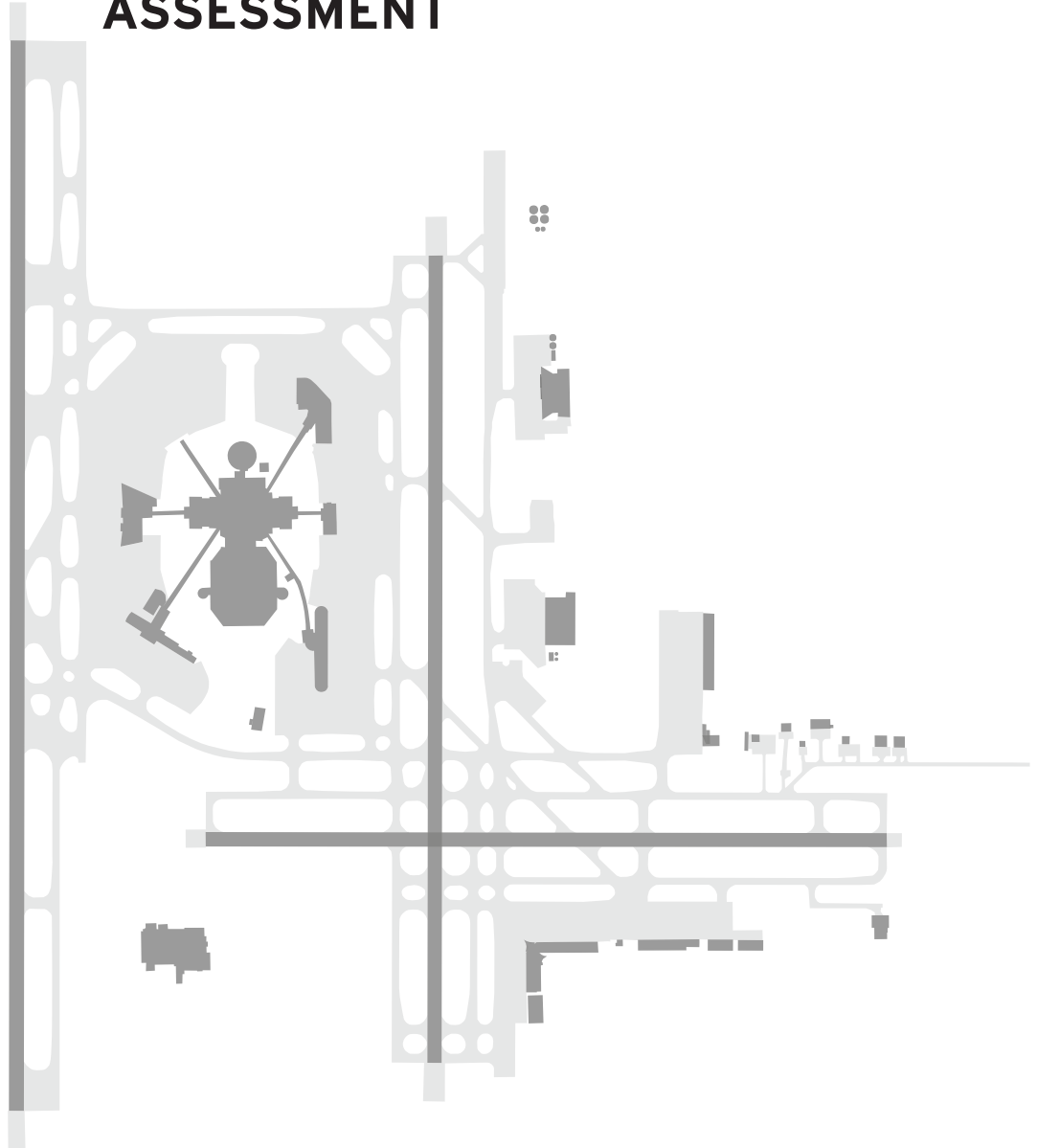


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APPENDIX J:

Perimeter Parcel Land Use Analysis

The following sections review several existing tracts of property owned by the Hillsborough County Aviation Authority (HCAA) located on the airport's perimeter. These areas are depicted in **Figure X.1** and are referred to as follows:

Area One – Property on the northeast quadrant of N. Hoover Blvd. and Hillsborough Ave. Also referred to as Parcel 46;

Area Two – Property bordered by West Tampa Bay Blvd on the north, north Himes Avenue on the east, West Columbus Drive on the south and Dale Mabry Highway on the west. Also identified as Parcel 9-1;

Area Three – Property bordered by N. Tampa Bay Blvd. on the north and Dale Mabry Highway on the east. Also identified as part of Parcel 9-1;

Area Four – Property bordered by North Dale Mabry Highway on the east and Spruce Street on the south.

Area Five - Property west of the Veterans Expressway, South of Skyway Park and east of the Dana Shores residential area. Also identified as Parcel 7-4.

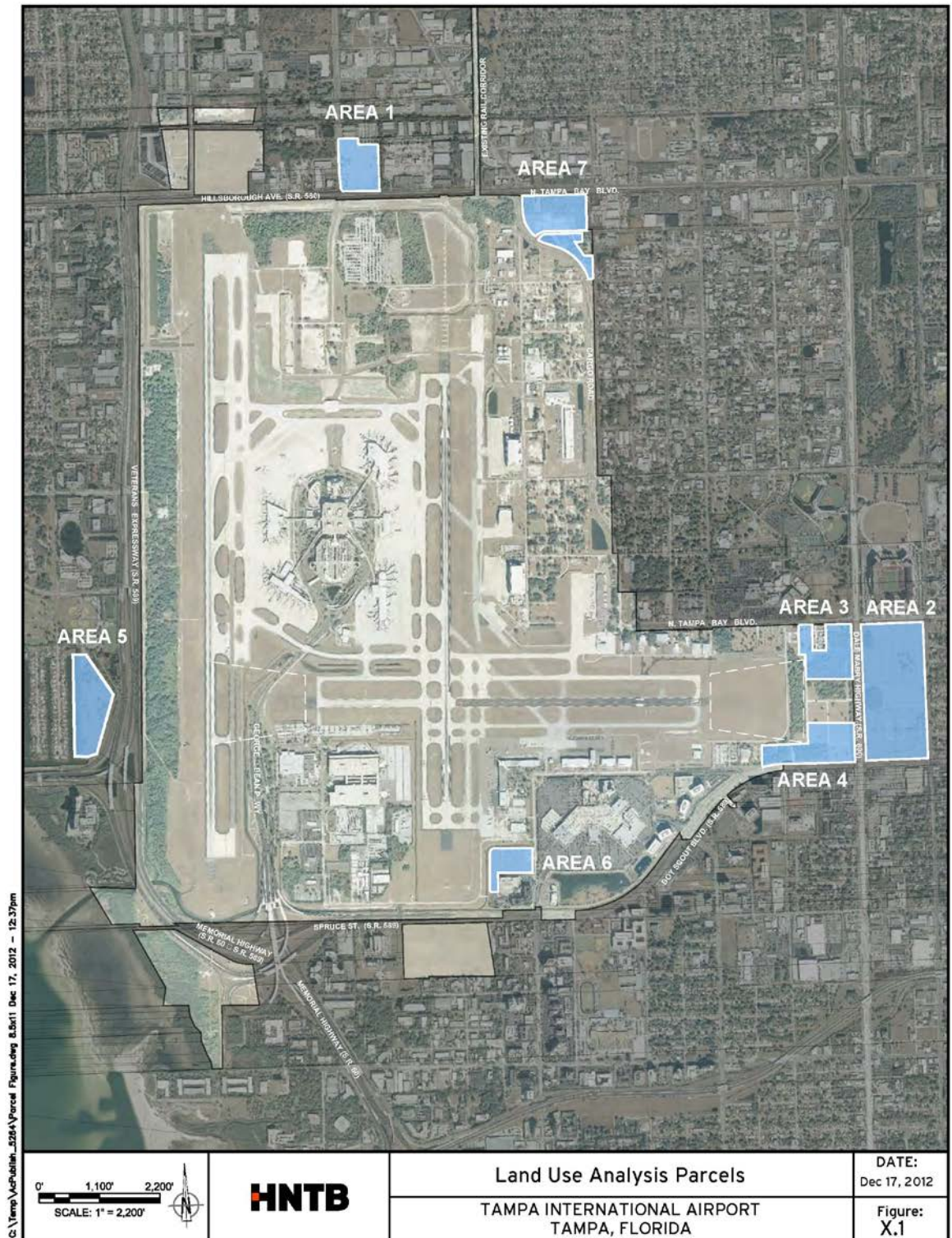
Area Six – Property bordered on the west and north by the alignment of the Airport Access Road, on the east by North Westshore Blvd and on the south by an office development that fronts onto West Spruce Street.

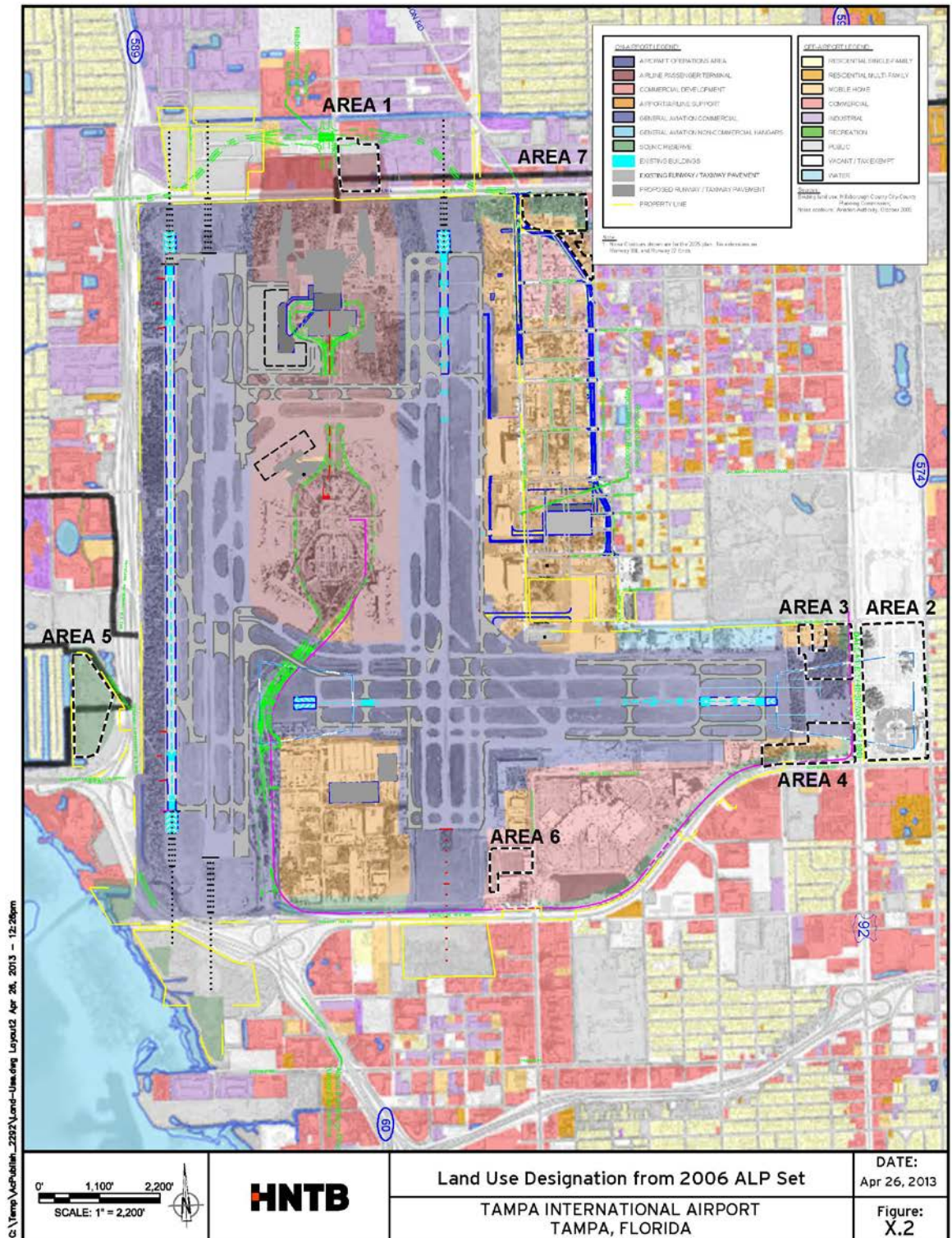
Area Seven – Property in the northeast corner of the Eastside Development Area located along the south side of Hillsborough Avenue to the north and east of Air Cargo Road

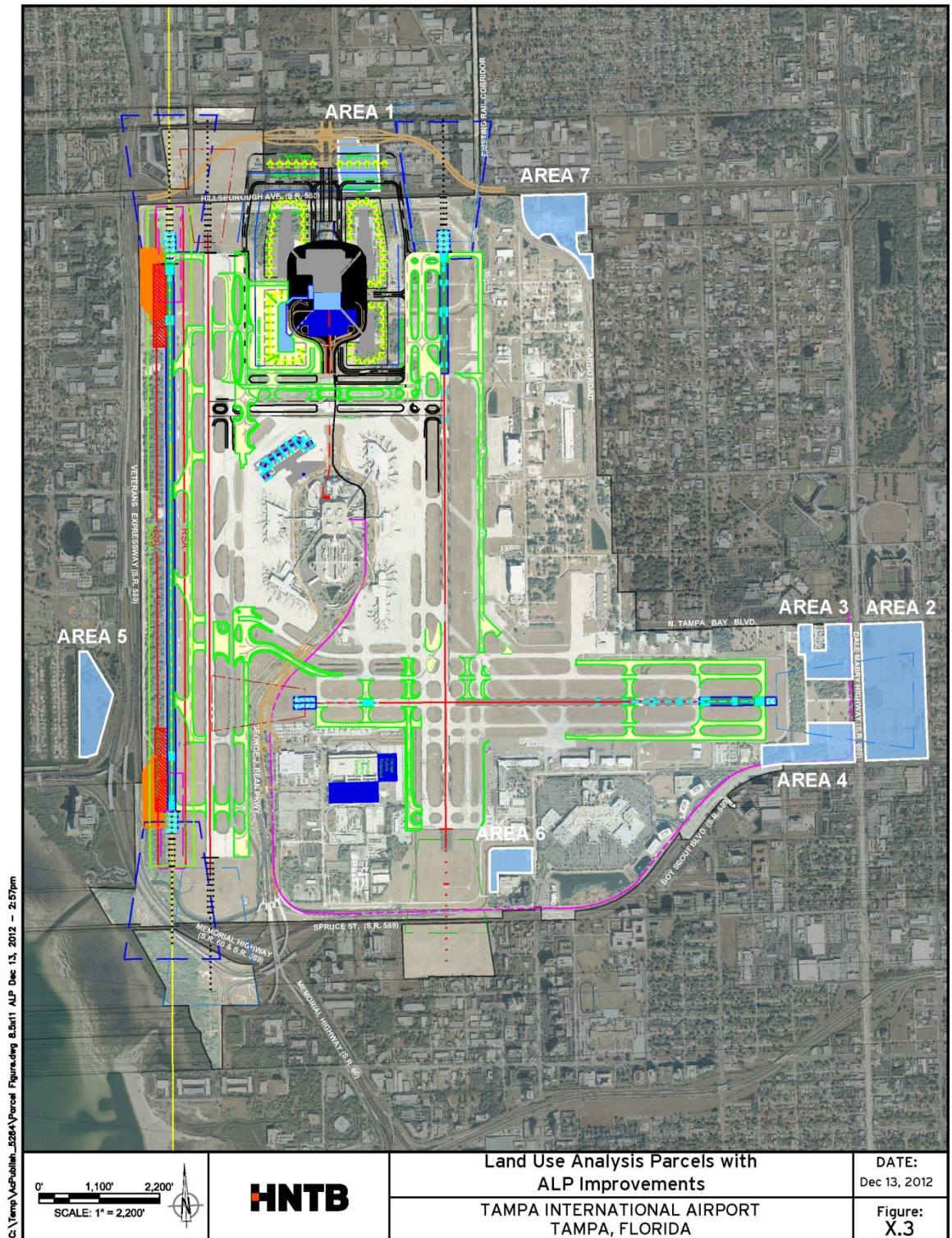
As part of the Airport Master Plan Update land use designations established in the previous master plan for these seven areas have been reviewed. To facilitate this discussion, see **Figure X.2**, the existing Land Use map from the previously approved ALP from the 2005 Master Plan. See **Figure X.3** for a depiction of the major projects previously approved and depicted on the ALP.

General recommendations have been developed in regards to the appropriateness of the current land use classifications given changes that have occurred since the completion of the 2005 Master Plan. These changes include the decision to leave Hillsborough Avenue in its present alignment rather than relocate the roadway to the north as a part of development of a new North Terminal, the decision to delay the development of the North Terminal due to the significant economic downturn in

2007/2008, and the decision to not carry forward a proposed 1,200 foot easterly extension of Runway 10-28 with a full Category I ILS capability as well as changes in development priorities and facility demand. Each parcel is reviewed individually in the following sections.







J.1 Area One – Northeast Quadrant of N. Hoover Blvd. at Hillsborough Ave.

J.1.1 Acquisition History and Restrictions

This land was acquired to support the North Terminal development anticipated in prior Master Plans. HCAA used a combination of FDOT Grant funds and Passenger Facility Charges to fund the purchase.

In accordance with Par. 14.80 of the FDOT Grant, should the Authority sell the land during its useful life, except for replacement purposes, the Authority will be required to remit to FDOT a proportional amount from the proceeds of the sale. The Authority may lease the land for non-aeronautical purposes upon consent from FDOT as long as revenues generated are expended for capital operating costs of the airport.

Area One is located to the north of the airport between the extended centerlines of Runway 1R/19L and 1L/19R. **Figure X.4** depicts the proposed Area One. The 2006 Master Plan airport layout proposed shifting the alignment of Hillsborough Avenue approximately 1,050 feet north of its current location to provide an expanded area for a new North Terminal. This parcel was originally envisioned as a site for North Terminal support facilities. Subsequent to completion of the 2006 master plan, revisions to the North Terminal development concept eliminated the need to relocate Hillsborough Avenue. Land uses in the general vicinity of Area One consist of a diverse array of heavier commercial activities, office-warehouse/office-flex facilities, general warehousing, outdoor vehicle and other equipment storage, office and a variety of maintenance and equipment/vehicle repair land uses. Virtually all development in this area is single story in nature and consists of a mix of single occupant and multi-tenant buildings.

J.1.2 Parcel description

The northeast quadrant of North Hoover Blvd. and Hillsborough is a presently underdeveloped tract of land totaling approximately 14.9 acres. The parcel is a rectangular tract approximately 700 feet in width along an east/west orientation and approximately 960 feet long at its longest point from north to south. The tract is generally clear of tree cover and level with no discernible wetlands or areas of ponding with the exception of one small area in the southeast corner of the site. The site is bordered on the south by the alignment of Hillsborough Avenue and on the west by North Hoover Boulevard. At present, the only curb access to the site is off of North Hoover Boulevard via a single curb cut opposite Hangar Court at the north border of the site.

J.1.3 Existing land use/zoning designations

The land use map developed as a part of the 2006 Master Plan, and included in the approved Airport Layout Plan for Tampa International Airport, identified the southern two thirds of Area One as “Airline Passenger Terminal Use” and the northern one-third as

“Public use”. It should be noted that the northern third of the parcel identified as public use was overlaid by a portion of the proposed realigned Hillsborough Avenue. A copy of the 2006 airport layout plan land use map addressing the Area One vicinity is attached as **Figure X.5**.

The southern 15% of the parcel fronting Hillsborough Avenue is situated within the limits of the City of Tampa and is governed by the City’s zoning provisions. The north 85% of the site is contained within the jurisdiction of Hillsborough County.

Under both the County and City zoning classifications, a central basis for the regulation is to foster compatibility with airport operations. This can be seen in the typically permitted land uses that are consistent with compatibility criteria set forth under 14 CFR Part 150. Additionally, both the City and County zoning categories governing this site have limitations on the height of structures that may be developed to ensure consistent compliance with airport imaginary surfaces. The portion of the site within Hillsborough County is zoned as Special Purpose Interest – Airport District 3 (SPI-AP-3) and Special Purpose Interest – Airport District 4 (SPI-AP-4) (See footnote 2)

Typical land uses permitted without a conditional use approval in the SPI-AP 3 and SPI-AP-4 zoning designations include:

- Manufacturing
- Research Facilities
- Professional Office/Services
- Distribution Centers
- Medical Labs
- Warehousing Facilities
- Vehicle Sales
- Indoor/Outdoor Storage
- Printing/Publishing Services
- Building Materials
- Electronics Repair
- Building Supplies
- Vehicle Sales
- Vehicle Repair
- Business Services

J.1.4 Proposed Changes to the Airport Land Use Map designation

Given changes in the timing and development concept for the North Terminal complex, the continued designation of the Area One parcel as Passenger Terminal and Public Use is no longer considered appropriate. It is recommended to change the land use designation of the property at the northeast quadrant of Hoover Boulevard and Hillsborough Avenue to the Commercial category. This would bring the property into conformity with the activities on immediately adjacent properties and in the larger surrounding area. This change in airport land use map designation would also be in conformity with the overlying zoning of both the City of Tampa and Hillsborough County.

J.1.5 Rationale for Change

Two significant changes have occurred since the completion of the 2006 land use map for the airport layout plan. The most significant change is associated with revisions to the original North Terminal development concept. As originally envisioned the two north concourses (identified on the ALP as NA-3 and NA-4) of the proposed North Terminal

extended to within approximately 220 feet of the existing alignment of Hillsborough Avenue and the proposed terminal ramp and ramp taxilanes extended approximately 790 feet north of the existing Hillsborough Avenue. This development concept drove the need to relocate Hillsborough Avenue well to the north of its current alignment.

Subsequent to the completion of the 2006 master plan, and prior to the initiation of the current 2012 Master Plan Update, the North Terminal development plan was amended to remove the northern 500 foot extensions of both airside NA-3 and NA-4 to allow the existing Hillsborough Avenue alignment to remain. The portion of Airside NA-3 and NA-4 that was removed in the subsequent change to the north terminal consist of the areas hatched in red in the preceding exhibit. Associated with the removal of the noted portions of the airside was the removal of a significant area of terminal parking and movement apron that was originally shown as being placed on Area One and adjacent tracts of land. The subject parcel is now separated from the North Terminal development area and from the airport operations area by the six-lane alignment of Hillsborough Avenue. This roadway is a major arterial road handling thousands of vehicle movements on a daily basis. Movement of airport support vehicles such as tugs and carts, fuel carts or other service equipment across Hillsborough is deemed neither desirable nor viable.

Finally, the current master plan extends the capability of the main terminal complex to serve demand beyond the level that was previously identified as triggering the need for a North Terminal. Direct public access from Area One to the existing main terminal complex is not possible due to existing airfield facilities. The potential to change the land use designation to the general commercial category that is listed on the airport land use map will not adversely impact the ability of the HCAA to meet the long-term forecast of demand at Tampa International Airport nor does it adversely impact the configuration or expansion of airport facilities as delineated on the most current approved Airport Layout Plan.

While the site is not currently situated to provide an immediate support use for airport facilities, it remains available as a site that could be used for an ancillary activity if development of the North Terminal is undertaken. Therefore the airport should retain ownership of the parcel. A change of land use designation to allow for some form of general commercial development would generate revenue supporting the financial viability of Tampa International Airport. Further, at some point in the future should the property be needed to support a North Terminal the airport would have that option.

J.1.6 Summary

The land use designation depicted on the Airport Land Use map for the northeast quadrant of Hillsborough Avenue and Hoover Boulevard no longer reflects a logical designation given the delay in building a North Terminal and the changes made to the North Terminal concepts.

The recommended change to a commercial designation is reasonable because:

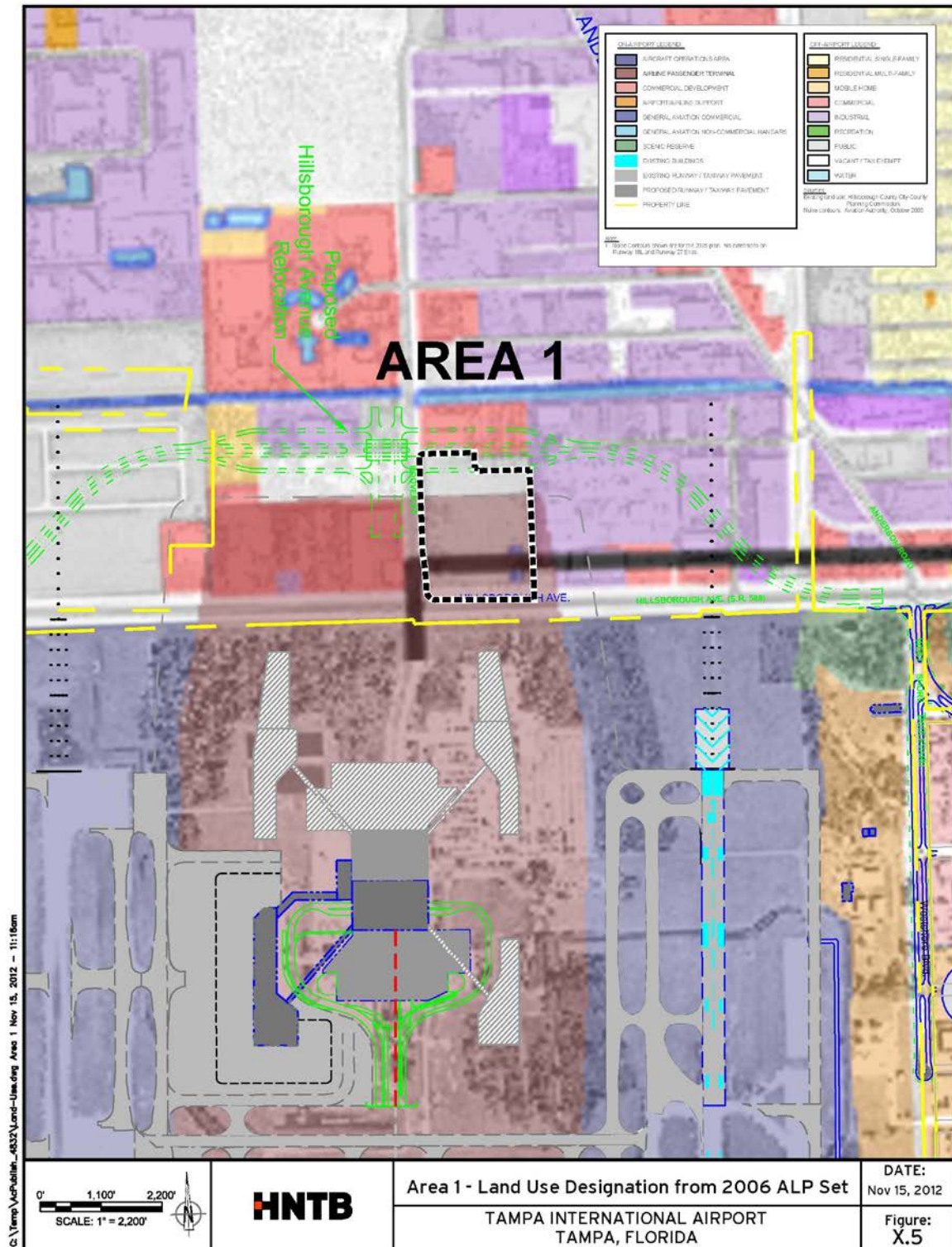
The land is not required for the North Terminal or related roadway realignment on which the previous designation was based;

The property should be retained to preserve the option of its future use for aviation support purposes, but in the interim the land can provide revenue to support current airport operations and capital programs;

It does not adversely impact the ability of Tampa International Airport to meet the long-term forecast of aviation demand, nor does it impact the ability to accommodate any segment of the aviation industry at TPA over the current twenty year master plan horizon.

Market analytics and local fieldwork conducted by the HCAA's land use and real estate advisors suggest potential commercial use of the property include but is not limited to single-story retail, low-rise industrial, flex, self-storage, or lower intensity office activities, all of which are compatible with airport operations and could provide space for businesses providing goods or services to airport tenants and users. From a land use perspective, the change from Passenger Terminal Use and Public Use to a general commercial designation is a logical and appropriate action.





J.2 Area Two – Property bordered by Dale Mabry Highway, West Columbus Drive, North Himes Avenue and Tampa Bay Boulevard

J.2.1 Acquisition History and Restrictions

Area Two was originally purchased to provide land for a Runway Protection Zone associated with a future extension of Runway 10-28. The Authority used an FDOT grant and Passenger Facility Charges to fund the purchase.

In accordance with Par. 14.80 of the FDOT Grant, should the Authority sell the land during its useful life, except for replacement purposes, the Authority will be required to remit to FDOT a proportional amount from the proceeds of the sale. The Authority may lease the land for non-aeronautical purposes upon consent from FDOT as long as revenues generated are expended for capital operating costs of the airport.

Area Two is a 66-acre site located east of Tampa International Airport and lies beneath the extended centerline of Runway 10-28. See **Figure X.1** for the location of Area Two in relation to Tampa International and see **Figure X.6** for a more detailed look at the site. The western border of the site is approximately 2,960 feet from the threshold of Runway 28. Runway 10-28 is a 6,999 foot long crosswind runway at TPA and is primarily used by general aviation aircraft with very limited use by commercial airlines. The parcel is rectangular in shape and encompasses approximately 65 acres and is separated from the primary airport land area by the alignment of North Dale Mabry Highway/Highway 92, a six-lane major arterial roadway. Dale Mabry is one of the more significant non-interstate roadways in the region. The property comprising Area Two was originally purchased to provide for a Runway Protection Zone associated with a future extension of Runway 10-28.

The 2006 Airport Master Plan included the proposed extension of Runway 10-28 from its current length of 6,999 feet to a future length of 8,200 feet. All of the extension was proposed to occur off the east end of existing runway alignment moving the threshold of Runway 28 1,200 feet closer to the Dale Mabry right of way line. This would result in 1,600 feet of separation to the Dale Mabry right-of-way line. Additionally, the 2006 master plan and affiliated ALP included the development of a Category 1 approach to Runway 28, which resulted in a Runway Protection Zone (RPZ) that extended across Dale Mabry to within approximately 185 feet of North Himes Avenue on the east side of Area Two. The Runway 28 RPZ as depicted on the 2006 ALP encompasses 34.44 of the estimated 66 acre Area Two. The layout of the proposed runway extension on Runway 10-28 and affiliated RPZ in relation to Area Two is displayed in **Figure X.3**.

J.2.2 Parcel description

Area Two is generally level and has been cleared with the exception of a small area northwest of the baseball diamonds and adjacent to Dale Mabry Highway that appears to include a small cypress head and a second small wet area just southeast of North Dale Mabry Highway and West Tampa Bay Blvd.

Major land uses located in the immediate vicinity of Area Two include Raymond James Stadium, which is located due north of Area Two immediately across W. Tampa Bay Blvd from the parcel. To the east of Area Two are single family residences. South of the area across and along W. Columbus Drive are commercial land uses that include large and mid-sized big box retail facilities, fast food restaurants, multi-tenant strip malls and an auto dealership. West of the site across North Dale Mabry is airport owned property (Area Three) that is undeveloped with the exception of a City of Tampa Police Substation situated along the south side of W. Tampa Bay Blvd. Finally, to the northwest of the area diagonally across the intersection of Dale Mabry and W. Tampa Bay Blvd. is the campus of the Hillsborough County Community College (HCCC)

J.2.3 Existing parcel airport land use plan/zoning designations

Situated on the southern half of the site is a four-diamond baseball training facility that is part of the New York Yankees Spring Training complex. The north half is used as a turf parking area during sporting events that are held at Raymond James Stadium including Tampa Bay Buccaneer professional football games. The Tampa Sports Authority has a 40-year lease on the property.

The 2006 land use map, as included in the currently approved ALP, does not identify Area Two as having a specific airport related land use category. The land use map does, however, identify the area under a general category of off-airport land use as being Vacant/Tax Exempt, which includes that portion of the site occupied by the New York Yankees training fields.

Area Two is located within the City of Tampa limits and is subject to the zoning laws of the City. The parcel is presently zoned as CI – Commercial Intensive which is described as a zoning district for “*intense commercial activity, permitting heavy commercial and service uses. Minimum lot size is 10,000 square feet with a maximum floor area ratio of 1.0-1.5 and a maximum structure height of 45 feet.*” The City of Tampa future land use map identifies the entire parcel in a Public/Semi Public land use category which is also applied to most of the other airport property, Raymond James Stadium, HCC and additional professional baseball facilities north of the HCC. The Land Use Map for the area encompassing the proposed parcel and its adjacent uses is displayed in **Figure X.7**.

J.2.4 Proposed Changes to Airport Land Use Map Designation

The land use designations as delineated on the existing airport land use map are not deemed appropriate given the frontage of the parcel on N. Dale Mabry and West Columbus Drive, the surrounding land uses and a recommendation in the current master plan update to not extend Runway 10/28 to the east.

Area Two would be a viable site for a general commercial land use designation more in line with the City’s C-I zoning designation for the area. Such a change would not preclude the continued utilization of the property for event parking, but would provide the

flexibility of developing a higher utilization for the parcel or pieces of the parcel should opportunities arise. This would enhance revenue generated from the property for HCAA operations, maintenance and development needs.

J.2.5 Rationale for Change

The 2005 Tampa Airport Master Plan and the affiliated 2006 ALP that accepted by the FAA included a recommended 1,200-foot extension on the east end of Runway 10-28 and installation of a Category I instrument approach with associated RPZ.

The 2012 Master Plan update included analysis of the utilization of Runway 10-28 by specific aircraft types and categories to gain a definitive understanding of the operational requirements at TPA. Seven years of aircraft specific operational data shows that air carrier use of the runway is dominated by operations of twin engine turbo-prop activity and commercial use of the runway is exceedingly light.

A limited number of operations did involve commercial jet transport aircraft with the vast majority of these consisting of landings on Runway 28. An analysis of landing length requirements indicates that the runway does not need to be extended to meet forecasted demand. Departure activity on the runway was considerably more limited, and an extension would certainly result in an increase in departures. However, this would result in increased operational activity directly over concentrations of noise sensitive properties that are proximate to the airport including the Dana Shores area to the west and extensive residential uses immediately east of North Himes Avenue.

Runway 10-28 is not heavily used by business jet operators at the airport with the vast majority of this activity taking place on the parallel runway system. This was determined both through discussions with the Fixed Base Operators (FBO's) at TPA as well as from seven years of data derived from the airport noise monitoring system. Based on this information and the operational capabilities of the aircraft that were typical of the fleet, an extension of Runway 10-28 is not deemed justifiable. Additionally, the FAA has typically not provided funding support for improvements associated with the runway and would not likely provide funding for either the extension or the upgrade of the approach capability. Thus, all costs associated with the action would have to be funded with HCAA capital.

In addition, the recently issued FAA advisory circular AC 150/5300-13a includes specific provisions precluding public roadways from traversing RPZs. This means an easterly extension of Runway 10-28 would require placing all of Dale Mabry that would be within the RPZ in a tunnel that would be approximately 1,470 feet in length. This would pose significant engineering challenges and a massive increase in the cost. In addition, any easterly extension of Runway 10-28 beyond its current terminus requires the construction of a new 304-foot tall Air Traffic Control Tower (ATCT) or the demolition of the southernmost large MRO hangar to ensure a clear line-of-sight to the runway by air traffic controllers.

Given the preceding considerations, the extension of Runway 10-28 is not recommended over the 20 year planning horizon. As a result the vacant land use designation of Area Two to provide for a Runway Protection Zone is no longer necessary.

J.2.6 Summary

The land use designation depicted on the Airport Land Use map for the parcel beneath the extended centerline of Runway 10/28 and east of North Dale Mabry Highway no longer reflects the best land use designation of the parcel due to the change in the need for a 1,200 foot extension of Runway 10-28 to the east of its current terminus. This removes the RPZ from extending over a large portion of the subject area and undermines the rationale behind the vacant land use designation for the entire site. A possible change of land use to a general commercial designation as discussed above addresses this change in circumstances and is reasonable for the following reasons:

The site is not required to meet an aviation support facility need or terminal related facility needs over the 20-year planning horizon and is separated from the active airfield by a six lane arterial roadway;

The property is no longer needed to provide a RPZ for an extension to Runway 10-28;

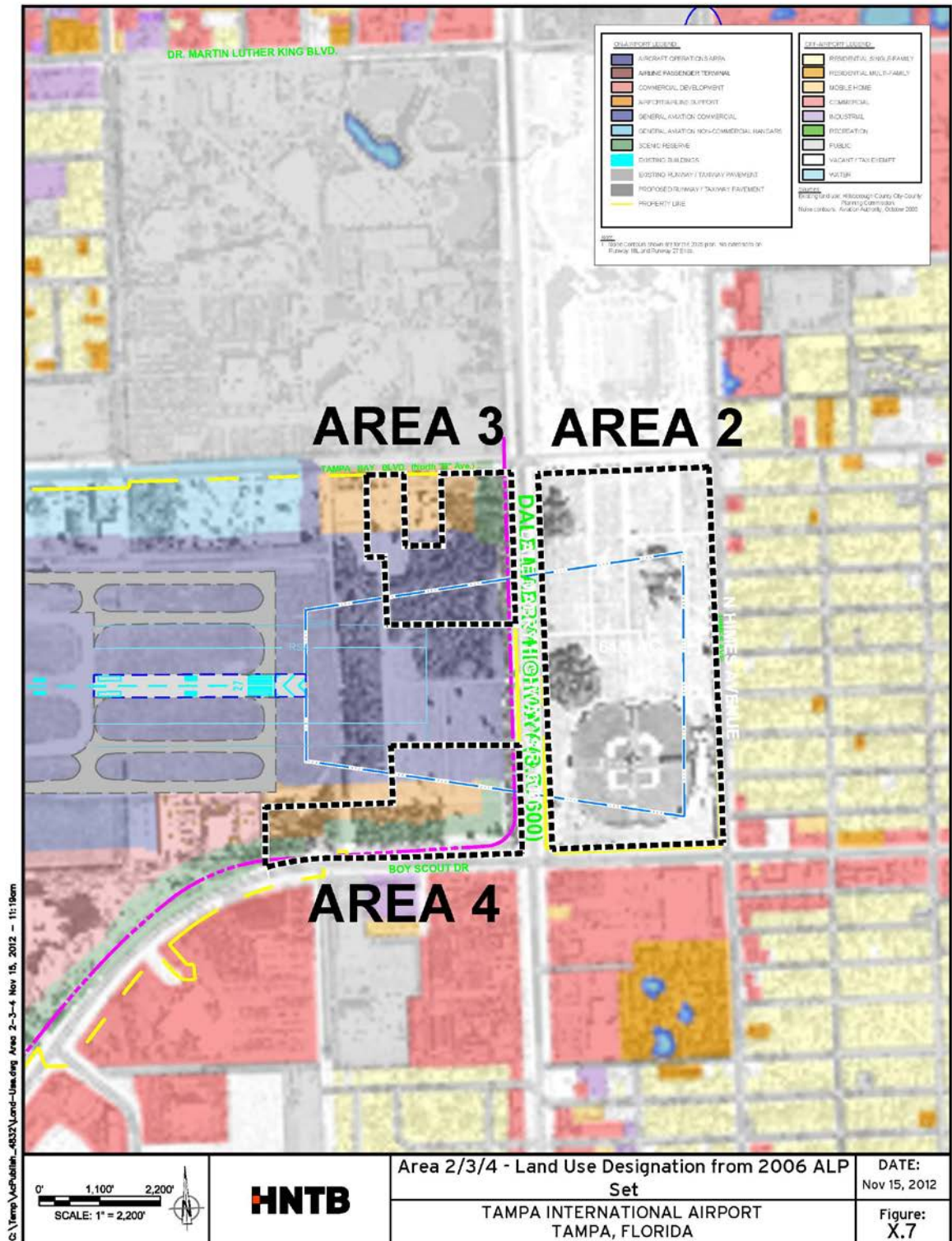
A commercial designation for the property would bring the classification into conformity with the City of Tampa zoning for the area;

A Commercial designation would be a logical and compatible extension of the pattern of existing land uses along both Dale Mabry Highway and West Columbus Drive;

Identifying the parcel in the general commercial designation that is listed on the existing airport land use map would not preclude the continued use, in part or in whole, of the area by the New York Yankees as a spring training facility or for parking during events at Raymond James Stadium, but would allow flexibility for the HCAA and the lessor to capture potential revenue producing development opportunities in the future should the desire or opportunity arise that would facilitate the financial sustainability of the airport.

Market analytics and local fieldwork conducted by the HCAA's land use and real estate advisors suggest appropriate forms of commercial use for Area 2 include but are not necessarily limited to single-story retail and services (including outparcel uses such as banks, drugstores, convenience/gas stations, etc.) and possible outparcel restaurants, that could be sited at the site's hard corners or along the western frontage. Any uses that might be considered would be required to be compatible with airport operations and within the parameters of airport Part 77 surfaces. A copy of the general market overview is contained in Appendix A.





J.3 Area Three - Parcels along the west side of Dale Mabry south of Tampa Bay Blvd and north of the extended Runway 10-28 Object Free Area

J.3.1 Acquisition History and Restrictions

Area 3 was acquired shortly after the Authority was originally created. The Authority acquired the land from the City of Tampa who received the property via War Surplus Deeds from the United States of America.

The grant states that the land should only be used for public airport purposes. However, until it is determined by the FAA that the land is needed for public airport purposes, the land may be utilized for non-manufacturing or non-industrial purposes provided that such use does not interfere with operation of the remainder of the airport as a public airport. Additionally, the land may be transferred only with the approval of the FAA and any subsequent transferee assumes all the obligations imposed upon the Authority. It is important to note that all 4 War Surplus Deeds contain a reverter clause to the Federal Government should the Authority breach the Deed.

Area Three is located on the east side of Tampa International Airport and lies to the north of the extended centerline of Runway 10-28 just beyond the boundary of an adjusted RPZ for the current alignment of Runway 10-28. The western border of the site is generally associated with the terminus of the RPZ and is approximately 1,900 feet from the existing threshold of Runway 28. Runway 10-28 is a 6,999 foot long crosswind runway at TPA and is primarily used by the general aviation aircraft experiencing only limited use by commercial air carriers. The overall parcel is irregularly shaped and encompasses approximately 18.2 acres. Area Three has approximately 1,000 feet of frontage along the west side of North Dale Mabry Highway/Highway 92 and 670 feet of frontage along the south side of W. Tampa Bay Boulevard. **Figure X.8** depicts Area 3.

The 2006 Airport Master Plan included the proposed extension of Runway 10-28 from its current length of 6,999 feet to a future length of 8,200 feet. All of the extension was proposed to occur off the east end of existing runway alignment moving the threshold of Runway 28 1,200 feet closer to the Dale Mabry right of way line. This would result in 1,600 feet of separation from the extended runway end to the Dale Mabry right-of-way line. Additionally, the 2006 master plan and affiliated ALP included the development of a Category 1 landing capability on Runway 28 which resulted in a Runway Protection Zone (RPZ) that extended across Dale Mabry to within approximately 185 feet of North Himes Avenue. The future Runway 28 RPZ as depicted on the 2006 ALP encompasses 4.5 of the 18.2 acres of Area Three. The layout of the proposed runway extension on Runway 10-28 and the affiliated RPZ as it relates to Area Three is shown in **Figure X.3**.

J.3.2 Parcel Description

Area Three is located in the southwest quadrant of West Tampa Bay Blvd. and North Dale Mabry Highway. The site surrounds an existing airport police substation that is

located along the south side of West Tampa Bay Blvd and is separated from other airport property to the west by a TECO electrical substation. While located outside of the proposed RPZ for existing Runway 28 the southern boundary of the site was defined based on an extension of the runway object free area (ROFA) from the end of the runway safety area (RSA) to the west right-of-way line of North Dale Mabry Highway. There is no requirement that the ROFA be extended in such a manner, nor is there any requirement that property between the end of the RPZ and the Dale Mabry right of way be maintained clear of facilities. Area Three is generally level and mostly covered with trees, including a small cluster of cypress between the police substation and North Dale Mabry Highway that are likely indicative of a potential small wetland. Current access to the area is provided by two curb cuts located along the south side of West Tampa Bay Blvd.

J.3.3 Existing parcel land use/zoning designations

Area Three is located within the City of Tampa and, therefore is, subject to the zoning laws of the City. The parcel is presently zoned as M-AP-1, Municipal Airport Compatibility District. (See footnote 1) The City of Tampa future land use map identifies the parcel with a Public/Semi Public land use category. **Figure X.7** displays the future land use designations of the subject parcel and surrounding areas from the City of Tampa future land use map.

The current airport land use map identifies the parcels comprising Area Three as a combination of uses that include Scenic Reserve fronting along part of Dale Mabry, Airport/Airline support behind the Scenic Reserve and fronting on West Tampa Bay Blvd and, finally, Aircraft Operations Area designation to the rear of the support classification. **Figure X.7** displays the on-airport land use classifications from the 2006 ALP.

J.3.4 Proposed Changes to Land use designation

Based on current conditions, the forecast of future aviation demand, the assessment of future facility needs and development configuration in the current Master Plan Update, it is recommended that the land use designation of Area 3 on the Airport Layout Plan be changed to a the commercial category.

J.3.5 Rationale for Change

As there are currently three land use categories in place over the subject area, the basis for amending the 2006 airport land use map designations will be discussed individually.

The acreage in Area Three identified as aircraft operations on the 2006 Land Use Map received that designation due to previous plans to extend Runway 10-28.

The boundaries of this airport land use classification were established based on the Runway/Taxiway object free area criteria, building restriction line and the RPZ off the end of the proposed extended runway. Area Three was located considerably closer to the end of the proposed extended runway than is the case with the extension removed

and as a result extending the aircraft operations area land use due to proximity to actual runway pavements and the Category 1 RPZ was logical. It should be noted that the aircraft operations area has been retained for the adjusted RPZ and for an 800 foot wide corridor coinciding with the width of an extended Runway Object Free Area out to the alignment of Dale Mabry. This extended ROFA forms the southern boundary of the site. Providing the extended ROFA is not required under FAA guidance and is actually located beyond the end of the RPZ.

The removal of the extension of Runway 10-28, for the reason described above, from the ALP as depicted in **Figure X.8** coupled with associated changes in the location of the RPZ removes the need for an Aircraft Operations designation in Area Three because the land area comprising Area Three is well to the side of actual aircraft operational areas at TPA, outside of FAA safety areas (including the RPZ) and will remain so based on the recommended actions contained in the updated master plan. Thus re-designating the property as commercial will not adversely impact the airport's ability to meet its mission or negate the ability to meet the forecast level of demand and facility need over the 20-year planning horizon.

The second airport land use classification currently in place on a portion of Area 3 is a Scenic Reserve designation. The area encompassed within this district runs from West Tampa Bay Blvd south 475 feet along the west frontage of North Dale Mabry Highway and extends approximately 210 feet west into airport property from the right of way of North Dale Mabry Highway. This category establishes a zone having no economic value or economic return to the airport. No other Scenic Reserve is located along either West Tampa Bay Blvd or North Dale Mabry Highway on any of the nearby properties or developed land uses fronting these roadways. Opposite the Scenic Reserve area is an open unpaved field used for special event parking, while diagonally across North Dale Mabry is a paved parking lot adjacent to Raymond James Stadium. Continued designation of the area as Scenic Reserve denies the HCAA the use of a parcel that given its location would have significant revenue producing potential and absolutely no adverse impact on the airport's ability to provide adequate facilities to its users over the 20-year master planning period. Further, given the pattern of development in the surrounding areas the continued designation of the property in this use category serves no realistic public interest.

The third airport land use map category depicted within the boundary of Area Three is identified as Airport/Airline support uses. This designation begins approximately 210 feet west of North Dale Mabry Highway and extends 1,030 feet west encompassing a City of Tampa Police Substation and the TECO transformer site terminating just west of the transformer site. The boundary of this land use classification extends from the south side of West Tampa Bay Blvd to a line parallel to, and 375 feet south of West Tampa Bay Blvd. The 2012 Master Plan Update includes a detailed assessment of Airport/Airline support needs as a part of the facility requirements analysis and the planning for the Eastside development area. This analysis concluded that Airport/Airline support uses were generally adequately sized to meet forecast needs, and in the event

expansion were to be desired, adequate space exists adjacent to current facilities. Based on this assessment and the fact that airline support uses have and will continue to be accommodated at locations within the Eastside Development Area and significantly closer to the main terminal complex, the limited acreage designated for these types of activities within Area Three is no longer needed for that particular role.

Keeping the City of Tampa Police Department and the TECO Substation as “Airport Support” land uses is appropriate as these facilities are already in place and serve more than just the airport. But given the decision to forego the easterly extension of Runway 10-28 and that the property is far removed from other developed airport facilities, Area Three is not an appropriate location during the planning period for such Airline/Airport support facilities as:

- Airport maintenance
- Aircraft repair/MRO
- Ground Service Equipment maintenance
- Belly cargo
- Central concession warehousing
- Fuel farm
- Employee parking
- Taxi or bus staging
- Rental car facilities, Fire training facilities

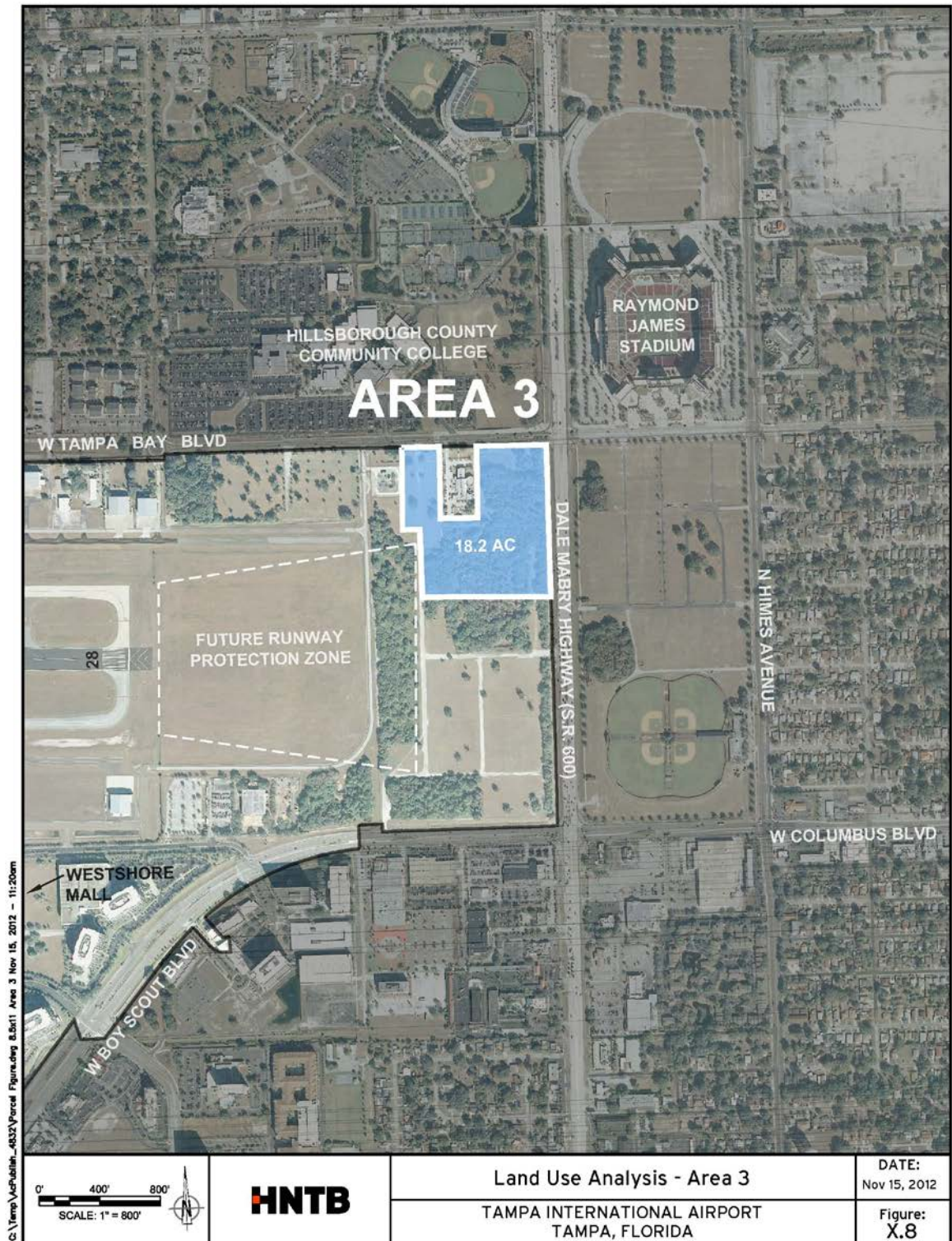
More proximate locations have been identified that are far more appropriate and operationally viable elsewhere on the airport campus. Thus, the continued designation of this property for such activities is not considered appropriate. Further, sufficient land area exists much closer to existing airfield facilities to meet the needs of other aviation related activities at TPA including such uses as FBO activities and corporate/private hangars for which provisions have been made for their projected needs. Additionally the availability of developable property for such uses at one of the three other airports owned and operated by the Hillsborough County Aviation Authority that serve as reliever facilities cannot be discounted.

Based on the preceding discussion, re-designating the portion of airport property identified in this review as Area Three as commercial would result in no adverse impact to the airport’s ability to meet its role or to provide requisite facilities over the 20-year planning period. It would not adversely impact the active airfield and would contribute to the financial self-sustainability of the airport at a time when outside revenue sources are becoming less reliable.

Market analytics and local fieldwork conducted by the HCAA’s land use and real estate advisors suggest potential forms of commercial use of the property might include but are not necessarily limited to single-story retail and services (examples might include, but not be limited to outparcel uses such as banks, drugstores, convenience/gas stations, etc.) and outparcel restaurants, to be located at the site’s northeast hard corner and along the eastern frontage. Contingent on compatibility with airport operations low-rise self-storage facilities might also be an appropriate market-based use of the site.

J.3.6 Summary

Based on revisions generated from the 2012 Master Plan process circumstances that were contributing factors to the development of the 2006 airport land use map in the ALP no longer exist and proposed developments that drove the land use designations are no longer being pursued. As a result a re-evaluation of the on-airport land use designations of property is appropriate. Based on the projected facility requirements, TPA has sufficient land area to meet the facility demands for airport support uses and other aviation needs for the 20-year planning horizon elsewhere on the airport and has planned accordingly. Regardless the airport would retain ownership of the property but should consider the development of possible commercial uses that could operate and generate revenue to support airport operational and development needs and, should the land be needed for airport use beyond the 20 year horizon provisions in airport leases ensure it would be possible to make it available. To this end, the potential re-designation of the land area comprising Area Three (see **Figure X. 8**) from its current mix of aircraft operational area, airport/airline support and scenic reserve to a general commercial designation could be considered by the airport as an appropriate and viable action. A copy of a general market overview is contained in Appendix A.



J.4

Area Four – North of Boy Scout Road, west of North Dale Mabry Highway, south of the extended runway object free area for Runway 10-28

J.4.1 Acquisition History and Restrictions

Area 4 was acquired shortly after the Authority was originally created. The Authority acquired the land from the City of Tampa who received the property via War Surplus Deeds from the United States of America.

The grant states that the land should only be used for public airport purposes. However, until it is determined by the FAA that the land is needed for public airport purposes, the land may be utilized for non-manufacturing or non-industrial purposes provided that such use does not interfere with operation of the remainder of the airport as a public airport. Additionally, the land may be transferred only with the approval of the FAA and any subsequent transferee assumes all the obligations imposed upon the Authority. It is important to note that all 4 War Surplus Deeds contain a reverter clause to the Federal Government should the Authority breach the Deed.

Area Four is located on the east/southeast side of Tampa International Airport and lies to the south of the extended centerline of Runway 10-28 just beyond the boundary of a potential expanded RPZ. The parcel is irregularly shaped and encompasses approximately 21 acres.

The 2006 Airport Master Plan included the proposed extension of Runway 10-28 from its current length of 6,999 feet to a future length of 8,200 feet. All of the extension was proposed to occur off the east end of existing runway alignment moving the threshold of Runway 28 1,200 feet closer to the Dale Mabry right of way line. This would result in 1,600 feet of separation to the Dale Mabry right-of-way line. Additionally, the 2006 master plan and affiliated ALP included the development of a Category 1 landing capability on Runway 28 which resulted in a Runway Protection Zone (RPZ) that extended across Dale Mabry to within approximately 185 feet of North Himes Avenue. The Runway 28 RPZ as depicted on the 2006 ALP encompasses 4.85 of the 21.4 acres of Area Four. The layout of the proposed runway extension on Runway 10-28 and affiliated RPZ in relation to Area Four was previously displayed in **Exhibit X.3**.

J.4.2 Parcel description

The tracts of land comprising Area Four are generally bordered by North Dale Mabry to the east, Boy Scout Road to the south, the southern boundary of the extended Runway 10-28 ROFA to the north, a former Continental Airlines reservation center (now occupied by the Moffitt Cancer Center) and the terminus of the RPZ for existing Runway 10-28 to the west. Area Four has approximately 710 feet of frontage along the west side of North Dale Mabry Highway/Highway 92 and 1,700 feet of frontage along the north side of Boy Scout Road. **Exhibit X.9** depicts Area Four. The parcel is essentially level and does not display any discernible characteristics such as cypress heads that are typically

associated with wetlands. The site acreage is a mix of cleared acreage and portions that are tree covered. The majority of the tree cover is on the western portion of the site along the north side of Boy Scout Road. Access to the site is available via an existing curb cut that is located along the north side of Boy Scout Road approximately 1,150 feet west of North Dale Mabry Highway.

J.4.3 Existing parcel land use/zoning designations

Area Four is located within the City of Tampa limits and is, therefore, subject to the zoning laws of the City. The parcel is presently zoned as M-AP-1, Municipal Airport Compatibility District. (See footnote 1) The M-AP-1 notes that *“the intensity of development in allowable heights of structures shall be at a level as to minimize population and eliminate hazards to aircraft operation.”* Structure heights are limited to 42 feet.

The current City of Tampa future land use map identifies the parcel with a Public/Semi Public land use category. **Exhibit X.2** previously presented the future on and off airport land use designations of the subject parcel and surrounding areas. See **Figure X.7** for a close-up of the parcel and associated land use. Across Boy Scout Road to the immediate south and southeast of the site the current land use is designated as regional mixed use. The designation includes International Plaza and extensive office and commercial land uses along the south side of Spruce/Boy Scout Road/West Columbus Drive. The current airport land use map identifies the parcels within Area Four as a combination of uses that include Scenic Reserve fronting along part of Dale Mabry and along the entire frontage of the area facing Boy Scout Road; Airport/Airline support behind the scenic reserve and a small portion of the site designated as Aircraft Operations.

J.4.4 Proposed Changes to Land use designation

The current land use categories identified for Area Four consisting of Scenic Reserve, Airport/Airline Support and Aircraft Operations Area should be changed to Commercial. This classification would provide significant benefit to Tampa International Airport from a revenue perspective while not adversely impacting the ability of the airport to meet demand for facilities or its intended role.

J.4.5 Rationale for Change

The basis for amending each of the 2006 airport land use map designations is discussed individually in this section.

The acreage within the boundary of Area Four identified as Aircraft Operations area should be changed because of the recommendation in the 2012 Master Plan Update to abandon the extension of Runway 10-28. The boundaries of this Aircraft Operation Area were established based on the Runway/Taxiway object free area criteria, building restriction line and the RPZ off the end of the proposed extended runway. Extending the aircraft operations area land use well to the east due to proximity to the proposed

extended runway pavements and the Category 1 RPZ was logical. Based on the last master plan the west end of what has been identified in this analysis as Area Four abutted one of two parallel taxiways located along the south side of the extended runway alignment. It should be noted that the aircraft operations area designation will be retained for the adjusted RPZ associated with the existing runway and for an 800 foot wide corridor coinciding with the width of an extended Runway Object Free Area out to the alignment of Dale Mabry. This extended ROFA forms the northern boundary along the eastern half of Area Four. Provision of an extended ROFA beyond the RPZ is not required under FAA guidance. The removal of the previously proposed runway extension and affiliated taxiways from the ALP coupled with associated change in the location of the RPZ as depicted on **Exhibit X.9** removes the need for retaining the aircraft operations area designation on Area Four.

The second airport land use classification currently in place on a portion of Area 3 is a Scenic Reserve designation. The area encompassed within this district extends 475 feet north of West Columbus Drive along the west frontage of North Dale Mabry Highway. The scenic reserve designation also extends approximately 1,750 feet from North Dale Mabry Highway to the Moffitt Cancer Center lease line along the north side of Boy Scout Road and approximately 220 feet northward into the airport property. Essentially this category establishes a zone having no economic value or economic return to the airport. No other scenic reserve is located on nearby property outside of the airport along either Boy Scout Road, West Columbus Drive or North Dale Mabry Highway or associated with any developed land uses fronting these roadways.

Opposite the Scenic Reserve is a single-story Internal Revenue Service office, car dealership with associate surface level vehicle lot, exercise gymnasium and other commercial offices with no buffer between the use and the right of way. To the east across North Dale Mabry Highway are the practice fields used by the New York Yankees with no scenic buffering in place. To the southeast are a mix of big box retail and smaller retail buildings, open surface parking and other smaller commercial land uses, again with no scenic buffer between the use and the right of way. Continued designation of the area as Scenic Reserve serves to deny the HCAA use of a parcel that given its location could have revenue producing potential and no adverse impact on the airport's ability to meet its designated role or provide adequate facilities to its users over the 20-year planning period. Further, given the pattern of development in the surrounding areas and the lack of a larger process of providing scenic reserves along the frontage of North Dale Mabry Highway, Boy Scout Road or West Columbus Drive the continued designation of the property does not provide an overriding public interest. A commercial land use category consistent with other property on the airport land use map already designated as commercial should be considered.

The third airport land use map category depicted within the boundary of Area Four is the Airport/Airline support uses category. This designation begins approximately 210 feet north of Boy Scout Road and west of North Dale Mabry Highway extending west to the Moffitt Cancer Center. This area was designated as Airport/Airline Support largely due

to the location of a former Continental Airlines reservation center that is now occupied by another non-airport/airline support use. No other airport or airline support uses exist in the immediate vicinity of Area Four and none are planned based on the analyses completed in the current master plan update. These uses are being concentrated around the main terminal complex and in the east development area, where the majority of airport support uses are currently located. Room to accommodate their expansion exists and there are no plans in the current master plan to place support uses on or near Area Four.

The 2012 Master Plan Update conducted a detailed assessment of the location and adequacy of airport/airline support facility requirements. A large number of these uses are located in the East Development Area (between Runway 1R/19L and Air Cargo Road) including facilities that were relocated to this area as recently as 2010. As a part of the planning effort for the East Development Area interviews were undertaken with airport management personnel and individual tenants and operating entities using or providing airport or airline support activities. Additionally, facility demand assessments were undertaken to define the potential expansion needs based on projected activity levels. Based on both the interview and the assessment several key points were identified and are listed below:

- Police Training, Airport Maintenance, and Central Warehouse facilities all in the East Development Area are adequate with only limited additional expansion needed;
- The Airport fuel farm has sufficient capacity to meet projected demand over the master plan period. Additionally, land area was reserved to accommodate two additional tanks just to ensure the ability to meet unforeseen events;
- Airport CNG station was opened in 2012 in the East Development Area and is adequate for the planning period;
- New Belly Cargo and GSE facilities were constructed in 2010 and have area currently programmed to meet additional demand should it be necessary;
- An ARFF Training Facility will remain in place until North Terminal is constructed and then will be relocated to a site on east side of airport that has been identified and reserved for Airport Support Facility use;
- A new ASR was recently commissioned in the East Development Area;
- A site in the East Development Area was identified for a Central Concessions Warehouse facility
- Future employee parking will be relocated to the south development area to mitigate busses crossing Taxilane A;
- Minimal expansion is needed to accommodate the 2031 projected dedicated air cargo volumes and land needed to meet this requirement and even greater

growth is reserved in a consolidated air cargo area in the East Development Area.

- The United States Postal Service (USPS) facility lease will expire in 2020 and may elect to relocate and potentially recalibrate to reflect changing demand patterns. A potential site in the East Development Area is available and has advantages due to the relationship between FedEx and the USPS.
- Potential exists for the need to relocate HCAA offices to a site outside of the terminal area to accommodate demand. Land area in the south development area has been identified for this potential facility relocation due to the proximity of the area to the main terminal complex.

Given the results of the master plan update interviews and planning analyses the land area within Area Four is not identified in the current master plan update for the types of uses that the current on-airport land use map would suggest. Based on the Master Plan Update analyses, airport support uses and airline support uses have and will continue to be accommodated at locations significantly closer to the main terminal complex with a focus on the East Development Area. Support uses are currently concentrated in this area, and expansion capability to meet the anticipated future demand can be accommodated in the East Development Area. The retention of the existing land use classifications on the airport land use map are no longer appropriate given projected 20-year facility needs and changes that are being incorporated into the master plan update affecting the Runway 10-28 alignment. Thus, a change in designation to a category that would provide potential to enhance airport revenues to support TPA's development, operation and maintenance programs would be recommended. If, beyond the 20-year horizon, the property is required to meet some future project demand, provisions are routinely included to ensure the ability of the HCAA to another land use category appropriate for such uses.

J.4.6 Summary

Based on the preceding review of the existing land use classifications and the basis for these, a change in land use to a commercial designation provides significant value, while not adversely impacting the ability of the airport to meet the future demand or to provide the requisite facilities to support demand over the 20-year planning horizon of the current Master Plan Update.

Market analytics and local fieldwork conducted by the HCAA's land use and real estate advisors suggest potential commercial use of Area Four might include but is not limited to lower intensity commercial office along the southern frontage and higher value commercial outparcel uses (such as banks, drugstores, etc.) at the site's southeast hard corner and eastern frontage. These uses are delineated to provide a general indication of a range of general commercial activities that might be considered given the surrounding area and the existing land uses in this area. A copy of the market overview is contained in Appendix A to this report.



J.5 Area Five - Property north of U.S. 60, west of the Veterans Expressway, South of Skyway Park and east of the Dana Shores residential area

J.5.1 Acquisition History and Restrictions

Area 5 was acquired by the Authority in 1968 to block imminent residential development on the site, protect the Area from low-flying aircraft on approach to Runway 10-28, and to create a noise buffer between Tampa International Airport and its neighbors in the Dana Shores neighborhood. The Authority used an FAA Grant and an Airport Revenue Bond to fund the purchase.

Because this parcel was funded in part by an FAA Grant, if the land were no longer needed for airport purposes, the Authority could dispose of the land at fair market value but must make available to the FAA an amount equal to the Federal Government's proportionate share of the fair market value of the land.

If the Authority decided to lease the land, Federal restrictions require that 1) the lease is needed to produce revenue for airport purposes, 2) the proposed lease would be environmentally acceptable, 3) the land is not needed to accommodate any type of aeronautical activity, and 4) the lease must be for fair market value. Any proposed lease would be subject to FAA approval, and any proceeds obtained by a lease must be used for airport purposes.

The US Aviation Safety and Noise Abatement Act of 1979 required the FAA to establish a single system of measuring aircraft noise to determine individual exposure in the vicinity of airports. Federal Aviation Administration Regulation Part 150 implements this congressional act and establishes the noise measuring method called "Yearly Day-Night Average Sound Level" or DNL.

The FAA identifies a DNL of 65 as the impact threshold for receiving funding for mitigating in noise sensitive areas. As required, the Authority has developed a Part 150 noise study with resulting 65 DNL contour maps. These maps show that approximately fifty percent of Area Five is currently within this highly sensitive 65 DNL area.

J.5.2 Parcel description

Area Five is located west of Tampa International Airport and lies beneath the extended centerline of Runway 10-28, approximately 1,800 feet beyond the western terminus of the RPZ associated with the approach to Runway 10.

Area Five is situated to the immediate west of the Veterans Expressway and just north of the Courtney Campbell Causeway (U.S. 60). Immediately west of the site, across a canal that accesses Tampa Bay is the Dana Shores residential area. Abutting the north side of the area is a parking area, tennis courts and soccer field associated with Skyway Park. A paved bicycle trail runs along the entire east side of the property connecting Skyway Park with a bike trail paralleling the north side of the Courtney Campbell

Causeway. The entire west side of the site is adjacent to the boating canal serving residences in Dana Shores. Area Five is separated from the developed airport facilities by the Veteran's Expressway and U.S. 60 which negates the ability to directly access the airfield or other aviation use areas at TPA. Area Five is depicted on Figure X-9.

The parcel is generally triangular in shape with the rounded point of the triangle abutting the Veterans Expressway on the east and the base of the triangle consisting of the canal that borders the entire west side of the site. See **Figure X.10** for a close up of the site. Ground elevations on the site rise from the west to the east with the lower elevations adjacent to the canal and higher elevations along the eastern site boundary. The parcel is generally cleared with the only significant tree cover paralleling the east side of the Canal. A bicycle trail generally forms the east boundary of the parcel.

Access to the parcel is particularly challenging. The canal and residential uses along the west side of the canal preclude access from this direction, the Veterans Expressway and affiliated ramps to U.S. 60 preclude access from the east. At the south end of the site access is blocked by a stubbed canal, paved bicycle trail and right-of-way of the Expressway. This leaves the only means of access being from the north. Access from the north is circuitous at best, and would require vehicles to ultimately utilize George Road, a two lane residential collector street that divides Skyway Park from the Rocky Point Golf Course and subsequently enters a Skyway Park driveway/parking lot to get to the far north end of the property.

J.5.3 Existing parcel land use/zoning designations

Area Five is located in both the City of Tampa and unincorporated Hillsborough County.

The southern half of the site is in the city, and is zoned as M-AP-2 (See footnote 1) with a small area of Commercial Intense zoning (CI) at the eastern tip. The M-AP-2 zoning limits the height of structures to 42 feet and limits land uses to low intensity to reduce the population in proximity to the airport and its runway.

Current zoning for the northern half of the property in Hillsborough County is SPI-AP-3 which is identified as a Special Purpose Interest – Airport District 3 (SPI-AP-3). (See footnote 2)

An array of land uses are permitted within the County zoning designation while a large number of other potential land uses can be allowed through a conditional use approval by the County.

The airport land use map included in the 2006 ALP designated the parcel within the Scenic Reserve category. **Figure X.11** shows the current on-airport land use map designations and surrounding land uses. Currently, the site is undeveloped with the exception of the bicycle trail that borders the southern and eastern boundaries of the property.

J.5.4 Proposed Changes to Land use designation

No change in the existing designated land use is currently recommended for the reasons delineated in the next section.

J.5.5 Rationale for Recommended Action

The acquisition history and restrictions discussed above explain the Authority's long-held strategy of preventing development in this area. Further, future development of a new West Runway could create new noise impacts for which this Area creates an effective buffer. Today, approximately half of the Area is within the 65 DNL contour, and the projected increase in airport operations and potential new parallel West runway could significantly increase the noise impact on this noise sensitive area over time.

Area Five is completely separated from the primary airport land area by the Veterans Expressway, an interstate-grade toll road. Thus, the ability to use the area efficiently for some form of terminal or airport/airline support use is difficult at best. Its lack of direct access to the airfield essentially precludes a general aviation category or aircraft operations area designation. No westerly extension of Runway 10-28 has been, or is under consideration, and the existing parcel is outside of the boundary of the RPZ associated with Runway 10-28 or any other runway at TPA, further negating the rationale for a designation of aircraft operations area. While a commercial designation could be placed on the property, the reality of the situation is that the typical form of commercial development of the site is presently considered to be somewhat problematic for several reasons. First, the market for commercial or commercial office in this vicinity is essentially saturated and the isolated nature of the site negates the viability of a traditional commercial/retail use. Second, the improvements associated with the Veterans Expressway and the Expressway/Memorial Highway interchange significantly impacted the accessibility of Area Five.

As noted previously, access to the site is challenging and would have to be accommodated through the parking area of a public park and requires the significant upgrade of George Road, potentially several other further removed roadway intersections and the access through the park. The property has no roadway frontage other than an elevated ramp connecting the Veterans Expressway to Memorial Highway (U.S. 60). There is no means of exiting either the ramp or U.S. 60 when traveling to the south so the ability to visually identify a use and be able to access the use is not possible. Visibility of the site for northbound traffic entering the Veterans Expressway from the east is also obstructed, further negating the commercial viability

Intensive development as an office or typical retail commercial area would be challenged by the configuration of the property creating a difficult site to accommodate the actual commercial/office use and associated parking and required setbacks. Care would also have to be taken to not impact the bicycle path that passes along the east and south side of the site due to the potential of triggering U.S. Department of Interior Section 4f requirements. Prior to a development decision by the HCAA, the provisions of Section 4f

and their triggering thresholds should be reviewed to determine if they would apply. If it were determined that they did apply it is possible, but not necessarily assured, that impacts to the park could trigger some level of environmental analysis and determination/clearance. The extent to which any environmental process might be required could only be definitively determined if a development concept is identified and the extent of impact to possible resource categories quantified. Further, public comments received during this Master Plan Update process suggest that the Dana Shores community would express significant concerns and likely oppose an intensive use of the parcel immediately across the canal from residences that would include the impact that the activities could have on streets and roads serving the community and the possible impact on Skyway Park.

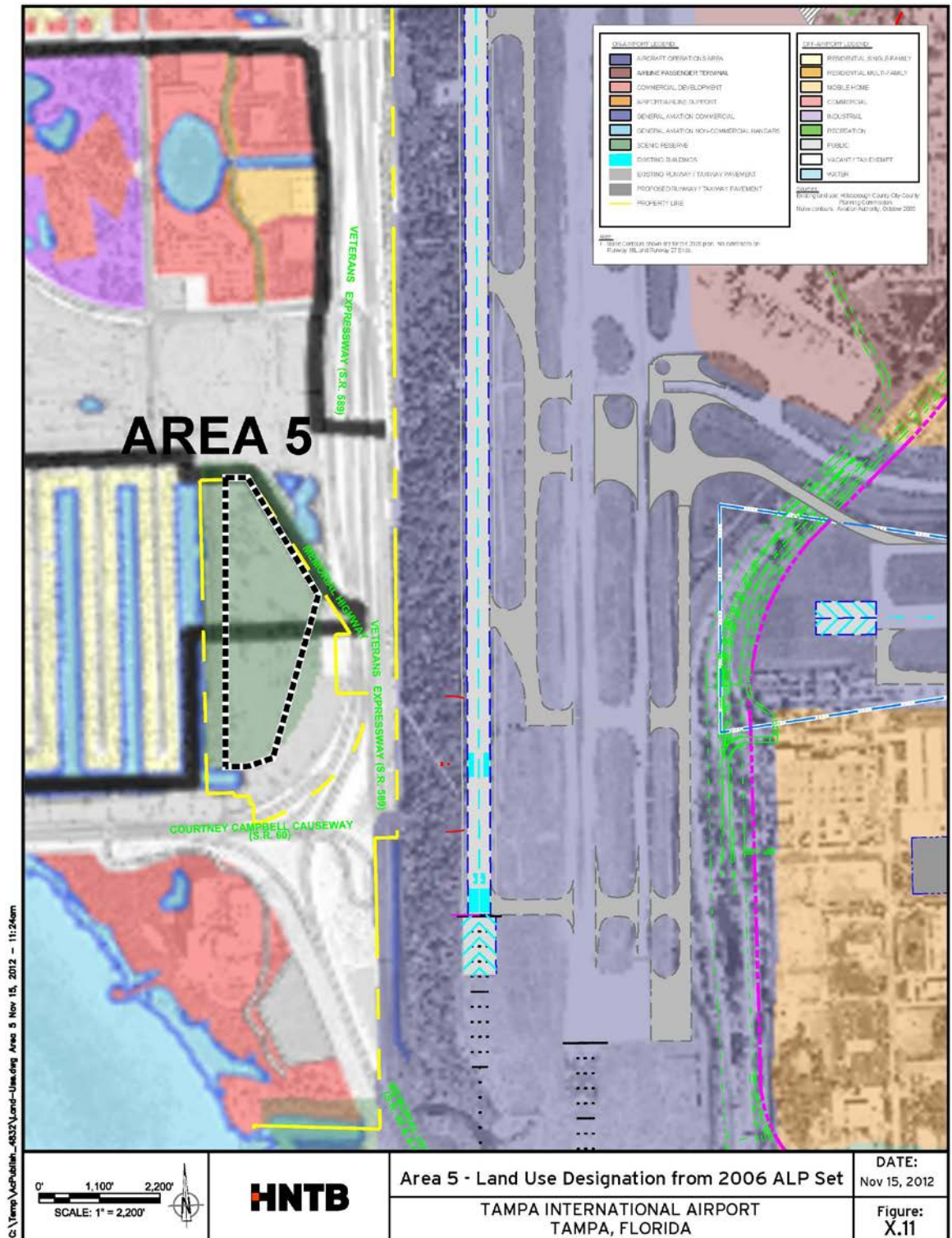
J.5.6 Summary

For the reasons noted above the continued designation of the site for the low intensity land use category of Scenic Reserve is deemed a logical approach for the following reason:

- The land is currently serving its original purpose of preventing incompatible development and maintaining a noise buffer between Tampa International Airport and its neighbors in the Dana Shores neighborhood.



J.6



Area Six – Property Southeast of the Threshold of Runway 1R, East and South of the Airport Access Road, west of North Westshore Blvd, and north of an office use known as One Bucs Place along the north side of West Spruce Street.

J.6.1 Acquisition History and Restrictions

Area Six was acquired shortly after the Authority was originally created. The Authority acquired the land from the City of Tampa, which received the property via War Surplus Deeds from the United States of America.

The grant states that the land should only be used for public airport purposes. However, until it is determined by the FAA that the land is needed for public airport purposes, the land may be utilized for non-manufacturing or non-industrial purposes provided that such use does not interfere with operation of the remainder of the airport as a public airport. Additionally, the land may be transferred only with the approval of the FAA and any subsequent transferee assumes all the obligations imposed upon the Authority. It is important to note that the War Surplus Deed contains a reverter clause to the Federal Government should the Authority breach the Deed.

J.6.2 Parcel description

Area Six is located southeast of the Runway 1R threshold outside of the associated Runway Protection Zone. To the immediate south of the site is a multi-story and multi-tenant Class A office building and an associated Parking Garage. To the east of the site is the International Plaza. The property is delineated in **Exhibit X.12**

The parcel comprising the Area Six site is approximately 9.2 acres in size. The parcel is essentially level and does not display any discernible characteristics such as cypress heads that are typically associated with wetlands. A large section of the parcel was at one time used as a practice field by the Tampa Bay Buccaneers football team. Access to the site is available via N. Westshore Blvd using one of three existing curb cuts. It could also be possible to access the site from the Airport Access road either from the north or from the west, however this would require the construction of a box culvert or bridge across a major airport drainage canal that borders the northern and western sides of the area.

J.6.3 Existing parcel land use/zoning designations

Area Six is located within the City of Tampa limits and is, therefore, subject to the zoning laws of the City. A portion of the parcel is presently zoned as M-AP-1, Municipal Airport Compatibility District. (See footnote 1) The M-AP-1 zoning notes that “*the intensity of development in allowable heights of structures shall be at a level as to minimize population and eliminate hazards to aircraft operation.*” Structures are limited to a maximum height of 42 feet.

The M-AP-1 District is surrounded by a second zoning classification that is listed on the city zoning atlas with a Planned Development Alternative or PD-A designation. The Planned Development (PD) district is intended to allow for the development of land uses that are in conformance with the adopted future land use element of the Tampa Comprehensive Plan while encouraging maximum land development opportunities and well-designed developments that are characterized by unique conditions that other zoning districts cannot accommodate or include a mixture of appropriate land uses that may not otherwise be permitted in other districts.

The PD-A district is to provide an alternative review process to provide conceptual approval for planned development districts involving large-scale developments with a lengthy projected build out time.

The current City of Tampa future land use map identifies Area Six along with One Buc Place, International Plaza and other property along either side of N. Westshore Blvd. south of Spruce Street as Regional Mixed Use, The land use designation on the existing airport land use map contained in the existing Airport Layout Plan set shows the site within the general commercial land use category. **Figure X.13** displays both on and off-airport land use designations associated with Area Six.

J.6.4 Proposed Changes to Land use designation

No change in the proposed land use designation on the airport land use map are recommended from the current commercial category that has been in place over at least the last seven years.

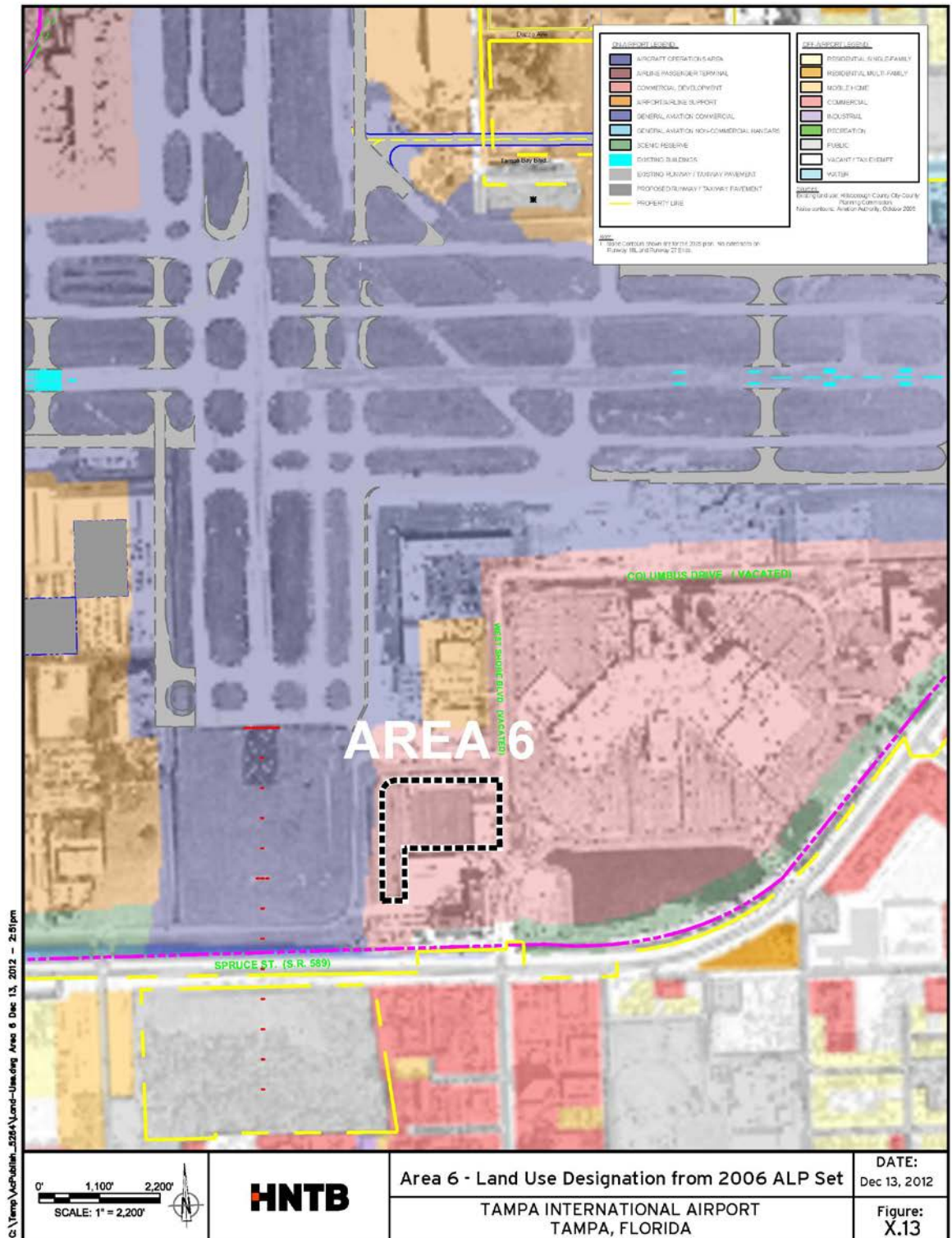
J.6.5 Rationale for Recommended Action

The designation of Area Six for commercial development occurred as a part of a larger overall development program associated with the development of the International Plaza that includes International Plaza and other uses affiliated within the overall planned development district. Based on a review of future facility demand prepared under the current update of the Airport Master Plan, there is no reason to alter the current land use designation as contained on the existing airport land use map that was previously submitted to the FAA with the 2006 Airport Layout Plan.

J.6.6 Summary

The existing commercial designation for the land area comprising Area Six as shown on the current on-airport land use map will be carried forward.





J.7 Area Seven – Consists of parcels of land located at the Northeast corner of the Eastside Development Area with frontage on Hillsborough Avenue and Air Cargo Road and further being bisected by West Crest Ave.

J.7.1 Acquisition History and Restrictions

Area Seven was originally part of a larger land acquisition and had been anticipated to be used for aviation purposes, however due in part to the inability to acquire all of the acreage along the west side of Hesperides Avenue, when the planning of an alignment for Air Cargo road occurred, the alignment was shifted to the west to avoid the area that had not been able to be acquired and resulted in the separation of the acreage from having direct access to the airfield. The Authority acquired the land with a combination of FAA Grant and Authority discretionary funds.

Because this parcel was funded in part by an FAA Grant, if the land were no longer needed for airport purposes, the Authority could dispose of the land at fair market value but must make available to the FAA an amount equal to the Federal Government's proportionate share of the fair market value of the land.

If the Authority decided to lease the land, Federal restrictions require that 1) the lease is needed to produce revenue for airport purposes, 2) the proposed lease would be environmentally acceptable, 3) the land is not needed to accommodate any type of aeronautical activity, and 4) the lease must be for fair market value. Any proposed lease would be subject to FAA approval, and any proceeds obtained by a lease must be used for airport purposes.

J.7.2 Parcel description

Area Seven has 1,160 feet of Hillsborough Ave frontage and is comprised of two primary tracts of land. Tract 1 with frontage on both Air Cargo and Hillsborough has a total area of 17.0 acres. However, within this area are two tracts that have to be subtracted from the total available acreage. This consists of a 2.25 acre area controlled by the Tampa Electric Company and a 1.51 acre tract that consists of a perpetual easement that appears to be associated with a stormwater management area. This leaves approximately 13.59 acres of land in the northern part of Area Seven. Portions of this northern tract also display vegetation characteristics typically associated with wetland areas. More study is necessary to define the extent of these areas. **Figure X.14** delineates the configuration of Area Seven.

Tract 2 is located to the south of tract one and is currently separated from the northern part of the area by the alignment of West Crest Avenue. This second tract is generally bordered by W. Crest Avenue on the north, N. Hesperides St. on the east, a short segment of W. South Avenue on the south and Air Cargo Road to the west. Within the area is a single-family dwelling situated on a lot approximately 1.95 acres in size. In addition to the residential use, a portion of the site near the intersection of Air Cargo

Road and W. Crest Ave. is occupied by a stormwater detention pond leaving an area of 4.6 acres available for potential development.

J.7.3 Existing parcel land use/zoning designations

Area Seven is located within the City of Tampa limits and is, therefore, subject to the zoning laws of the City. The current zoning of all parcels contained within Area Seven is IG – Industrial General, which provides for areas of light manufacturing, wholesaling, warehousing, assembly or product processing. The district is intended to permit development compatible with surrounding residential property and therefore focuses on less intense industrial activities that do not present the potential impacts that heavy industrial uses would.

The current City of Tampa Land Use Map shows Area Seven comprised of a mix of Light Industrial use and Public/Semi Public classifications. This second land use category is consistent with the land use that is also depicted on the future land use map for the vast majority of the airport property.

Figure X.15 depicts the land use classifications associated with the on-airport land use map as contained in the 2006 Airport Layout Plan. The 2006 airport land use map for Area Seven identified two land use designations, consisting of Scenic Reserve along the southern side of Hillsborough Avenue and along the east side of the area between W. Crest Ave and Hillsborough Avenue, and Airport/Airline Support Uses on the remainder of the parcel.

J.7.4 Proposed Changes to Land use designation

Area Seven was reviewed as a part of the overall Eastside Development Area development plan and was determined to not be needed over the 20-year master planning period for aviation support uses. While aviation support uses are being concentrated in the Eastside Development Area, the locations identified for support facilities are all located west of Air Cargo Road and it has been determined that room is available to meet the projected 20-year demand in that area.

Area Seven does not have direct access to the airfield or other aviation facilities as a result of the alignment of Air Cargo Road. While this does not necessarily preclude its use for airport/airline support uses, movement of airport related vehicles across a public roadway does present a challenging access issue that reduces the desirability of Area Seven for airport and airline support use. Given the property's location along Air Cargo Road and more so, Hillsborough Avenue, which has extensive commercial and light industrial activity on both sides, the area is an appropriate location for a commercial land use designation.

J.7.5 Rationale for Recommended Action

The re-designation of the property comprising Area Seven from Scenic Reserve and Airport/Airline Support to a commercial designation is supported by several key considerations some of which were alluded to in the preceding section.

The Master Plan Update that is currently being completed for TPA studied the project facility requirements and concluded that the demand for airport and airline support facilities can be fully met for the 20-year master plan timeframe without the use of the property comprising Area Seven. While it is possible that at some point in the future beyond the 20-year period covered by the current master plan update land within Area Seven could be needed for an airport support activity, leaving the area vacant and non-productive in the interim results in a loss of potential economic value and return on investment to the airport that could be used to support operation and maintenance of current facilities as well as capital development. Development of the site for revenue support purposes would not preclude the ability of the airport to convert the property back to an airport support activity at a later date should demand emerge that would require the property. The airport routinely includes language in its agreements that address this potential need.

Area Seven is presently zoned by the City of Tampa for a light industrial form of development of the site and a change from Scenic Reserve and Airport and Airline support to the general commercial designation that is presently used elsewhere on the existing on-airport land use map would bring the property into consistency with the overlying City zoning category. Development of commercial uses on this property would support the overall development of the Eastside Development Area by providing the ability to place uses on Area Seven that could serve the needs of the aviation related uses and their employees that ultimately are fostered within the Eastside area. Finally, a commercial designation is fully supported by the land use patterns along both sides of Hillsborough Avenue and much of Air Cargo Road.

The second airport land use classification currently in place on a portion of Area Seven is a Scenic Reserve designation. The area encompassed within this district extends approximately 970 feet along the south frontage on Hillsborough Avenue and also along the entire east side of the site between Hillsborough Avenue and W. Crest Ave. Combined, the Scenic Reserve category overlies approximately 60 percent of the area between Hillsborough Ave. and W. Crest Ave. This category establishes a zone having no economic value or economic return to the airport. No other scenic reserve is located outside of the airport on nearby property along either Hillsborough Ave. or Air Cargo Road.

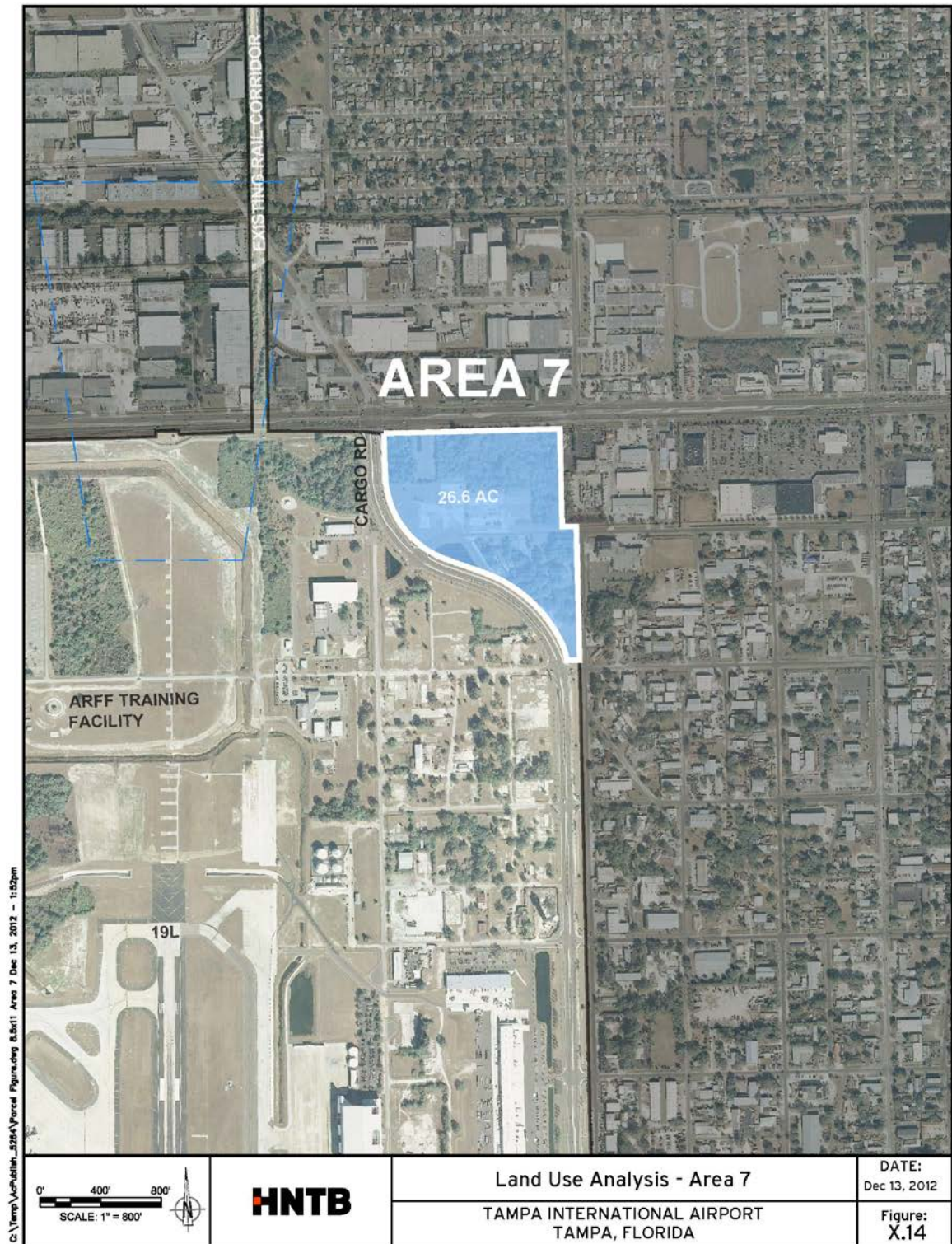
Opposite the Scenic Reserve along the north side of Hillsborough Avenue are light industrial and commercial uses situated in multi-tenant buildings, and large single tenant facilities. This pattern of land use is also apparent to the immediate east of Area Seven and extends in an unbroken fashion to N. Dale Mabry Highway. No evidence of a Scenic Reserve or landscaped buffer is evident along the frontage of this roadway on

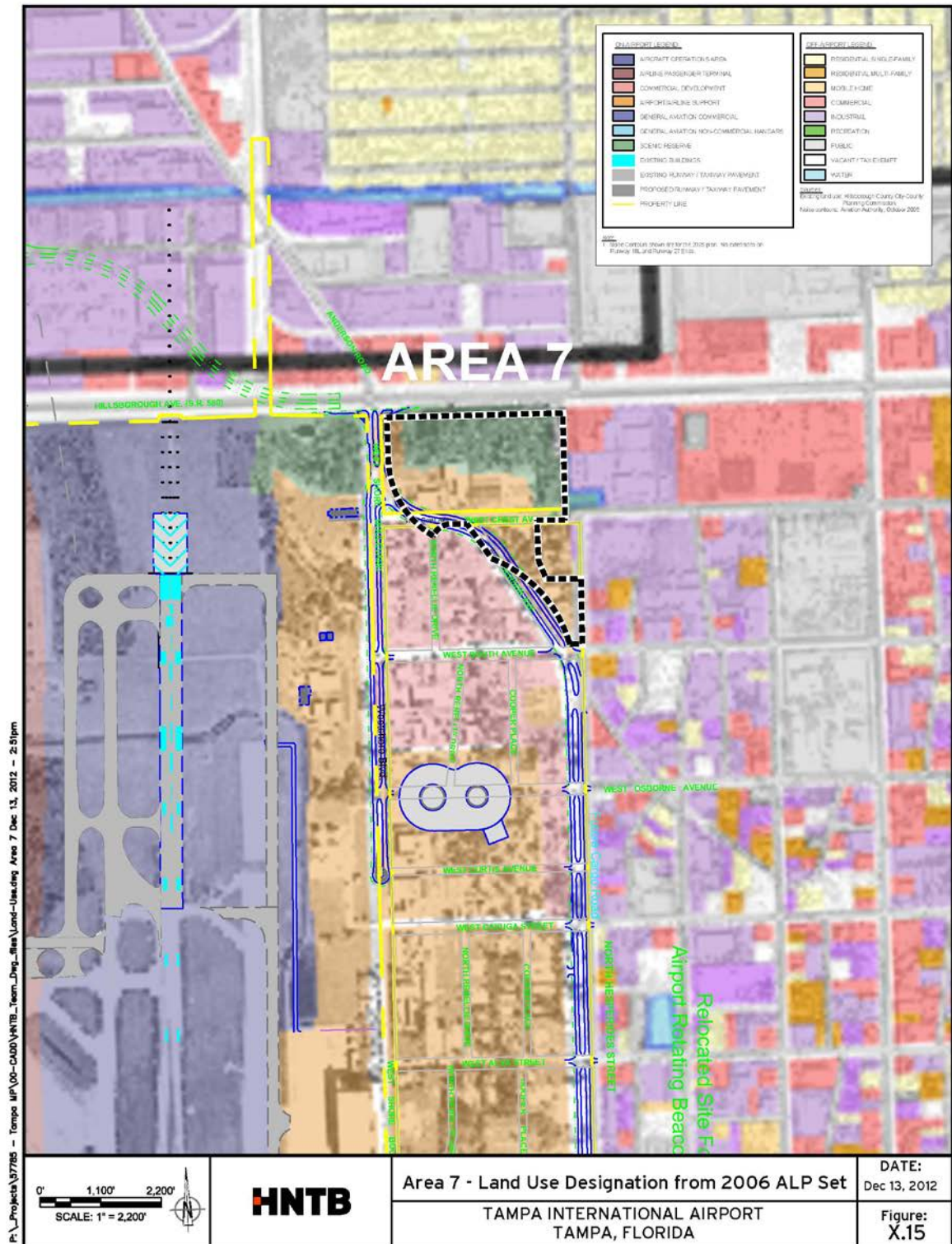
off-airport parcels. Continued designation of the area as Scenic Reserve denies the HCAA the use of a parcel that given its location would have significant revenue producing potential while presenting no adverse impact to the viability of the airport's ability to meet its designated role or provide adequate facilities to its users over the entire master planning period. Further, given the pattern of development in the surrounding areas and the lack of a consistent process of providing scenic reserves along frontage of Hillsborough Avenue the continued designation of the property in this use category serves no realistic public interest.

J.7.6 Summary

Based on the preceding review of the existing land use classifications and the basis for these, a change in land use to a commercial designation provides significant value, while not adversely impacting the ability of the airport to meet future demand or to provide the requisite facilities to support demand over the twenty year planning horizon of the current Master Plan Update.

Market review and local fieldwork conducted by the HCAA's land use and real estate advisors suggest appropriate forms of commercial use of the property might include, but are not limited to lower intensity commercial office warehouses, low-rise self-storage facilities and wholesale sales activities. Additionally, higher value commercial outparcel uses such as a convenience store, drugstore, fast food/restaurant and other similar forms of use that could support the employment base in the East Development Area and also draw customers from the high volume of passing traffic on Hillsborough Ave. could be considered at the southeast hard corner of Air Cargo Road and Hillsborough and the western frontage of Air Cargo Road.

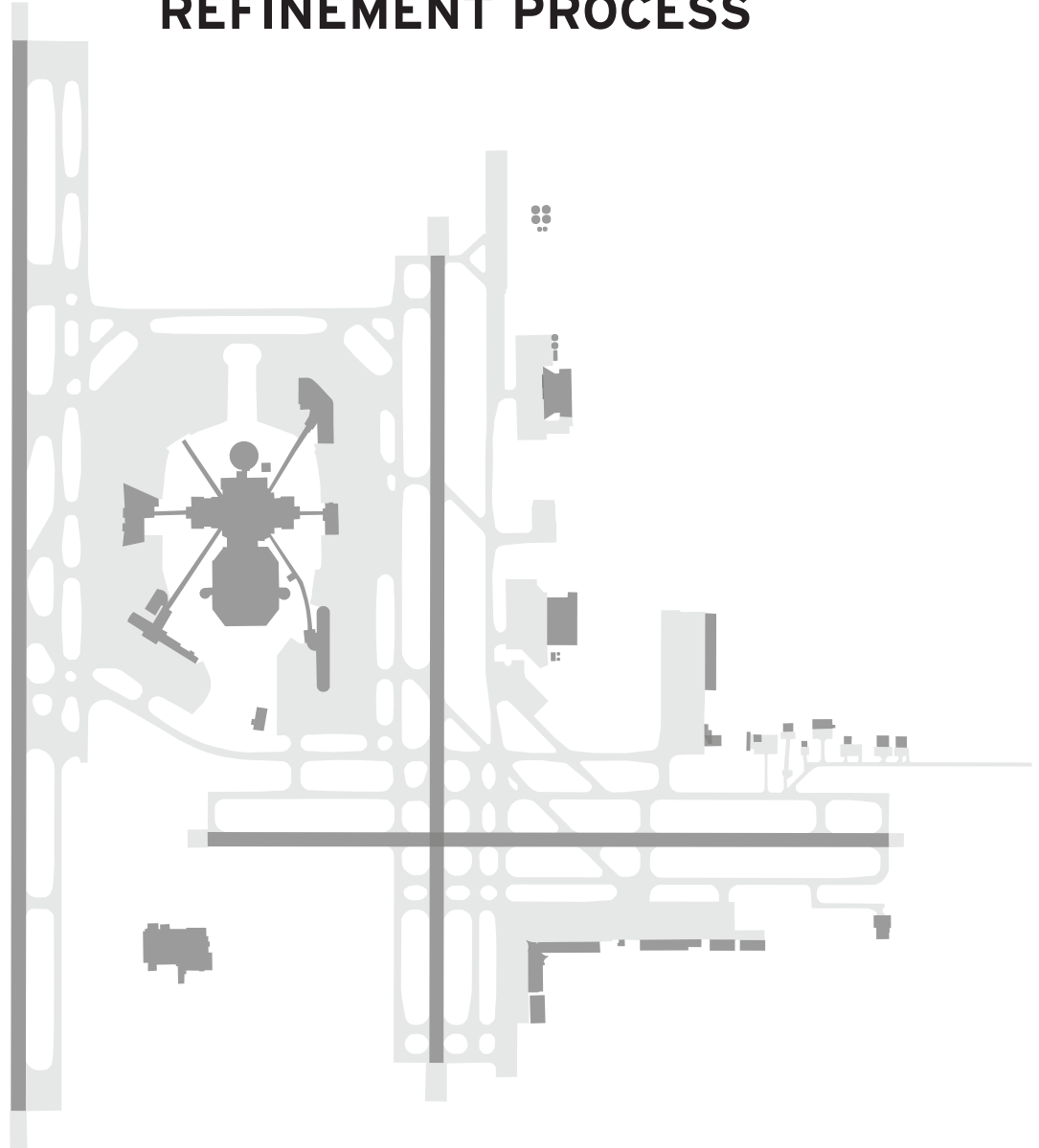




Footnotes

1. Per the City of Tampa ordinance the M-AP “airport compatibility district is designed to promote the appropriate type and intensity of development of land uses on and surrounding an airport. The purpose of designating land and water areas in this district is to encourage development that is compatible with aircraft operation and to increase safety and limit population by maintaining a lower density of development and to promote and protect the utility of the airport. This district shall be applied to airport landing areas and to other surrounding areas in proximity to airport boundaries or operations. The M-AP airport compatibility district consists of four (4) sub-districts or sectors”
2. Per Sec. 3.01.05 of the Hillsborough County Ordinance– the SPI-AP: Airport Districts of the Hillsborough County Zoning Code, “The purpose of designating land and water areas in these districts is to promote the public health, safety, and general welfare by limiting the type, the arrangement, and intensity of uses in an effort to minimize the adverse effects of aircraft operations such as potential aircraft crash hazards, aircraft noise and vibration emissions, and related effects on uses, structures, and occupants of areas likely to be affected by airports and aircraft operations. The regulations of this district are supplemented by the regulations of the Hillsborough County Aviation Authority and are intended to enable the airport to operate effectively and safely and in accordance with the provisions of the Comprehensive Plan.”

APPENDIX K - ALTERNATIVE REFINEMENT PROCESS



APPENDIX K:

Alternative Refinement Process

This appendix includes a wide range of background materials, supporting data, and working drawings that were used in the development of the Airport Master Plan Report.



Federal Aviation
Administration

Runway Protection Zone

Update to Airport Design – AC 150/5300-13A

Industry Day

Presented To: Aviation Industry Representatives
By: Khalil E. Kodsí, P.E. PMP
Airport Civil Engineer, FAA
Date: March 30, 2012



Federal Aviation
Administration

1

General

- **Definition: To enhance the protection of people and property on the ground.**
 - Central Portion of the Runway Protection Zone (RPZ)
 - Controlled Activity Area of the RPZ
 - RPZ *may be* mitigated by Declared Distances
 - When threshold is displaced there may be two RPZ on Runway End; Approach and Departure
 - Permissible categories “without further evaluation” are listed in 13A



Federal Aviation
Administration

2

Permissible RPZ use

- ✓ Farming that does not cause hazard to air navigation
- ✓ Vehicular parking and storage in the controlled activity area
- ✓ Irrigation channels as long as they are not a bird attractant
- ✓ Airport service roads, as long as they are not public roads and are directly controlled by the airport operator
- ✓ Underground facilities
- ✓ Unstaffed NAVAIDs and facilities, such as equipment for airport facilities that are considered fixed by function.



Other Land Use

- **Evaluation and Approval of RPZ Land Use via a Guidelines outlines the procedures to review the proposed land use that is not on the permissible list.**
- **Office of Airports must evaluate and approve the proposed land use that is not on the permissible list.**



Total PAX Operations by Runway end by Approach/Departure by Year

	10		28		1L		19R		1R		19L		
Year	A	D	A	D	A	D	A	D	A	D	A	D	Grand Total
2011	224	106	484	96	33,323	13,977	14,271	30,240	3,329	21,206	20,776	2,730	140,762
2010	41	121	921	222	39,145	25,961	20,630	28,471	2,051	13,945	10,198	1,781	143,487
2009	297	117	740	141	29,311	13,466	16,466	37,063	2,775	18,846	22,310	3,483	145,015
2008	145	116	1,114	243	36,579	14,847	13,667	36,640	5,640	27,284	25,850	5,967	168,092
2007	51	40	340	64	30,876	14,219	3,631	31,097	6,393	35,596	17,205	4,440	143,952
2006	16	44	286	68	21,711	5,756	3,345	30,521	5,426	36,963	17,501	6,853	128,490
2005	99	228	1,616	492	35,093	17,663	10,953	34,404	6,190	24,163	17,805	6,144	154,850
Grand Total	873	772	5,501	1,326	226,038	105,889	82,963	228,436	31,804	178,003	131,645	31,398	1,024,648

% PAX Operations by Runway end by Approach/Departure by Year

	10		28		1L		19R		1R		19L		
Year	A	D	A	D	A	D	A	D	A	D	A	D	Grand Total
2011	0.2%	0.1%	0.3%	0.1%	23.7%	9.9%	10.1%	21.5%	2.4%	15.1%	14.8%	1.9%	100%
2010	0.0%	0.1%	0.6%	0.2%	27.3%	18.1%	14.4%	19.8%	1.4%	9.7%	7.1%	1.2%	100%
2009	0.2%	0.1%	0.5%	0.1%	20.2%	9.3%	11.4%	25.6%	1.9%	13.0%	15.4%	2.4%	100%
2008	0.1%	0.1%	0.7%	0.1%	21.8%	8.8%	8.1%	21.8%	3.4%	16.2%	15.4%	3.5%	100%
2007	0.0%	0.0%	0.2%	0.0%	21.4%	9.9%	2.5%	21.6%	4.4%	24.7%	12.0%	3.1%	100%
2006	0.0%	0.0%	0.2%	0.1%	16.9%	4.5%	2.6%	23.8%	4.2%	28.8%	13.6%	5.3%	100%
2005	0.1%	0.1%	1.0%	0.3%	22.7%	11.4%	7.1%	22.2%	4.0%	15.6%	11.5%	4.0%	100%
Grand Total	0.1%	0.1%	0.5%	0.1%	22.1%	10.3%	8.1%	22.3%	3.1%	17.4%	12.8%	3.1%	100%

Total Annual Operations by Aircraft Type by Runway

Year/Aircraft Category	10	28	1L	19R	1R	19L	Grand Total
2011	322	562	46,961	44,435	24,127	22,915	139,322
Widebody	17	11	5,328	5,061	920	705	12,042
Narrowbody	180	140	34,385	32,104	20,117	19,522	106,448
RJ Commuter	24	13	6,821	6,784	564	501	14,707
Regional Turboprop	101	398	427	486	2,526	2,187	6,125
2010	148	1,015	64,614	48,818	15,655	11,640	141,890
Widebody	13	26	7,140	5,071	365	239	12,854
Narrowbody	45	270	48,163	36,765	11,738	8,763	105,744
RJ Commuter	4	33	6,901	5,354	257	215	12,764
Regional Turboprop	86	686	2,410	1,628	3,295	2,423	10,528
2009	406	818	42,519	53,487	21,221	25,126	143,577
Widebody	19	9	5,363	6,028	709	724	12,852
Narrowbody	230	120	30,446	38,950	15,929	19,227	104,902
RJ Commuter	24	12	5,956	7,612	600	683	14,887
Regional Turboprop	133	677	754	897	3,983	4,492	10,936
2008	236	1,096	51,008	50,217	31,712	30,135	164,404
Widebody	6	10	5,813	5,555	1,250	1,123	13,757
Narrowbody	88	168	36,011	35,715	21,578	19,791	113,351
RJ Commuter	15	40	8,411	8,235	998	917	18,616
Regional Turboprop	127	878	773	712	7,886	8,304	18,680
2007	88	363	44,488	34,606	41,061	20,717	141,323
Widebody	4	2	6,620	4,238	1,847	816	13,527
Narrowbody	30	23	29,773	24,802	27,017	12,811	94,456
RJ Commuter	4	1	7,477	4,963	1,883	575	14,903
Regional Turboprop	50	337	618	603	10,314	6,515	18,437
2006	56	318	27,081	33,621	41,686	23,470	126,232
Widebody	4	4	4,524	4,867	3,847	1,854	15,100
Narrowbody	11	43	17,906	23,009	25,424	12,957	79,350
RJ Commuter	2	7	4,231	5,399	4,157	1,708	15,504
Regional Turboprop	39	264	420	346	8,258	6,951	16,278
2005	246	1,459	51,959	44,968	28,205	21,693	148,530
Widebody	10	32	8,235	7,392	843	582	17,094
Narrowbody	68	180	30,574	27,560	16,599	12,168	87,149
RJ Commuter	14	57	12,164	9,155	1,288	830	23,508
Regional Turboprop	154	1,190	986	861	9,475	8,113	20,779
Grand Total	1,502	5,631	328,630	310,152	203,667	155,696	1,005,278

2011

DateTime	2011
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	499
Boeing 737-700	114
Boeing 737-300	58
Airbus A320-232	42
Airbus A319-131	36
Boeing 757-200	26
Boeing 737-800	26
Boeing 717-200	24
McDonnell-Douglas MD88	14
McDonnell-Douglas MD-82	9
Boeing 737-500	8
McDonnell-Douglas MD-83	7
Airbus A320-100	6
Boeing 737-400	5
Canadair CRJ-200	3
Embraer ERJ-190	2
McDonnell-Douglas MD90	1
Canadair CRJ900	1
Boeing 767-300	1
Boeing 777-200	1
Boeing 737-900	1
Grand Total	884

2010

DateTime	2010
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	772
Boeing 737-700	88
Boeing 737-300	55
Airbus A320-232	39
Boeing 737-800	39
Boeing 757-200	38
Airbus A319-131	29
Boeing 717-200	22
Boeing 737-400	19
McDonnell-Douglas MD-82	12
Boeing 737-500	12
McDonnell-Douglas MD88	10
Airbus A320-100	8
Embraer EMB-145XR	4
Boeing 737-900	4
McDonnell-Douglas MD-83	3
Embraer ERJ-190	3
Embraer ERJ-145	2
Boeing 747-400	1
Canadair CRJ900	1
DC9-50	1
Canadair CRJ-200	1
Grand Total	1163

2009

DateTime	2009
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	805
Boeing 737-700	106
Boeing 737-300	63
Airbus A320-232	39
Airbus A319-131	39
Boeing 737-800	36
Boeing 717-200	31
Boeing 757-200	26
Boeing 737-400	15
McDonnell-Douglas MD-82	12
Embraer ERJ-190	12
Airbus A320-100	8
Boeing 737-500	7
McDonnell-Douglas MD88	6
Boeing 737-900	6
Saab 340	5
DC9-50	2
McDonnell-Douglas MD-83	1
Embraer EMB-145XR	1
Boeing 757-300	1
Boeing 777-200	1
Embraer ERJ-145	1
DC9-30	1
Grand Total	1224

2008

DateTime	2008
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	997
Boeing 737-700	80
Boeing 737-300	62
Airbus A320-232	30
McDonnell-Douglas MD-82	23
Boeing 717-200	21
Boeing 737-800	20
Airbus A319-131	15
Boeing 737-400	14
McDonnell-Douglas MD88	14
Boeing 757-200	13
Boeing 737-500	9
EMB 120 Twin Engine Turboprop	8
Airbus A320-100	5
DC9-30	5
Embraer ERJ-190	4
Canadair CRJ900	4
Embraer ERJ-145	3
Boeing 767-300	3
Canadair CRJ-200	1
Embraer EMB-145XR	1
Grand Total	1332

2007

DateTime	2007
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	373
Boeing 737-700	15
EMB 120 Twin Engine Turboprop	14
Boeing 737-300	11
Airbus A320-232	10
Boeing 737-800	8
Boeing 757-200	5
Boeing 717-200	4
Airbus A319-131	4
McDonnell-Douglas MD-82	3
Airbus A320-100	1
Embraer ERJ-145	1
DC9-30	1
Boeing 767-300	1
Grand Total	451

2006

DateTime	2006
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	271
EMB 120 Twin Engine Turboprop	32
Boeing 737-700	14
Boeing 737-300	12
Airbus A320-232	9
Boeing 737-800	8
Boeing 757-200	6
Boeing 737-400	5
McDonnell-Douglas MD-82	3
Boeing 737-500	3
Boeing 767-400	2
Boeing 717-200	2
McDonnell-Douglas MD80	1
McDonnell-Douglas MD-83	1
Airbus A319-131	1
Embraer ERJ-145	1
McDonnell-Douglas MD88	1
Embraer ERJ-190	1
Embraer ERJ-135	1
Grand Total	374

2005

DateTime	2005
flight_type	PAX
Type	(Multiple Items)
Runway	(Multiple Items)

Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turboprop	1168
EMB 120 Twin Engine Turboprop	176
Boeing 737-300	64
Boeing 737-700	58
Airbus A320-232	48
Boeing 757-200	30
Boeing 737-800	22
Embraer ERJ-135	18
Boeing 717-200	18
McDonnell-Douglas MD-82	17
Embraer ERJ-145	16
Airbus A319-131	11
Boeing 737-400	7
Airbus A320-100	7
Boeing 737-500	7
RJ 700 Regional Jet	6
McDonnell-Douglas MD80	5
Boeing 767-400	4
McDonnell-Douglas MD-83	4
Boeing 767-300	4
Boeing 737-900	3
Boeing 767-200	3
Boeing 737-200	3
Embraer EMB-145XR	2
DC9-30	1
McDonnell-Douglas MD90	1
McDonnell-Douglas MD88	1
Boeing 757-300	1
Grand Total	1705

Runway Length Calculations for Passenger Aircraft

Equipment	Max Landing Weights	Engines	Dry Landing Length (ft)	Wet Landing Length (ft)
737-300	114,000	CFM56-3B2	4,600	5,300
737-300	114,000	CFM56-3B1	5,400	6,200
737-300	114,000	CFM56-3B1	4,800	5,500
737-400	121,000	CFM56-3B2	5,200	5,900
737-400	121,000	CFM56-3C	5,400	6,200
737-400	121,000	CFM56-3C	6,100	6,975
737-700 ER	134,000	N/A	4,950	5,700
737-800	146,300	N/A	5,750	6,650
737-900	146,300	N/A	5,900	6,800
737-900 ER	157,300	N/A	5,600	6,450
757-200	210,000	PW 2040	5,075	5,900
757-300	224,000	PW 2040	5,650	6,525
767-200 ER	300,000	N/A	5,250	6,000
767-300	300,000	N/A	5,200	5,950
767-300 ER	320,000	N/A	5,650	5,975
767-300 F	326,000	N/A	5,700	6,550
767-400 ER	350,000	N/A	6,350	7,250
777-200 LR	492,000	GE90-110B1L	5,600	6,400
A319	134,481	CFM56-5A	4,450	4,600
A320-200	142,196	CFM56	4,700	4,800
A321-200	166,447	N/A	5,350	5,400
A300-600 F	304,230	N/A	5,125	5,895
A310	273,370	N/A	5,100	5,865
CRJ-900	78,000	GE90-110B1L	5,950	6,842
CRJ-700	67,000	GE90-110B1L	4,850	5,580
RJ 200 ER/LR	47,000	CF34-3B1	4,900	5,635
DC-10-10 CF	363,500	CF6-60	5,850	6,728
DC-10-30 CF	411,000	CF6-500	6,150	7,073
DC-10-40 CF	411,000	JT9D-59A	6,050	6,958
MD-81	128,600	N/A	4,900	5,550
MD-82	130,000	N/A	5,000	5,600
MD-83	139,500	N/A	5,150	6,000
MD-87	128,000	N/A	4,900	5,550
MD-88	130,000	N/A	5,000	6,050
MD-90-30	142,000	N/A	5,350	6,050
MD-90-30	142,000	N/A	5,500	6,225

Landing length greater than Runway 28 Landing distance available of 6,500 feet
Required Landing Length 0 to 500' less than Runway 28 Landing distance available of 6,500 feet
Required Landing Length 501 to 1000' less than Runway 28 Landing distance available of 6,500 feet
Required Landing Length 1001' to 1500' less than Runway 28 Landing distance available of 6,500 feet
Required Landing Length more than 1500' less than Runway 28 Landing distance available of 6,500 feet

2011

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
DateTime	2011	

Sum of ItemCount	flight_opc Runway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet	1				68
BAe HS 125/1-2-3 Twin Engine Jet		2			52
BAe HS 125/700-800 Twin Engine Jet	8	48	4	30	1676
Beechcraft Beechjet 400	6	13	2	7	1125
Bombardier Challenger 300	2	3		4	368
Canadair Bombardier CL600/610 Challenger Twin Jet	1	1		2	320
Cessna 560 Citation V	7	15	1	4	666
Cessna Citation 10 Twin Jet	2	3	2	1	526
Cessna Citation 3/6/7	1				102
Cessna Citation 560 Excel	1	25	2	5	1082
Cessna Citation I				2	64
Cessna Citation Jet	1	12	2	3	292
Cessna Citation Sovereign	1	1	1	2	282
Cessna Citation Twin Jet CJ2		3			79
Cessna Citation Twin Jet CJ3	1	3	2	1	164
Cessna Model 550 Citation Bravo	7	26	2	24	531
Dassault Falcon 2000	1	3		2	187
Eclips 500				1	51
Falcon 10 Mystere 10		2		1	25
Falcon 20 Mystere 20					43
Falcon 50 Mystere 50	6	16		8	559
Falcon 7X					33
Falcon 900 Three Engine Jet	1	4	1	2	106
Gulfstream 2 Twin Jet	3	1		1	93
Gulfstream 200		2	1	1	207
Gulfstream 3				1	102
Gulfstream 4 Twin Jet	1	2		4	569
Gulfstream 5 Twin Jet		2	1	6	145
Gulfstream V Twin Jet					1
Lear Jet 40 Twin Jet	3	4	2	2	177
Lear Jet 45 Twin Jet	1	14	1	7	351
Lear Jet 55 Twin Jet		2		1	132
Lear Jet 60 Twin Jet	2	4	2	1	274
Learjet 25 Twin Jet	2	3		1	101
Learjet 31 Twin Jet		1	1	3	105
Learjet 35 Twin Jet	3	11	1	2	385
Grand Total	62	226	28	129	11043

2010

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
DateTime	2010	

Sum of ItemCount	flight_opc Runway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet		1		1	25
BAe HS 125/1-2-3 Twin Engine Jet		4		2	39
BAe HS 125/700-800 Twin Engine Jet	8	79	8	100	1993
Beechcraft Beechjet 400	4	34	7	64	1088
Bombardier Challenger 300		5	3	16	314
Canadair Bombardier CL600/610 Challenger Twin Jet		9		20	264
Cessna 560 Citation V	4	31	11	44	735
Cessna Citation 10 Twin Jet	3	16	2	28	628
Cessna Citation 3/6/7		3		5	153
Cessna Citation 560 Excel	1	32	14	64	1058
Cessna Citation I	1	3	1	3	66
Cessna Citation Jet	2	13	9	17	227
Cessna Citation Sovereign		7	4	19	265
Cessna Citation Twin Jet CJ2		2		5	71
Cessna Citation Twin Jet CJ3		6	2	8	164
Cessna Model 550 Citation Bravo	7	41	10	47	621
Dassault Falcon 2000	1	4		12	200
Eclips 500	1			3	32
Falcon 10 Mystere 10					36
Falcon 20 Mystere 20	1		1		36
Falcon 50 Mystere 50	5	27	3	46	563
Falcon 7X					18
Falcon 900 Three Engine Jet		1	1	4	129
Gulfstream 2 Twin Jet	1	2	1	5	161
Gulfstream 200	1	4		8	140
Gulfstream 3			1	3	98
Gulfstream 4 Twin Jet	1	11	1	43	556
Gulfstream 5 Twin Jet		1	2	6	134
Lear Jet 40 Twin Jet	1	2		4	140
Lear Jet 45 Twin Jet	2	5	4	18	312
Lear Jet 55 Twin Jet	1	5	1	8	137
Lear Jet 60 Twin Jet	2	9	1	15	314
Learjet 25 Twin Jet	4	5	1	9	103
Learjet 31 Twin Jet		4	1	3	132
Learjet 35 Twin Jet	4	13	7	17	354
LearJet 35/LearJet 36				1	1
Learjet 36 Twin Jet					1
Grand Total	55	379	96	648	11308

2009

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
DateTime	2009	

Sum of ItemCount	flight_opc Runway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet				3	115
BAe HS 125/1-2-3 Twin Engine Jet		1			57
BAe HS 125/700-800 Twin Engine Jet	4	54	8	59	1681
Beechcraft Beechjet 400	8	22	2	30	1093
Bombardier Challenger 300	1	3	1	7	202
Canadair Bombardier Challenger 604 Twin Jet					1
Canadair Bombardier CL600/610 Challenger Twin Jet	1	8		6	316
Cessna 560 Citation V	1	13	3	15	596
Cessna Citation 10 Twin Jet	2	3	4	24	539
Cessna Citation 3/6/7	2	3	1	4	124
Cessna Citation 560 Excel	6	22	1	24	959
Cessna Citation I	2	1		2	54
Cessna Citation Jet		1	1	5	133
Cessna Citation Sovereign	1	9	2	8	275
Cessna Citation Twin Jet CJ2	2	1		5	86
Cessna Citation Twin Jet CJ3		5		12	187
Cessna Model 550 Citation Bravo	6	22	2	27	628
Dassault Falcon 2000		5		8	188
Eclips 500		4		4	31
Falcon 10 Mystere 10		4			50
Falcon 20 Mystere 20		3		2	62
Falcon 50 Mystere 50	2	7	3	25	537
Falcon 7X					4
Falcon 900 Three Engine Jet	1		1	4	111
Gulfstream 2 Twin Jet	2	1	1	1	129
Gulfstream 200	1	1		3	154
Gulfstream 3				6	119
Gulfstream 4 Twin Jet	3	3	1	10	393
Gulfstream 5 Twin Jet	1			4	95
Lear Jet 40 Twin Jet					120
Lear Jet 45 Twin Jet	2	4	1	16	292
Lear Jet 55 Twin Jet		5	1	4	124
Lear Jet 60 Twin Jet	2	2	1	8	214
Learjet 25 Twin Jet	1	7	2	6	114
Learjet 31 Twin Jet	1	1	1	3	107
Learjet 35 Twin Jet	3	21	4	14	346
Learjet 36 Twin Jet					2
Grand Total	55	236	41	349	10238

2008

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
DateTime	2008	

Sum of ItemCount	flight_opc Runway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet	1	3		5	177
BAe HS 125/1-2-3 Twin Engine Jet	1		1	2	96
BAe HS 125/700-800 Twin Engine Jet	11	36	6	38	2168
Beechcraft Beechjet 400	7	20	6	25	1582
Bombardier Challenger 300		1		2	168
Canadair Bombardier CL600/610 Challenger Twin Jet		5		11	367
Cessna 560 Citation V	4	10	1	12	581
Cessna Citation 10 Twin Jet	1	4		8	513
Cessna Citation 3/6/7				1	162
Cessna Citation 560 Excel	2	19	1	19	1069
Cessna Citation I		1			58
Cessna Citation Jet		3	1	2	198
Cessna Citation Sovereign	1	6		9	293
Cessna Citation Twin Jet CJ2		2		3	130
Cessna Citation Twin Jet CJ3		5	1	4	146
Cessna Model 550 Citation Bravo	6	23	4	17	920
Dassault Falcon 2000	1	4		6	255
Eclips 500		6		1	80
Falcon 10 Mystere 10	2	4		2	133
Falcon 20 Mystere 20		1		1	71
Falcon 50 Mystere 50	5	11	3	10	756
Falcon 900 Three Engine Jet	2	1		2	93
Gulfstream 2 Twin Jet		3		4	253
Gulfstream 200		2		2	210
Gulfstream 3				2	171
Gulfstream 4 Twin Jet	2	5	3	5	516
Gulfstream 5 Twin Jet		1	1	1	127
Lear Jet 40 Twin Jet				2	139
Lear Jet 45 Twin Jet	3	5		10	399
Lear Jet 55 Twin Jet	1	3		3	138
Lear Jet 60 Twin Jet	1	1		5	255
Learjet 25 Twin Jet	1	2		1	99
Learjet 31 Twin Jet		6		4	180
Learjet 35 Twin Jet	4	11	1	11	514
LearJet 35/LearJet 36			1		1
Learjet 36 Twin Jet				1	2
Grand Total	56	204	30	231	13020

2007

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
Date/Time	2007	

Sum of ItemCount	flight_opcRunway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet					47
BAe HS 125/1-2-3 Twin Engine Jet					124
BAe HS 125/700-800 Twin Engine Jet		2		5	2101
Beechcraft Beechjet 400		1		7	1531
Bombardier Challenger 300				1	167
Canadair Bombardier Challenger 604 Twin Jet					1
Canadair Bombardier CL600/610 Challenger Twin Jet		1	1	2	474
Cessna 560 Citation V		2		4	622
Cessna Citation 10 Twin Jet			1	6	546
Cessna Citation 3/6/7	1	1		1	156
Cessna Citation 560 Excel	1	1		7	810
Cessna Citation I					61
Cessna Citation Jet	1			4	344
Cessna Citation Sovereign		1			188
Cessna Citation Twin Jet CJ2					83
Cessna Citation Twin Jet CJ3		1		2	161
Cessna Model 550 Citation Bravo	1	8	2	4	863
Dassault Falcon 2000		1		2	209
Eclips 500					1
Falcon 10 Mystere 10	2			2	67
Falcon 20 Mystere 20				1	86
Falcon 50 Mystere 50		1		9	878
Falcon 900 Three Engine Jet	1	1		2	179
Gulfstream 2 Twin Jet					280
Gulfstream 200				1	209
Gulfstream 3				2	362
Gulfstream 4 Twin Jet				4	400
Gulfstream 5 Twin Jet				4	254
Lear Jet 40 Twin Jet				1	74
Lear Jet 45 Twin Jet	1			2	452
Lear Jet 55 Twin Jet					170
Lear Jet 60 Twin Jet				1	274
Learjet 25 Twin Jet	1		1	1	108
Learjet 31 Twin Jet	1	2			199
Learjet 35 Twin Jet	2	1		2	468
Learjet 36 Twin Jet					5
Grand Total	12	25	4	77	12954

2006

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
DateTime	2006	

Sum of ItemCount	flight_opcRunway				Grand Total
	A		D		
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet					52
BAe HS 125/1-2-3 Twin Engine Jet				2	128
BAe HS 125/700-800 Twin Engine Jet	3	3		10	1597
Beechcraft Beechjet 400		5	1	6	1556
Bombardier Challenger 300					58
Canadair Bombardier Challenger 604 Twin Jet					11
Canadair Bombardier CL600/610 Challenger Twin Jet			1	3	400
Cessna 560 Citation V		3		4	598
Cessna Citation 10 Twin Jet				1	387
Cessna Citation 3/6/7	1	1	1		265
Cessna Citation 560 Excel				6	565
Cessna Citation I			2		88
Cessna Citation Jet	1	1		6	304
Cessna Citation Sovereign				1	79
Cessna Citation Twin Jet CJ2	1				70
Cessna Citation Twin Jet CJ3					66
Cessna Model 550 Citation Bravo	1	4		6	795
Dassault Falcon 2000				1	185
Falcon 10 Mystere 10				1	44
Falcon 20 Mystere 20	1				84
Falcon 50 Mystere 50	1	3		9	711
Falcon 900 Three Engine Jet		4		17	219
Gulfstream 2 Twin Jet		1			271
Gulfstream 200			1		178
Gulfstream 3				1	349
Gulfstream 4 Twin Jet	1			2	333
Gulfstream 5 Twin Jet		1		2	182
Lear Jet 40 Twin Jet		1			33
Lear Jet 45 Twin Jet	1	1		1	294
Lear Jet 55 Twin Jet		1		3	179
Lear Jet 60 Twin Jet				2	278
Learjet 25 Twin Jet				2	95
Learjet 31 Twin Jet			1		188
Learjet 35 Twin Jet		3		2	365
Learjet 36 Twin Jet					7
Grand Total	11	35	4	92	11014

2005

flight_type	(Multiple Items)	Note: GA+PAX+OTHER
Date/Time	2005	

Sum of ItemCount	flight_opcRunway				Grand Total
	A		D		
	10	28	10	28	
Equipment	10	28	10	28	
Bae HS 125/ 1000 Twin Engine Jet		3	1	9	249
BAe HS 125/1-2-3 Twin Engine Jet	1	4	3	9	286
BAe HS 125/700-800 Twin Engine Jet		31	3	44	1678
Beechcraft Beechjet 400	6	41	4	68	2128
Bombardier Challenger 300		1	1	1	33
Canadair Bombardier Challenger 604 Twin Jet		4		2	79
Canadair Bombardier CL600/610 Challenger Twin Jet	1	6	1	24	627
Cessna 560 Citation V	1	15	5	33	844
Cessna Citation 10 Twin Jet	1	4	2	18	504
Cessna Citation 3/6/7	3	11	2	25	579
Cessna Citation 560 Excel		9	2	22	615
Cessna Citation I		1		1	79
Cessna Citation Jet	3	3	1	33	571
Cessna Citation Sovereign				4	41
Cessna Citation Twin Jet CJ2		8		2	68
Cessna Citation Twin Jet CJ3		1		2	15
Cessna Model 550 Citation Bravo		16		25	800
Dassault Falcon 2000		3		6	214
Falcon 10 Mystere 10				2	71
Falcon 20 Mystere 20		3		3	109
Falcon 50 Mystere 50		15		34	829
Falcon 900 Three Engine Jet	1	4	1	20	269
Gulfstream 2 Twin Jet	1	5	1	23	397
Gulfstream 200	1	2		5	184
Gulfstream 3	1		1	10	265
Gulfstream 4 Twin Jet		1	1	14	337
Gulfstream 5 Twin Jet		2	1	14	247
Lear Jet 40 Twin Jet					12
Lear Jet 45 Twin Jet		1		5	294
Lear Jet 55 Twin Jet	1	1		7	214
Lear Jet 60 Twin Jet		5		10	448
Learjet 25 Twin Jet	2	4		4	149
Learjet 31 Twin Jet	1	3	1	23	354
Learjet 35 Twin Jet	4	7		32	672
LearJet 35/LearJet 36					2
Learjet 36 Twin Jet					8
Grand Total	28	214	31	534	14271

TAKEOFF RUNWAY LENGTH ADJUSTMENT Beech 1900D

(given takeoff length at sea level, Mean Max Temperature, Elevation & difference in Hi / Lo pts)

Altitude Correction

(7% per 1,000' above sea level)

E = Elevation

L = Takeoff length @ sea level

L1 = Length corrected for altitude

$$L1 = (.07 * E / 1000) * L + L$$

Temperature Correction

(0.5% per degree above std temp in hottest month)

(Std Temp adjusted to Sea Level)

T1 = Adjusted Std Temp

T = Mean Max High Temperature

L2 = Length corrected for altitude & temperature

$$T1 = 59 - (3.566 * E / 1000)$$

$$L2 = (.005 * (T - T1)) * L1 + L1$$

Effective Gradient Correction (takeoff only)

(10' for each 1' difference between Hi / Lo P G = Difference between Hi / Lo point in feet

L3 = RW length corrected for altitude, temperature & gradient

$$L3 = G * 10 + L2$$

Takeoff Runway Length at Sea Level and 59 Degrees Fahrenheit

1. Enter the takeoff runway length at sea level in feet

L =

Altitude

2. Enter Airport Altitude in feet above sea level

E =

L1 =

Temperature

3. Enter Mean Max Daily Temp in degrees F

T =

T1 =

L2 =

Gradient Adjustment

4. Enter Maximum Difference in RW Elevation in feet

Takeoff Runway Length Adjusted for Temp, Elevation & Gradient

L3 =

TAKEOFF RUNWAY LENGTH ADJUSTMENT EMB 120
(given takeoff length at sea level, Mean Max Temperature, Elevation & difference in Hi / Lo pts)

Altitude Correction

(7% per 1,000' above sea level)

E = Elevation

L = Takeoff length @ sea level

L1 = Length corrected for altitude

$$L1 = (.07 * E / 1000) * L + L$$

Temperature Correction

(0.5% per degree above std temp in hottest month)

(Std Temp adjusted to Sea Level)

T1 = Adjusted Std Temp

T = Mean Max High Temperature

L2 = Length corrected for altitude & temperature

$$T1 = 59 - (3.566 * E / 1000)$$

$$L2 = (.005 * (T - T1)) * L1 + L1$$

Effective Gradient Correction (takeoff only)

(10' for each 1' difference between Hi / Lo P G = Difference between Hi / Lo point in feet

L3 = RW length corrected for altitude, temperature & gradient

$$L3 = G * 10 + L2$$

Takeoff Runway Length at Sea Level and 59 Degrees Fahrenheit

1. Enter the takeoff runway length at sea level in feet

L =

Altitude

2. Enter Airport Altitude in feet above sea level

E =

L1 =

Temperature

3. Enter Mean Max Daily Temp in degrees F

T =

T1 =

L2 =

Gradient Adjustment

4. Enter Maximum Difference in RW Elevation in feet

Takeoff Runway Length Adjusted for Temp, Elevation & Gradient

L3 =



February 23, 2012

Status Briefing

South Development Market Assessment
Eastside Development Area
Runway 10-28 Operational Review

Briefing Agenda

- Briefing on Status of South Development Area Market Assessment
- Eastside Development Area review of revised concepts and status update
- Status Review of Runway 10-28 Analysis and next Steps Summary



Eastside Development Area Revised Concepts/Status Briefing

February 23, 2012

Draft East Side Development Alternative A1



- GSE Expansion Added
- Tug access to North Development Area
- 36.2 acres of MRO cluster development area available
- 212,000 sq. ft. of cargo expansion provided.
- Proposed 3rd MRO hangar depicted
- New 94,000 sq. ft. hangar added
- Belly Cargo Expansion accommodated

Draft East Side Development Alternative A2

- Addition of 3rd MRO hangar
- Extension of tug access to north development area
- Added GSE building expansion
- 46.1 acres MRO cluster development area

Runway 10-28 Operational Review

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Draft East Side Development Alternative B

- Preserves a corridor for aircraft access to north development area. Tug access provided.
- Stormwater issues impact aircraft access to north area
- Provides an additional 402.5 sq. ft. of air cargo area
- Accommodates third MRO hangar with taxiway frontage
- Accommodates GSE and belly cargo facility expansions

Runway 10-28 Operational Review

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Runway 10-28

Operational Review Status Briefing

February 23, 2012

Status Briefing Agenda



Operational Review of Runway 10-28

- Overview of issues relating to Runway 10-28
- Runway 10-28 Utilization Review Findings
- Landing Length Requirements by Commercial Carriers on RWY 10-28
- Preliminary Findings of Runway 10-28 Evaluation to Date
- Next steps in Runway 10-28 Evaluation

Central Issues Related to Runway 10-28 Analysis



Factors affecting Runway 10-28 analysis

- Timing and requirements of the new ATCT
- Timing of an APM connection to the South Development area
- Need and Utilization considerations of Runway 10-28
- Cost Considerations for HCAA to consider associated with Runway 10-28
 - Costs to extend/shift Runway 10-28 vs. value returned
 - Ongoing maintenance & repair costs versus utilization value
 - APM construction costs and timing

Issues Related to Runway 10-28 Analysis



ATCT Tradeoffs

- The proposed ATCT height is established due to Line of Sight issues to an easterly extended Runway 10-28.
- The proposed ATCT height results in the raising of approach minimums to Runway 19R by 40'
- Funding, and therefore timing of construction, of a new ATCT is currently not defined.
- If Runway 10-28 is not extended, the proposed ATCT height is reduced and impacts to the approach to Runway 19R lessened or negated.

PAX Operations by Runway End



Year	10		28		1L		19R		1R		19L		Grand Total
	A	D	A	D	A	D	A	D	A	D	A	D	
2011	0.2%	0.1%	0.3%	0.1%	23.7%	9.9%	10.1%	21.5%	2.4%	15.1%	14.8%	1.9%	100%
2010	0.0%	0.1%	0.6%	0.2%	27.3%	18.1%	14.4%	19.8%	1.4%	9.7%	7.1%	1.2%	100%
2009	0.2%	0.1%	0.5%	0.1%	20.2%	9.3%	11.4%	25.6%	1.9%	13.0%	15.4%	2.4%	100%
2008	0.1%	0.1%	0.7%	0.1%	21.8%	8.8%	8.1%	21.8%	3.4%	16.2%	15.4%	3.5%	100%
2007	0.0%	0.0%	0.2%	0.0%	21.4%	9.9%	2.5%	21.6%	4.4%	24.7%	12.0%	3.1%	100%
2006	0.0%	0.0%	0.2%	0.1%	16.9%	4.5%	2.6%	23.8%	4.2%	28.8%	13.6%	5.3%	100%
2005	0.1%	0.1%	1.0%	0.3%	22.7%	11.4%	7.1%	22.2%	4.0%	15.6%	11.5%	4.0%	100%
Grand Total	0.1%	0.1%	0.5%	0.1%	22.1%	10.3%	8.1%	22.3%	3.1%	17.4%	12.8%	3.1%	100%

Year	10		28		1L		19R		1R		19L		Grand Total
	A	D	A	D	A	D	A	D	A	D	A	D	
2011	224	106	484	96	33,323	13,977	14,271	30,240	3,329	21,206	20,776	2,730	140,762
2010	41	121	921	222	39,145	25,961	20,630	28,471	2,051	13,945	10,198	1,781	143,487
2009	297	117	740	141	29,311	13,466	16,466	37,063	2,775	18,846	22,310	3,483	145,015
2008	145	116	1,114	243	36,579	14,847	13,667	36,640	5,640	27,284	25,850	5,967	168,092
2007	51	40	340	64	30,876	14,219	3,631	31,097	6,393	35,596	17,205	4,440	143,952
2006	16	44	286	68	21,711	5,756	3,345	30,521	5,426	36,963	17,501	6,853	128,490
2005	99	228	1,616	492	35,093	17,663	10,953	34,404	6,190	24,163	17,805	6,144	154,850
Grand Total	873	772	5,501	1,326	226,038	105,889	82,963	228,436	31,804	178,003	131,645	31,398	1,024,648

- Overall utilization of Runway 10-28 by Air Carrier aircraft is very limited
- Highest utilization occurs on Runway 28 (0.5%) with arrivals comprising majority of activity
- Between 2005 and 2011 air carrier arrivals totaled 6,374 vs. 2,098 departures

Operations by Commercial Aircraft Category



Year/Aircraft Category	10	28	1L	19R	1R	19L	Grand Total
2011	322	562	46,961	44,435	24,127	22,915	139,322
Widebody	17	11	5,328	5,061	920	705	12,042
Narrowbody	180	140	34,385	32,104	20,117	19,522	106,448
RJ Commuter	24	13	6,821	6,784	564	501	14,707
Regional Turbo-prop	101	398	427	486	2,526	2,187	6,125
2010	148	1,015	64,614	48,818	15,655	11,640	141,890
Widebody	13	26	7,140	5,071	365	239	12,854
Narrowbody	45	270	48,163	36,765	11,738	8,763	105,744
RJ Commuter	4	33	6,901	5,354	257	215	12,764
Regional Turbo-prop	86	686	2,410	1,628	3,295	2,423	10,528
2009	408	818	42,519	53,487	21,221	25,128	143,577
Widebody	19	9	5,363	6,028	709	724	12,852
Narrowbody	230	120	30,446	38,950	15,929	19,227	104,902
RJ Commuter	24	12	5,956	7,612	600	683	14,887
Regional Turbo-prop	133	677	754	897	3,983	4,492	10,936
2008	238	1,096	51,098	50,217	31,712	30,135	164,404
Widebody	6	10	5,813	5,555	1,250	1,123	13,757
Narrowbody	88	168	36,011	35,715	21,578	19,791	113,351
RJ Commuter	15	40	8,411	8,235	998	917	18,616
Regional Turbo-prop	127	878	773	712	7,886	8,304	18,680
2007	83	363	44,488	34,606	41,061	20,717	141,323
Widebody	4	2	6,620	4,238	1,847	816	13,527
Narrowbody	30	23	29,773	24,802	27,017	12,811	94,456
RJ Commuter	4	1	7,477	4,963	1,883	575	14,903
Regional Turbo-prop	50	337	618	603	10,314	6,515	18,437
2006	56	318	27,081	33,621	41,656	23,470	126,232
Widebody	4	4	4,524	4,867	3,847	1,854	15,100
Narrowbody	11	43	17,906	23,009	25,424	12,957	79,350
RJ Commuter	2	7	4,231	5,399	4,157	1,706	15,504
Regional Turbo-prop	39	264	420	346	8,258	6,951	16,278
2005	246	1,459	51,959	44,958	28,205	21,693	148,530
Widebody	10	32	8,235	7,392	843	582	17,094
Narrowbody	68	180	30,574	27,560	16,599	12,168	87,149
RJ Commuter	14	57	12,164	9,155	1,288	830	23,508
Regional Turbo-prop	154	1,190	986	861	9,475	8,113	20,779
Grand Total	1,502	5,631	328,630	310,152	203,667	155,696	1,005,278

Between 2005 and 2011 Regional Turbo-prop operations have comprised the largest component of commercial service operations on Runway 10-28, followed by narrow-body transport (up to but not including B757) operations

Overall operational activity has been markedly heavier on Runway 28

Passenger Aircraft Fleet Mix on 10-28



2011			2010		
DateTime	2011		DateTime	2010	
flight_type	PAX		flight_type	PAX	
Type	(Multiple Items)		Type	(Multiple Items)	
Runway	(Multiple Items)		Runway	(Multiple Items)	
Row Labels	Sum of ItemCount		Row Labels	Sum of ItemCount	
Beechcraft 1900D Twin Engine Turboprop	499		Beechcraft 1900D Twin Engine Turboprop	772	
Boeing 737-700	114		Boeing 737-700	88	
Boeing 737-300	58		Boeing 737-300	55	
Airbus A320-232	42		Airbus A320-232	39	
Airbus A319-131	36		Boeing 737-800	39	
Boeing 757-200	26		Boeing 757-200	38	
Boeing 737-800	26		Airbus A319-131	29	
Boeing 717-200	24		Boeing 717-200	22	
McDonnell-Douglas MD88	14		Boeing 737-400	19	
McDonnell-Douglas MD-82	9		McDonnell-Douglas MD-82	12	
Boeing 737-500	8		Boeing 737-500	12	
McDonnell-Douglas MD-83	7		McDonnell-Douglas MD88	10	
Airbus A320-100	6		Airbus A320-100	8	
Boeing 737-400	5		Embraer EMB-145XR	4	
Canadair CRJ-200	3		Boeing 737-900	4	
Embraer ERJ-190	2		McDonnell-Douglas MD-83	3	
McDonnell-Douglas MD90	1		Embraer ERJ-190	3	
Canadair CRJ900	1		Embraer ERJ-145	2	
Boeing 767-300	1		Boeing 747-400	1	
Boeing 777-200	1		Canadair CRJ900	1	
Boeing 737-900	1		DC9-50	1	
Grand Total	884		Canadair CRJ-200	1	
			Grand Total	1163	

Passenger Aircraft Fleet Mix on 10-28



2009			2008		
DateTime	2009		DateTime	2008	
flight_type	PAX		flight_type	PAX	
Type	(Multiple Items)		Type	(Multiple Items)	
Runway	(Multiple Items)		Runway	(Multiple Items)	
Row Labels	Sum of ItemCount		Row Labels	Sum of ItemCount	
Beechcraft 1900D Twin Engine Turboprop	805		Beechcraft 1900D Twin Engine Turboprop	997	
Boeing 737-700	106		Boeing 737-700	80	
Boeing 737-300	63		Boeing 737-300	62	
Airbus A320-232	39		Airbus A320-232	30	
Airbus A319-131	39		McDonnell-Douglas MD-82	23	
Boeing 737-800	36		Boeing 717-200	21	
Boeing 717-200	31		Boeing 737-800	20	
Boeing 757-200	26		Airbus A319-131	15	
Boeing 737-400	15		Boeing 737-400	14	
McDonnell-Douglas MD-82	12		McDonnell-Douglas MD88	14	
Embraer ERJ-190	12		Boeing 757-200	13	
Airbus A320-100	8		Boeing 737-500	9	
Boeing 737-500	7		EMB 120 Twin Engine Turboprop	8	
McDonnell-Douglas MD88	6		Airbus A320-100	5	
Boeing 737-900	6		DC9-30	5	
Saab 340	5		Embraer ERJ-190	4	
DC9-50	2		Canadair CRJ900	4	
McDonnell-Douglas MD-83	1		Embraer ERJ-145	3	
Embraer EMB-145XR	1		Boeing 767-300	3	
Boeing 757-300	1		Canadair CRJ-200	1	
Boeing 777-200	1		Embraer EMB-145XR	1	
Embraer ERJ-145	1		Grand Total	1332	
DC9-30	1				
Grand Total	1224				



Passenger Aircraft Fleet Mix on 10-28

2007		2006		2005	
DateTime	2007	DateTime	2006	DateTime	2005
flight_type	PAX	flight_type	PAX	flight_type	PAX
Type	(Multiple Items)	Type	(Multiple Items)	Type	(Multiple Items)
Runway	(Multiple Items)	Runway	(Multiple Items)	Runway	(Multiple Items)
Row Labels	Sum of ItemCount	Row Labels	Sum of ItemCount	Row Labels	Sum of ItemCount
Beechcraft 1900D Twin Engine Turbo	373	Beechcraft 1900D Twin Engine Turbo	271	Beechcraft 1900D Twin Engine Turbo	1168
Boeing 737-700	15	EMB 120 Twin Engine Turbo	32	EMB 120 Twin Engine Turbo	176
EMB 120 Twin Engine Turbo	14	Boeing 737-700	14	Boeing 737-300	64
Boeing 737-300	11	Boeing 737-300	12	Boeing 737-700	58
Airbus A320-232	10	Airbus A320-232	9	Airbus A320-232	48
Boeing 737-800	8	Boeing 737-800	8	Boeing 757-200	30
Boeing 757-200	5	Boeing 757-200	6	Boeing 737-800	22
Boeing 717-200	4	Boeing 737-400	5	Embraer ERJ-135	18
Airbus A319-131	4	McDonnell-Douglas MD-82	3	Boeing 717-200	18
McDonnell-Douglas MD-82	3	Boeing 737-500	3	McDonnell-Douglas MD-82	17
Airbus A320-100	1	Boeing 767-400	2	Embraer ERJ-145	16
Embraer ERJ-145	1	Boeing 717-200	2	Airbus A319-131	11
DC9-30	1	McDonnell-Douglas MD80	1	Boeing 737-400	7
Boeing 767-300	1	McDonnell-Douglas MD-83	1	Airbus A320-100	7
Grand Total	451	Airbus A319-131	1	Boeing 737-500	7
		Embraer ERJ-145	1	RJ 700 Regional Jet	6
		McDonnell-Douglas MD88	1	McDonnell-Douglas MD80	5
		Embraer ERJ-190	1	Boeing 767-400	4
		Embraer ERJ-135	1	McDonnell-Douglas MD-83	4
		Grand Total	374	Boeing 767-300	4
				Boeing 737-900	3
				Boeing 767-200	3
				Boeing 737-200	3
				Embraer EMB-145XR	2
				DC9-30	1
				McDonnell-Douglas MD90	1
				McDonnell-Douglas MD88	1
				Boeing 757-300	1
				Grand Total	1705

Runway 10-28 Operational Review

Landing Lengths for Passenger Aircraft



Equipment	Max Landing Weights	Engines	Dry Landing Length (ft)	Wet Landing Length (ft)
737-300	114,000	CFM56-3B2	4,600	5,300
737-300	114,000	CFM56-3B1	5,400	6,200
737-300	114,000	CFM56-3B1	4,800	5,500
737-400	121,000	CFM56-3B2	5,200	5,900
737-400	121,000	CFM56-3C	5,400	6,200
737-400	121,000	CFM56-3C	6,100	6,975
737-700 ER	134,000	N/A	4,950	5,700
737-800	146,300	N/A	5,750	6,650
737-900	146,300	N/A	5,900	6,800
737-900 ER	157,300	N/A	5,600	6,450
757-200	210,000	PW 2040	5,075	5,900
757-300	224,000	PW 2040	5,650	6,525
767-200 ER	300,000	N/A	5,250	6,000
767-300	300,000	N/A	5,200	5,950
767-300 ER	320,000	N/A	5,650	5,975
767-300 F	326,000	N/A	5,700	6,550
767-400 ER	350,000	N/A	6,350	7,250
777-200 LR	492,000	GE90-110B1L	5,600	6,400
A319	134,481	CFM56-5A	4,450	4,600
A320-200	142,196	CFM56	4,700	4,800
A321-200	166,447	N/A	5,350	5,400
A300-600 F	304,230	N/A	5,125	5,895
A310	273,370	N/A	5,100	5,865
CRJ-900	78,000	GEFCF34-8C5	5,950	6,325
CRJ-700	67,000	GEFCF34-8C5	4,850	5,580
RJ 200 ER/LR	47,000	CF34-3B1	4,900	5,635
DC-10-10 CF	363,500	CF6-60	5,850	6,728
DC-10-30 CF	411,000	CF6-500	6,150	7,073
DC-10-40 CF	411,000	JT9D-59A	6,050	6,958
MD-81	128,600	N/A	4,900	5,550
MD-82	130,000	N/A	5,000	5,600
MD-83	139,500	N/A	5,150	6,000
MD-87	128,000	N/A	4,900	5,550
MD-88	130,000	N/A	5,000	6,050
MD-90-30	142,000	N/A	5,350	6,050
MD-90-30	142,000	N/A	5,500	6,225

Landing length greater than Runway 28 Landing distance available of 6,500 feet
 Required Landing Length 0 to 500' less than Runway 28 Landing distance available of 6,500 feet
 Required Landing Length 501 to 1000' less than Runway 28 Landing distance available of 6,500 feet
 Required Landing Length 1001' to 1500' less than Runway 28 Landing distance available of 6,500 feet
 Required Landing Length more than 1500' less than Runway 28 Landing distance available of 6,500 feet

All identified runway lengths based on aircraft Maximum Landing Weight.

6,500' was identified as the critical landing length based on LDA for Runway 28.

This approach tends to overstate typical length requirements, but does represent a worst-case condition.

Runway 10-28 Operational Review

Operations by Critical Aircraft Type & Landing Length



Operations by Aircraft Requiring 6,000-6,500'

71 total operations over 7 years

Equipment	2011	2010	2009	2008	2007	2006	2005
DC10-40	0	0	0	0	0	0	0
DC10-30	0	0	0	0	0	0	0
767-400	0	0	0	0	0	0	2
737-400	5	19	15	14	0	5	7
Total	5	19	15	14	0	5	11

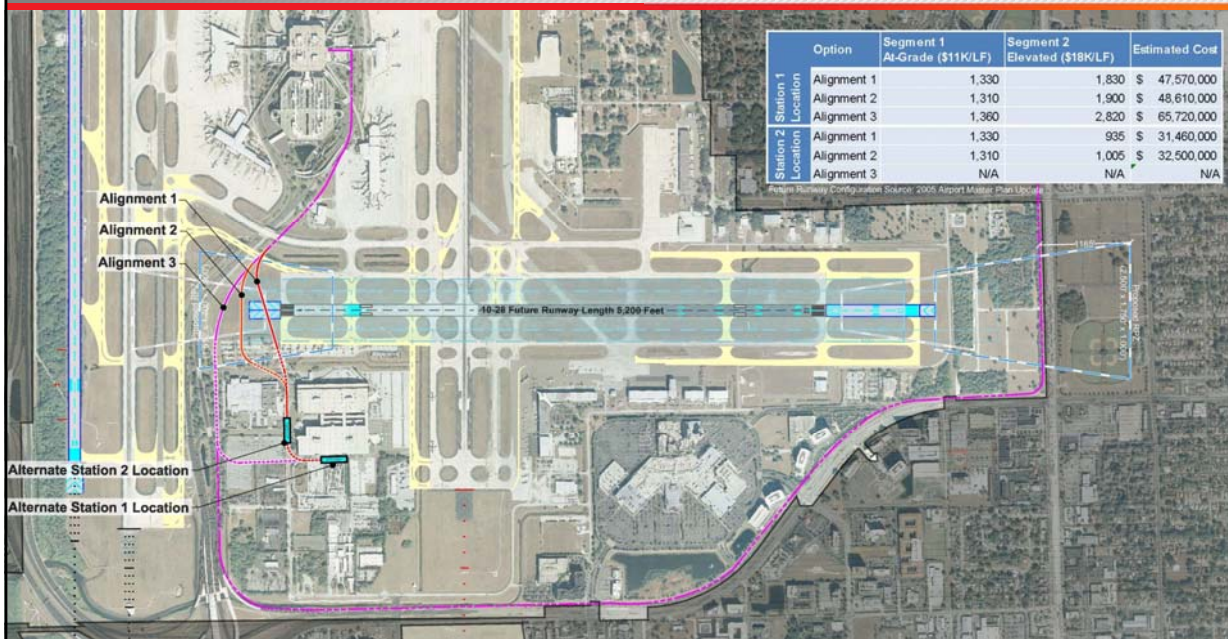
Operations by Aircraft Requiring 5,500-6,000'

177 total operations over 7 years

Equipment	2011	2010	2009	2008	2007	2006	2005
737-800	26	39	36	20	8	8	22
737-900	1	4	6	0	0	0	3
757-300	0	0	1	0	0	0	0
767-300ER	0	0	0	0	0	0	0
767-300F	0	0	0	0	0	0	0
777-200LR	0	0	1	0	0	0	0
CRJ-900	1	0	0	0	0	0	0
DC10-10	0	0	0	0	0	0	0
MD90-30	1	0	0	0	0	0	0
Total	29	43	44	20	8	8	25

Note: Dry Landing Conditions

Preliminary APM Alignments and Station Locations



Findings to Date of Runway 10-28 Evaluation



- 2005 Master Plan recommended an eastern extension of Runway 10-28 and total length of 8,200 feet with precision approach to Runway 28
- Runway 10-28's benefit is tied primarily to weather events and smaller general aviation activity.
- Justification to Extend Runway 10-28 beyond its current length to meet a demand related issue does not appear supportable
- Precision visibility minimums may already be precluded by existing obstructions generating a 1 and 1/8 mile visibility requirement for Runway 28.
- Visibility minimums of greater than 3/4 mile reduce the impact of Runway Protection Zone on land east of Dale Mabry
- Considering APM alignment cost savings from a easterly runway shift is not unreasonable, but must be considered based on ATCT timing versus APM timing.

Next steps in Runway 10-28 Evaluation



- Identify and assess possible runway adjustments relative to APM alignments with and without eastern extension/impacts to Dale Mabry property.
- Need greater clarity of future facility configuration in South Development Area
- Define impacts of options on available runway length focusing on landing lengths
- Develop consensus on optimal available Runway 10-28 length
- Establish general triggers for decisions relative to Runway 10-28
- Present results on March 5th, 2012

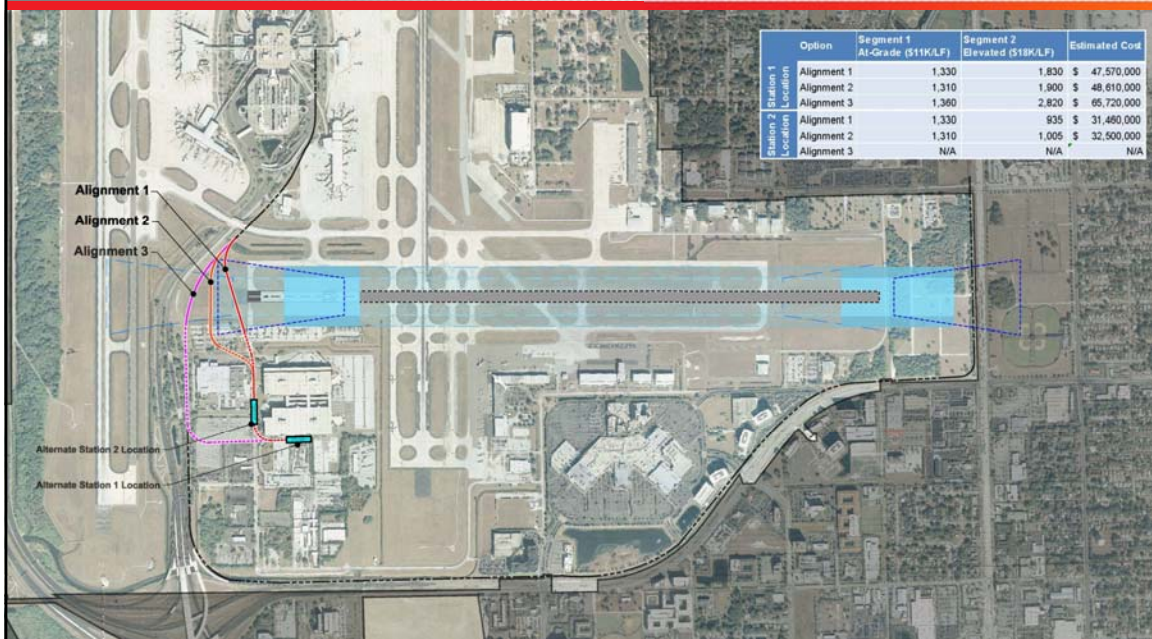


Runway 10-28

Operational Review Status Briefing

February 23, 2012

APM Alignment and Station Location Alternatives





May 8, 2012

Status Briefing

Runway 10-28 Alignment Issues and Alternatives

Primary Runway 10/28 Issues



- Does need exist to extend Runway 10/28 as recommended in 2005 master plan.
- Height required, and impacts of new ATCT due to Runway 10/28 Extension
- APM alignment options & costs to the South Development area
- Second south cross-field taxiway over George J. Bean Parkway

Runway 10/28 Scenario One – Do nothing



Displace RWY 10 Threshold 500 ft. (Future)
 Extend RWY 28 to 1200 ft. (Future)

ITEM	10 →		← 28	
	Existing	Future	Existing	Future
Takeoff Run Available (TORA)	7000	8200	6500	7700
Takeoff Distance Available (TODA)	7000	8200	6500	7700
Accelerate-Stop Distance Available (ASDA)	7000	8200	6500	7700
Landing Distance Available (LDA)	7000	7700	6500	7700

KEY POINTS

- APM alignment follows George Bean Parkway but was not shown accessing South development area.
- 499' displacement of Runway 10 threshold
- Runway 10/28 extended to the east by 1,200 feet providing 8,200' of runway
- Precision Instrument Approach shown for Runway 28 requiring expanded Runway Protection Zone.
- RPZ significantly limits uses of airport property along east side of Dale Mabry
- Any eastern extension of Runway 10/28 requires new 304' tall ATCT



Runway 10-28 Operational Review

Runway 10/28 Utilization Characteristics



- Runway 10/28 experiences limited air carrier use and primary operations are Runway 28 landings.
 - 8,479 air carrier operations occurred on Runway 10/28 between 2005 and 2012, 6,374 or 75.2% were arrivals,
 - 5,501 of these landings or 86.3% occurred on Runway 28
 - Commuter turboprops comprised between 56.4% in 2011 and 85.8% in 2007 of commercial activity on 10/28 between 2005 and 2012
- Air Carrier use dictated by occasional weather events
- 71 air carrier landing operations over a seven year period required more than 6,000' of runway
- Corporate jet usage of 10/28 ranged between 4% and 12% of total GA jet activity at TPA since 2005 (445 to 1,179 total operations)

Runway 10-28 Operational Review

Operations by Critical Aircraft Type & Landing Length

Operations by Aircraft Requiring 6,000-6,500'

71 total operations over 7 years

Equipment	2011	2010	2009	2008	2007	2006	2005
DC10-40	0	0	0	0	0	0	0
DC10-30	0	0	0	0	0	0	0
767-400	0	0	0	0	0	0	2
737-400	5	19	15	14	0	0	5
Total	5	19	15	14	0	0	7

Operations by Aircraft Requiring 5,500-6,000'

177 total operations over 7 years

Equipment	2011	2010	2009	2008	2007	2006	2005
737-800	26	39	36	20	8	8	22
737-900	1	4	6	0	0	0	3
757-300	0	0	1	0	0	0	0
767-300ER	0	0	0	0	0	0	0
767-300F	0	0	0	0	0	0	0
777-200LR	0	0	1	0	0	0	0
CRJ-900	1	0	0	0	0	0	0
DC10-10	0	0	0	0	0	0	0
MD90-30	1	0	0	0	0	0	0
Total	29	43	44	20	8	8	25

Note: Dry Landing Conditions at Maximum Gross Landing Weight

New ATCT Considerations

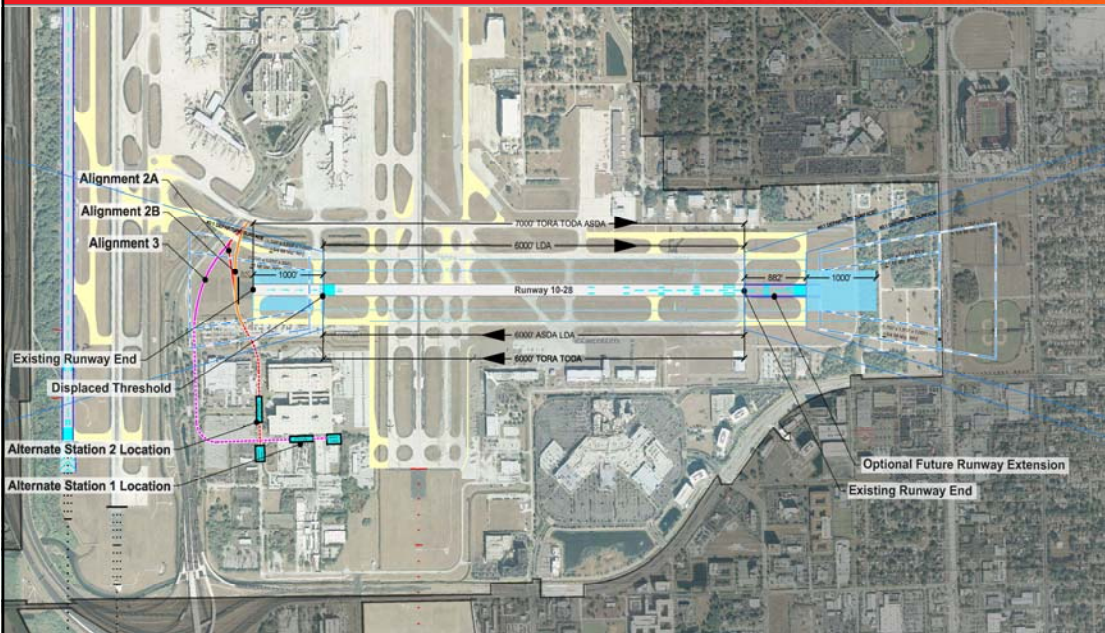
- Current ATCT proposals involve a 304' AMSL air traffic control tower.
- Existing tower is 247' AMSL
- ATCT required height caused by any eastern extension of Runway 10-28
- Proposed Tower increases the visibility minimums to Runway 19R by 47' and negates a technology based capability used by SWA.
- Airlines are not aware of these potential impacts to primary runway.

APM Alignment/Cost Considerations



- Original LRT/APM ran around perimeter of South Development Area.
- Scenario 1 displaces Runway 10 landing threshold by 499'
- Alternative APM alignments to directly access center of south development area.
- A more direct APM alignment requires a reduced length (6,000') on Runway 10/28.
- Alignments provide more direct routes, greater operational efficiency and potential cost savings.

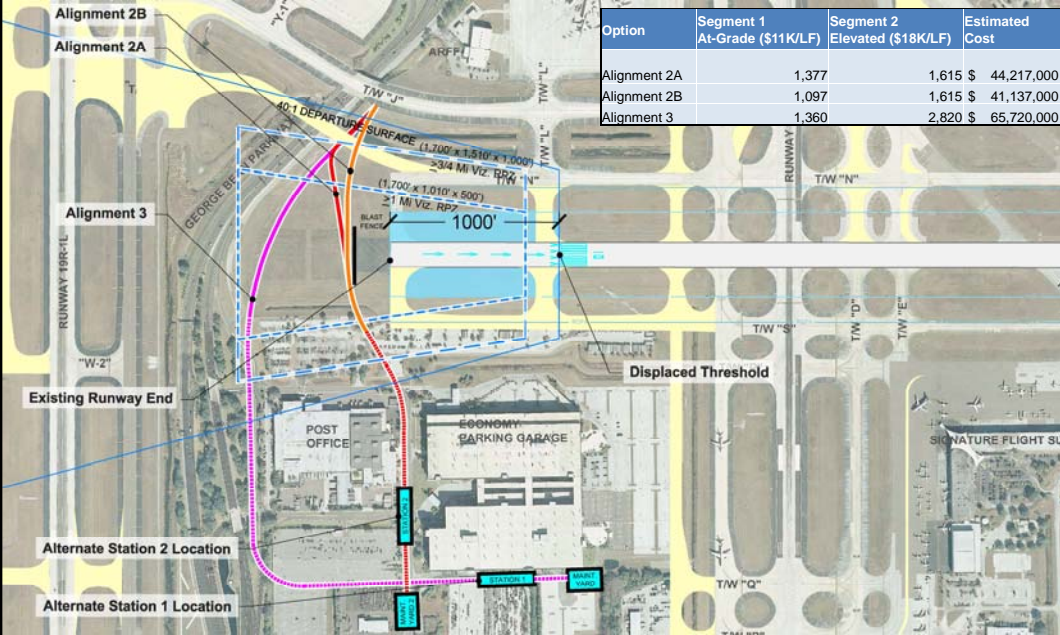
Runway 10/28 Alternative Two – 1,000' Displacement



RUNWAY 10
 TORA/TODA = 6,999
 ASDA = 6,999
 LDA = 6,000

RUNWAY 28
 TORA/TODA = 6,000
 ASDA/LDA = 6,000

Runway 10/28 Scenario Two – 1,000' Displacement

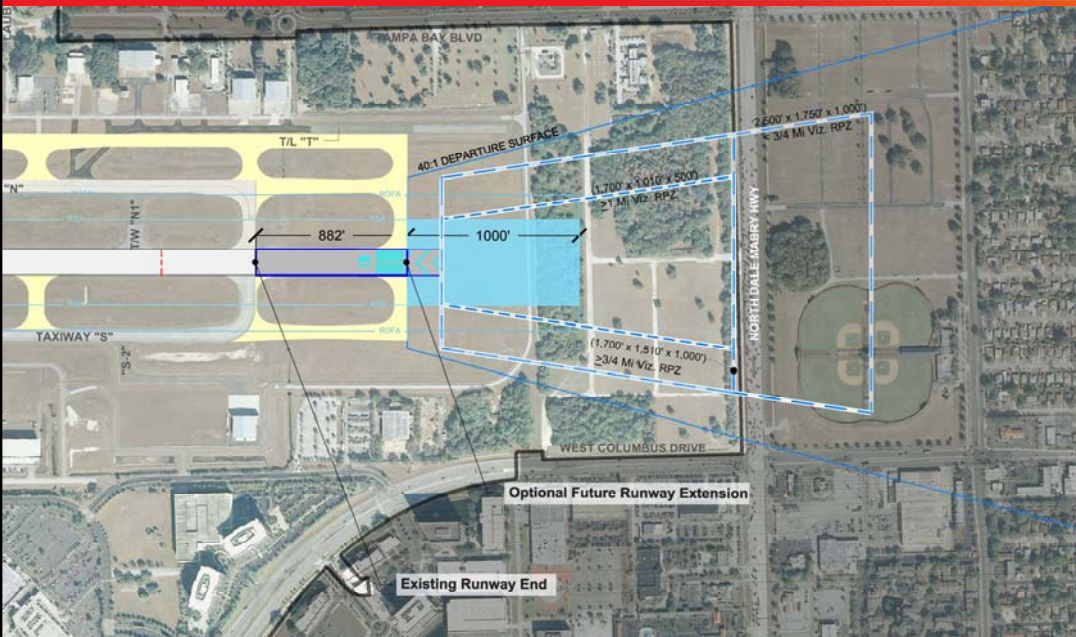


Option	Segment 1 At-Grade (\$11K/LF)	Segment 2 Elevated (\$18K/LF)	Estimated Cost
Alignment 2A	1,377	1,615	\$ 44,217,000
Alignment 2B	1,097	1,615	\$ 41,137,000
Alignment 3	1,360	2,820	\$ 65,720,000

Based on retention of 6,000' of landing distance on Runway 10-28

Runway 10-28 Operational Review

East end of Runway 10/28 Scenario Two



Runway 28 end with RPZ's for varying approach minima depicted

Runway 10-28 Operational Review

Runway 10-28/Taxiway N Issues



- Existing ALP shows Taxiway N bridging the George J. Bean Parkway in the future to provide dual taxiway capability
- Current and proposed runway changes impact operational use of extended Taxiway N as a result of the 40:1 departure surface.
- Impacts would require metering of taxing aircraft traffic flows on Taxiway N during operations on Runway 10-28
- Need for Taxiway N extension is subject to question needed given forecasts and cost benefit and experience at other airports.

Steps to address questions



- Analyze APM optimum alignment as part of South Development planning
- Initiate discussions with stakeholders (airlines & ATCT) on value of 10/28.
 - Length requirements for landings (internal airline procedures)
 - Value of 10/28 extension vs. impact to 19R approach minima & SWA capability
 - Impact to airline operations of a 6,000' runway length
 - Diversion considerations and associated costs to carriers
- Coordinate with FAA relative to position on visibility of east end of Taxiway T and possible mitigation steps.
- NOTE: Stakeholder process has the potential to generate controversy



May XX, 2012

Status Briefing

Runway 10-28 Alignment Issues and Alternatives



May XX, 2012

Status Briefing

Runway 10-28 Alignment Extra Slides for Question and Answer

Commercial PAX Operations by Runway End



% PAX Operations by Runway end by Approach/Departure by Year

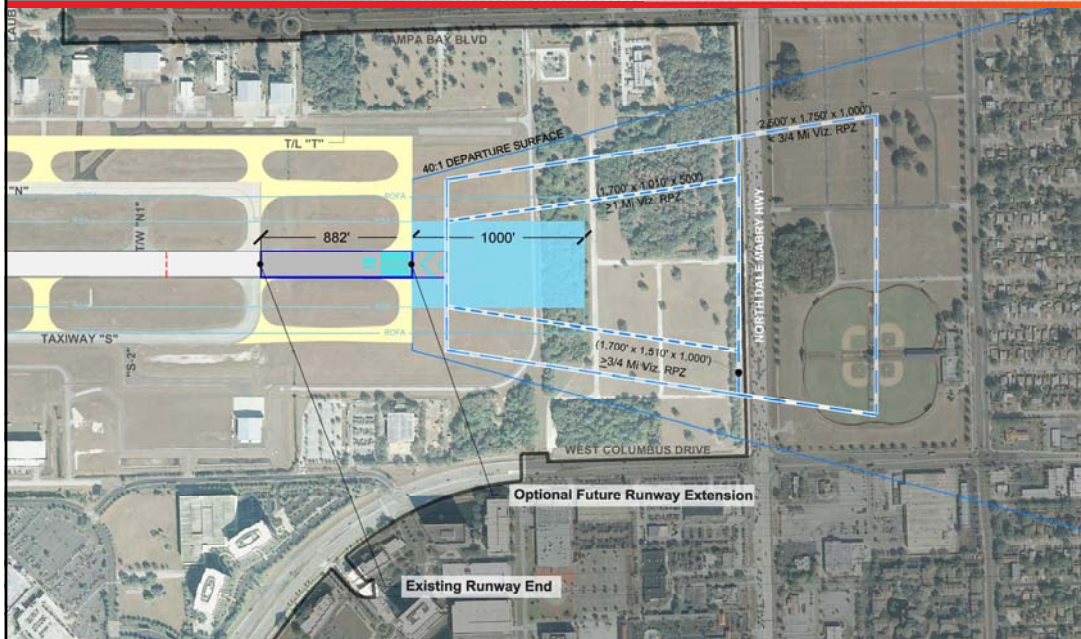
Year	10		28		1L		19R		1R		19L		Grand Total
	A	D	A	D	A	D	A	D	A	D	A	D	
2011	0.2%	0.1%	0.3%	0.1%	23.7%	9.9%	10.1%	21.5%	2.4%	15.1%	14.8%	1.9%	100%
2010	0.0%	0.1%	0.6%	0.2%	27.3%	18.1%	14.4%	19.8%	1.4%	9.7%	7.1%	1.2%	100%
2009	0.2%	0.1%	0.5%	0.1%	20.2%	9.3%	11.4%	25.6%	1.9%	13.0%	15.4%	2.4%	100%
2008	0.1%	0.1%	0.7%	0.1%	21.8%	8.8%	8.1%	21.8%	3.4%	16.2%	15.4%	3.5%	100%
2007	0.0%	0.0%	0.2%	0.0%	21.4%	9.9%	2.5%	21.6%	4.4%	24.7%	12.0%	3.1%	100%
2006	0.0%	0.0%	0.2%	0.1%	16.9%	4.5%	2.6%	23.8%	4.2%	28.8%	13.6%	5.3%	100%
2005	0.1%	0.1%	1.0%	0.3%	22.7%	11.4%	7.1%	22.2%	4.0%	15.6%	11.5%	4.0%	100%
Grand Total	0.1%	0.1%	0.5%	0.1%	22.1%	10.3%	8.1%	22.3%	3.1%	17.4%	12.8%	3.1%	100%

Total PAX Operations by Runway end by Approach/Departure by Year

Year	10		28		1L		19R		1R		19L		Grand Total
	A	D	A	D	A	D	A	D	A	D	A	D	
2011	224	106	484	96	33,323	13,977	14,271	30,240	3,329	21,206	20,776	2,730	140,762
2010	41	121	921	222	39,145	25,961	20,630	28,471	2,051	13,945	10,198	1,781	143,487
2009	297	117	740	141	29,311	13,466	16,466	37,063	2,775	18,846	22,310	3,483	145,015
2008	145	116	1,114	243	36,579	14,847	13,667	36,640	5,640	27,284	25,850	5,967	168,092
2007	51	40	340	64	30,876	14,219	3,631	31,097	6,393	35,596	17,205	4,440	143,952
2006	16	44	286	68	21,711	5,756	3,345	30,521	5,426	36,963	17,501	6,853	128,490
2005	99	228	1,616	492	35,093	17,663	10,953	34,404	6,190	24,163	17,805	6,144	154,850
Grand Total	873	772	5,501	1,326	226,038	105,889	82,963	228,436	31,804	178,003	131,645	31,398	1,024,648

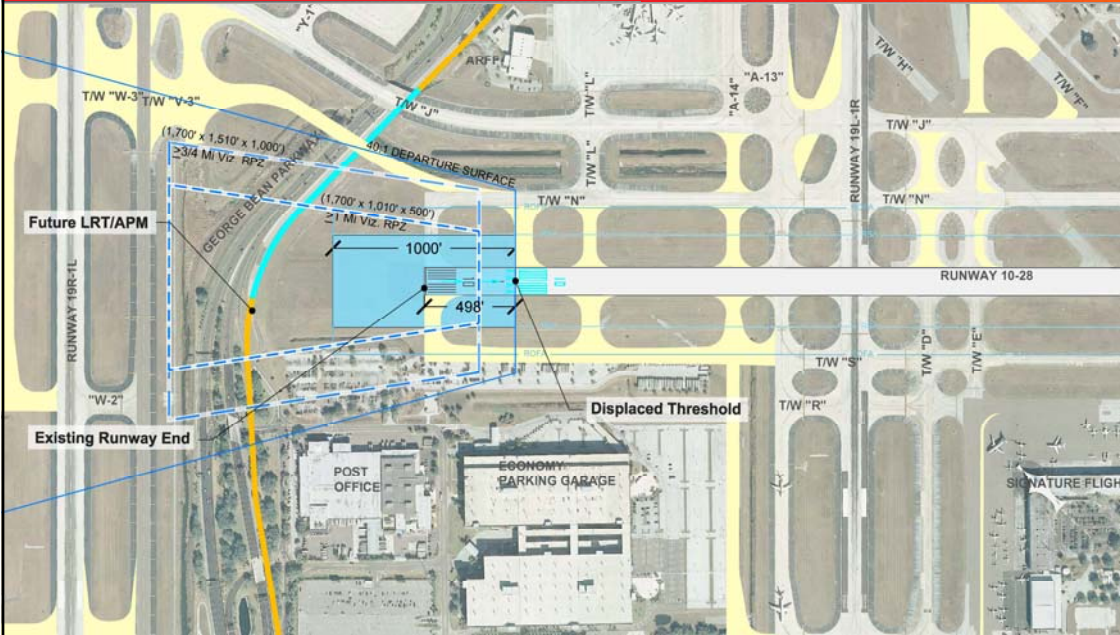
- Overall utilization of Runway 10-28 by Air Carrier aircraft is very limited
- Highest utilization occurs on Runway 28 (0.5%) with arrivals comprising majority of activity
- Between 2005 and 2011 air carrier arrivals totaled 6,374 vs. 2,098 departures

Runway 10/28 Alternative One – RS&H Reviewed



Runway 28 end with RPZ's for varying approach minima depicted

Runway 10/28 Alternative One – RS&H Reviewed



Based on option evaluated by RS&H

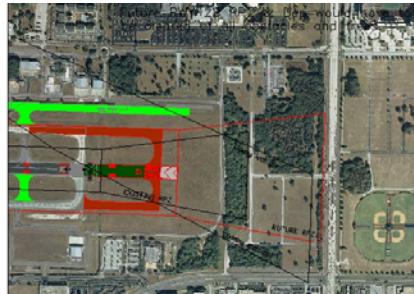
Runway 10-28 Operational Review

Runway 10/28 Alternative Three



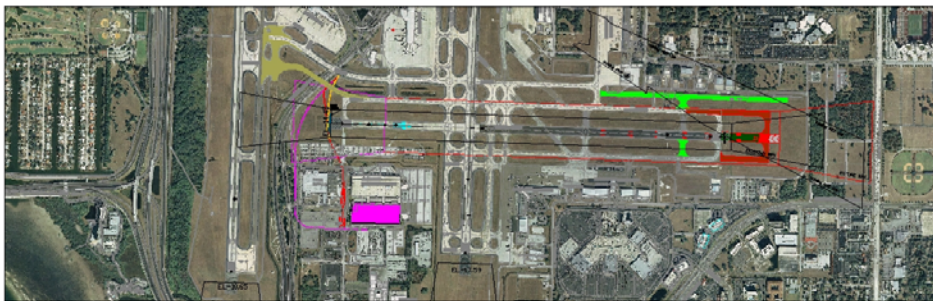
- Displace RWY 10 Threshold 1000 ft. (Existing)
- Reduce RWY 28 Extension to 882 ft. (Future)
- Modify TWY system on the East side (Future)
- Reduce RWY 28 Visibility Minimums to 3/4 mile (Future)

ITEM	10		28	
	Existing	Future	Existing	Future
Takeoff Run Available (TORA)	7000	7882	6000	6882
Takeoff Distance Available (TODA)	7000	7882	6000	6882
Accelerate-Stop Distance Available (ASDA)	7000	7882	6000	6882
Landing Distance Available (LDA)	6000	6882	6000	6882



KEY POINTS

- Reduces runway 28 existing length by 1000'.
- Impacts the operational use of proposed TWY N.
- Tree clearing required within future RWY 28 RPZ.
- RWY can't be extended without triggering the need for a new ATCT impacting RWY 19R ILS Approach.
- Cuts the cost of the APM to South development area by approximately 20 million.
- Reduces the number of turns to the APM alignment.
- Runway proposed length meets today's fleet mix requirements except for the DC-10, 767-400, & 737-400.
- Reduces RWY 28 visibility minimums to 3/4 of a mile which is an improvement over today.
- Future RWY 28 RPZ remains West of Dale Mabry.



Runway 10-28 Operational Review

Runway 10/28 Scenario Three



- Displace RWY 10 Threshold 1000 ft. (Existing)
- Eliminate RWY 28 Extension. (Existing)
- Modify TWY system on the East side (Future)
- Reduce RWY 28 Visibility Minimums to 3/4 mile (Future)

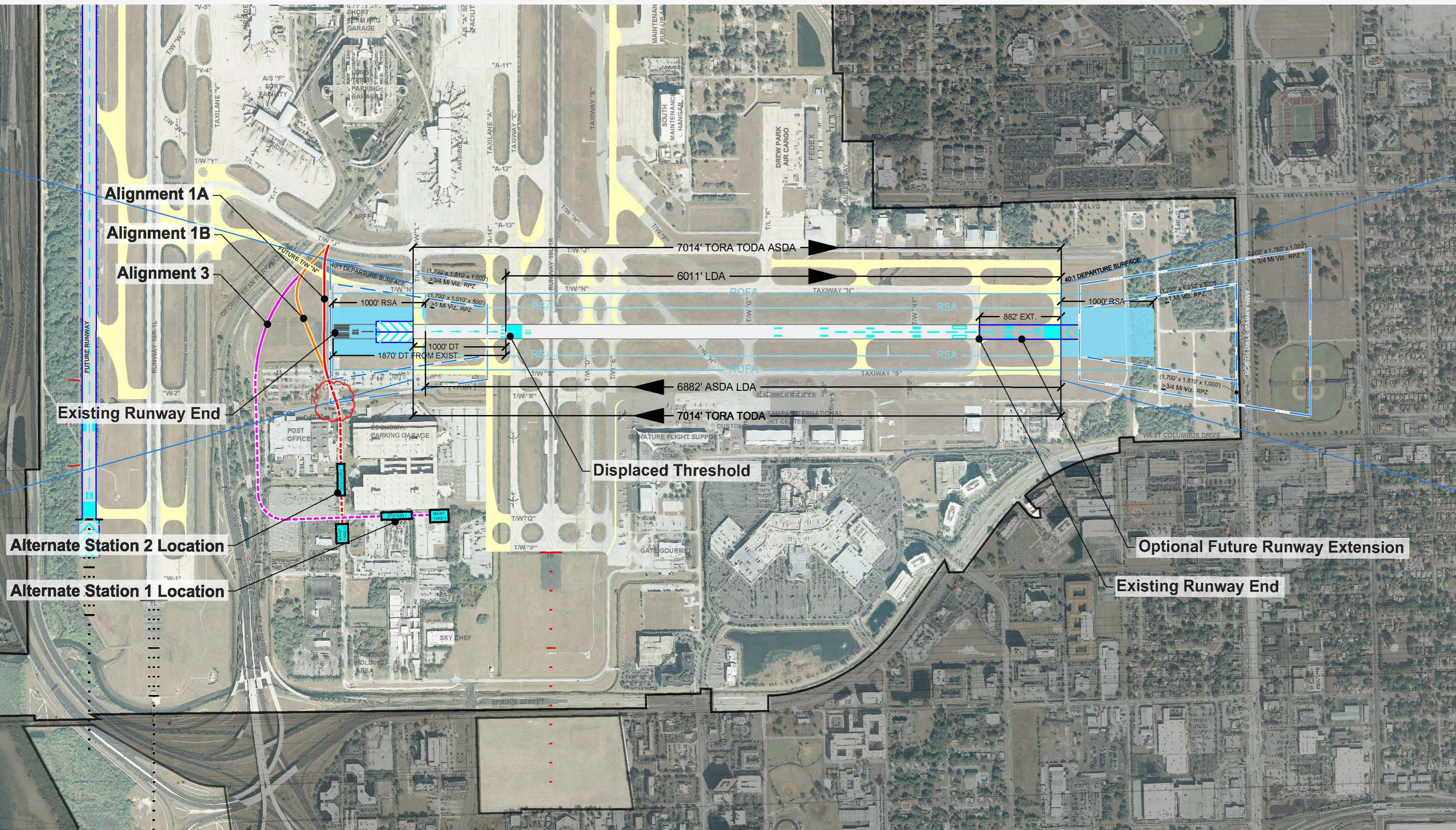
ITEM	10		28	
	Existing	Future	Existing	Future
Takeoff Run Available (TORA)	7000	SAME	6000	SAME
Takeoff Distance Available (TODA)	7000	SAME	6000	SAME
Accelerate-Stop Distance Available (ASDA)	7000	SAME	6000	SAME
Landing Distance Available (LDA)	6000	SAME	6000	SAME



KEY POINTS

- Does not trigger need for 304' ATCT.
- Impacts the operational use of proposed TWY N.
- Provides landing length for virtually all narrow-body air carrier aircraft at max. landing weight.
- Reduces potential cost of the APM to South development area
- Reduces RWY 28 visibility minimums to 3/4 of a mile which is an improvement over today.
- Airport land East of Dale Mabry is available for development.
- Allows for possible reduction of new ATCT height alleviating any impacts to RWY 19R.

Runway 10/28 Alternative Three – FAA RPZ Clearance

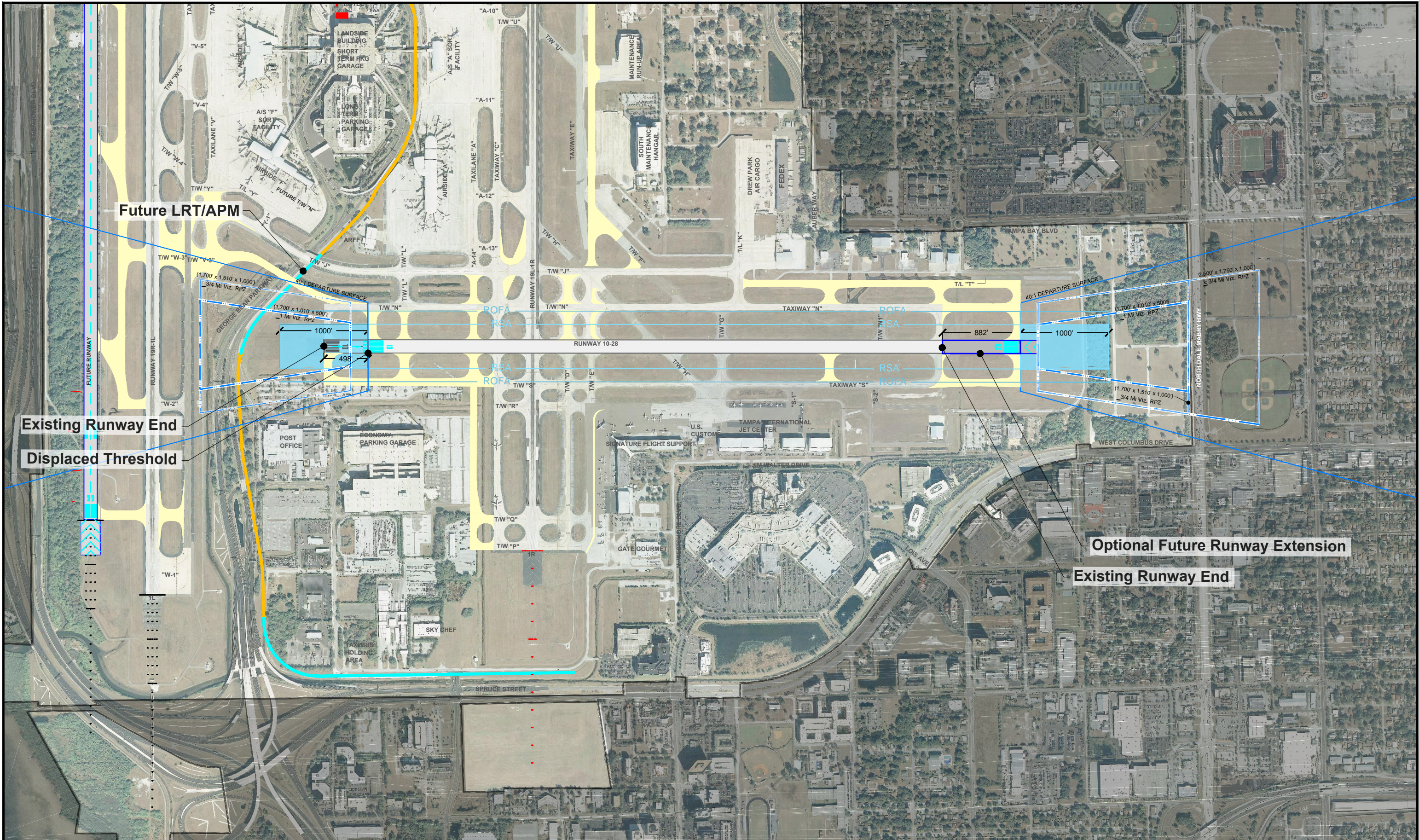


Based on FAA precluding APM within the limits of the RPZ

RUNWAY 10
TORA/TODA = 6,132
ASDA = 6,132
LDA = 5,129

RUNWAY 28
TORA/TODA = 6,000
ASDA/LDA = 6,000

C:\Temp\acPublish_696\TPA Runway Alternatives_Alt 3A.dwg 1 - 10-28 Option 2A 2B Mar 02, 2012 - 12:52pm



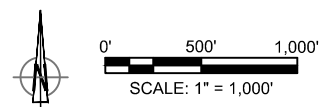
Future LRT/APM

Existing Runway End

Displaced Threshold

Optional Future Runway Extension

Existing Runway End

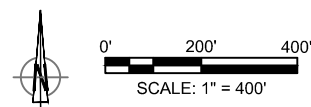
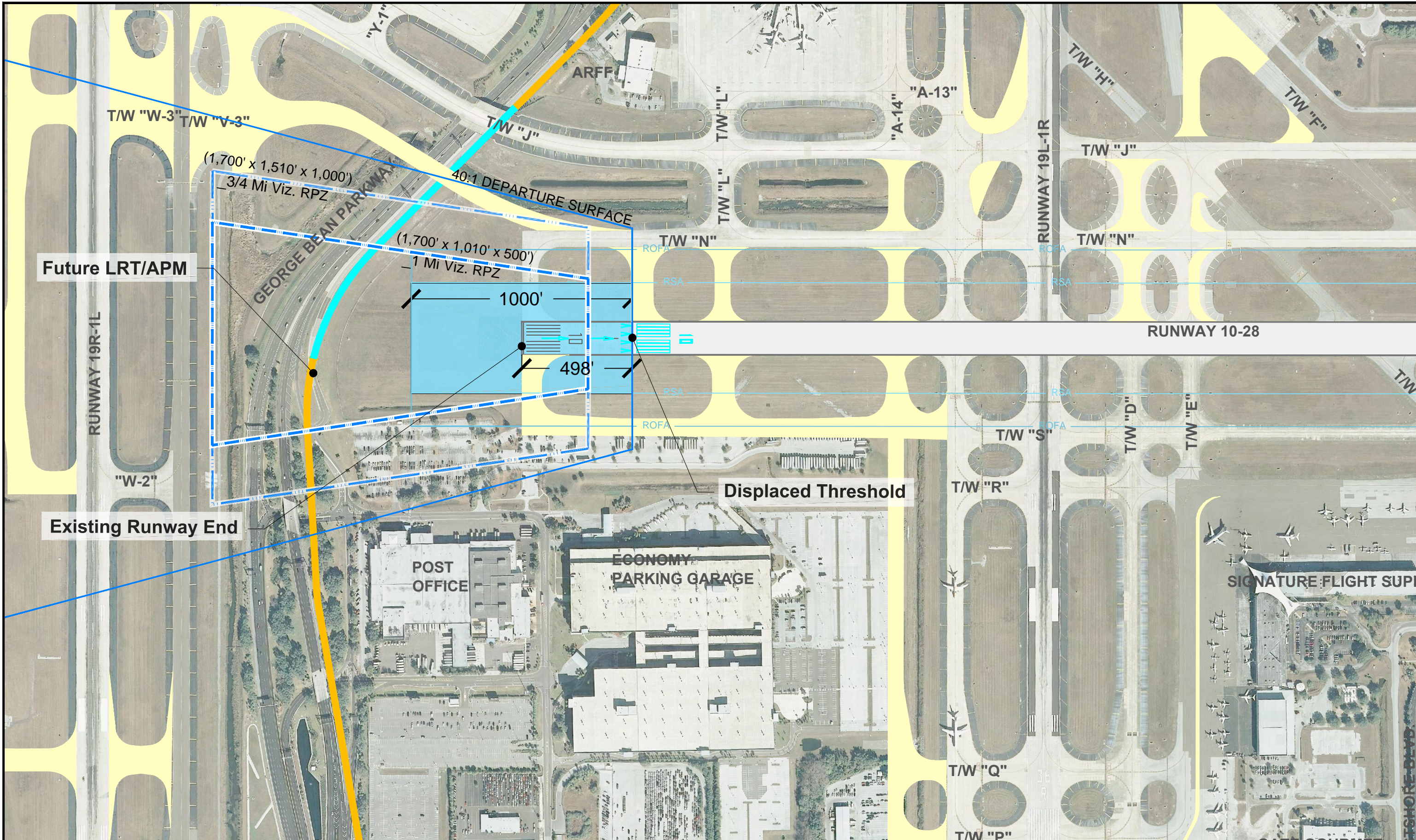


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Runway 10-28 Alt 1 - LRT Alignment from RS&H
Refinement Study
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Mar 02, 2012
FIGURE
X-X

P:\Projects\97785 - Tampa MP\00-CADD\HNTB_Team_files\TPA Runway Alternatives_Alt 3A.dwg 2 - Rwy 10 Option 2A 2B Mar 02, 2012 - 1:02pm

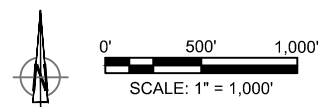
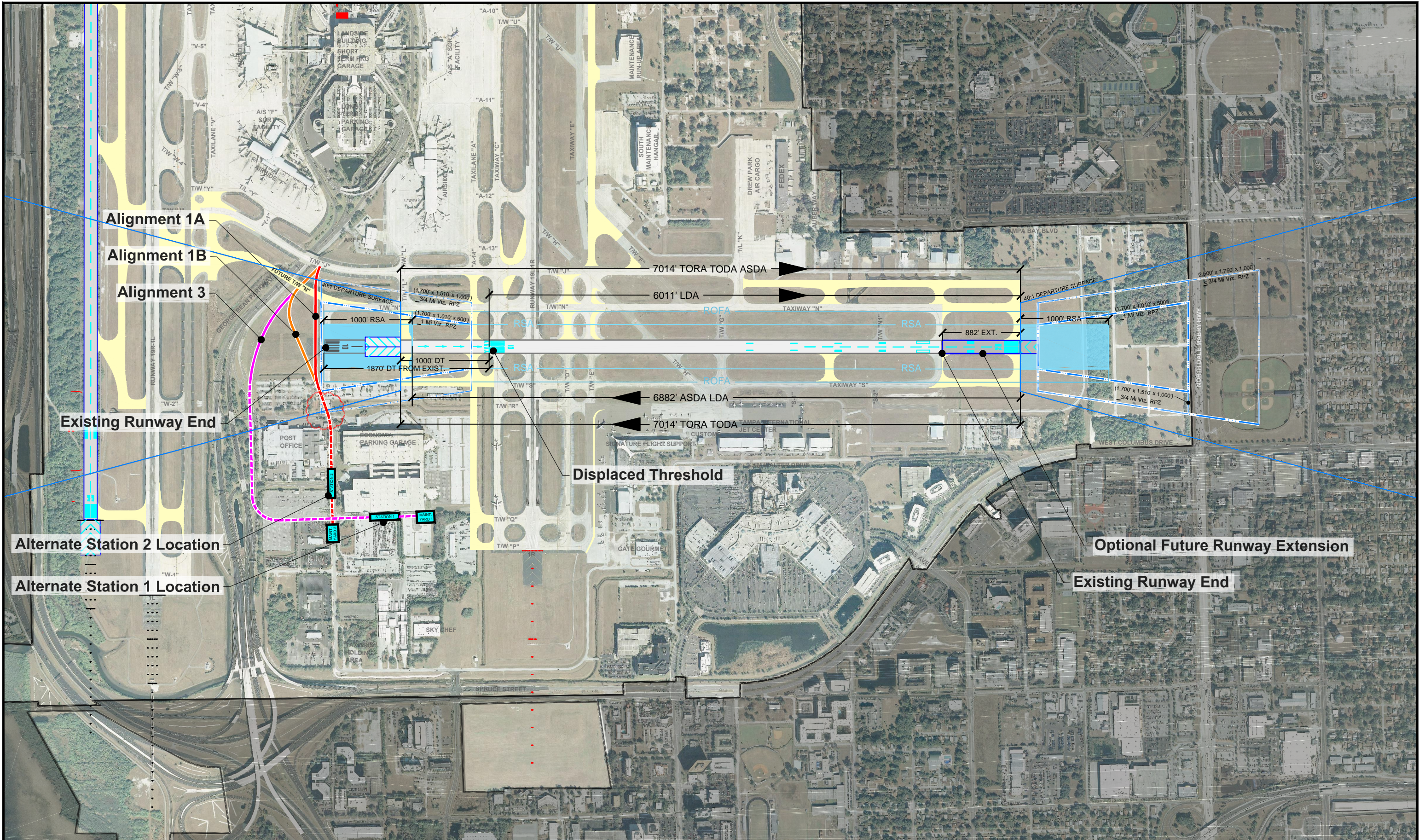


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Runway 10 Alt 1 - LRT Alignment from RS&H
 Refinement Study
 TAMPA INTERNATIONAL AIRPORT
 TAMPA, FLORIDA

DATE:
 Mar 02, 2012
 FIGURE
 X-X

C:\Temp\acPublish\3636\TPA Runway Alternatives_Alt 1A and 1B.dwg 1 - 10-28 Option 1A 1B Mar 02, 2012 - 11:33am

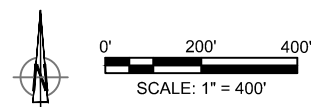
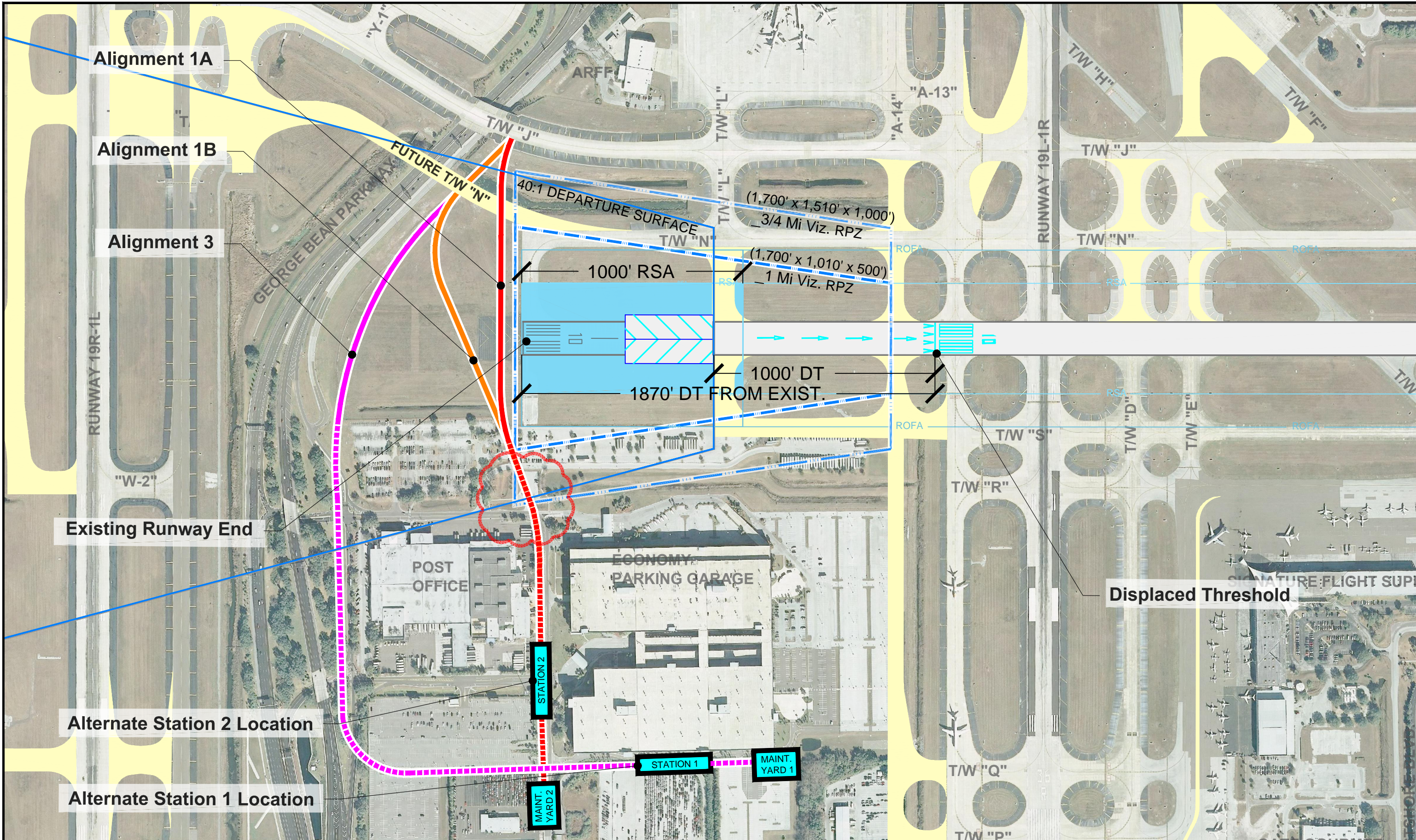


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Runway 10-28 Alts 1A and 1B - APM Alignments
Outside of RPZ
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Mar 02, 2012
FIGURE
X-X

P:\Projects\97785 - Tampa MP\00-CADD\HNTB_Team_Dwg_files\TPA Runway Alternatives_Alt 1A and 1B.dwg 2 - Rwy 10 Option 1A 1B Mar 02, 2012 - 11:42am



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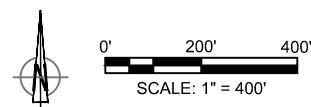
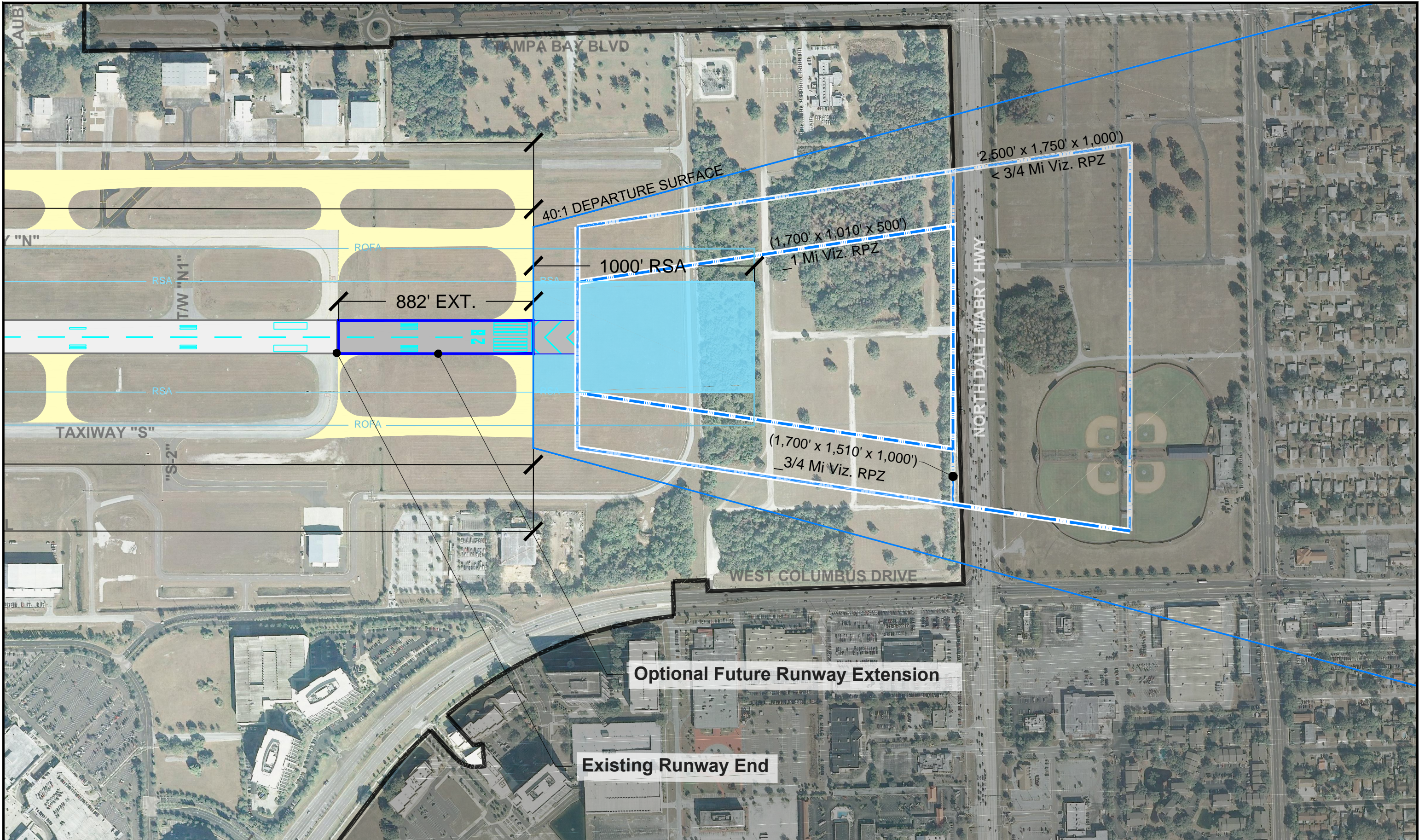
Runway 10 Alts 1A and 1B - APM Alignments
 Outside of RPZ

TAMPA INTERNATIONAL AIRPORT
 TAMPA, FLORIDA

DATE:
 Mar 02, 2012

FIGURE
 X-X

P:\Projects\97785 - Tampa MP\00-CADD\HNTB_Team_Dwg_files\TPA Runway Alternatives_Alt 1A and 1B.dwg 2 - Rwy 2B Option 1A 1B Mar 02, 2012 - 11:48am



Optional Future Runway Extension

Existing Runway End



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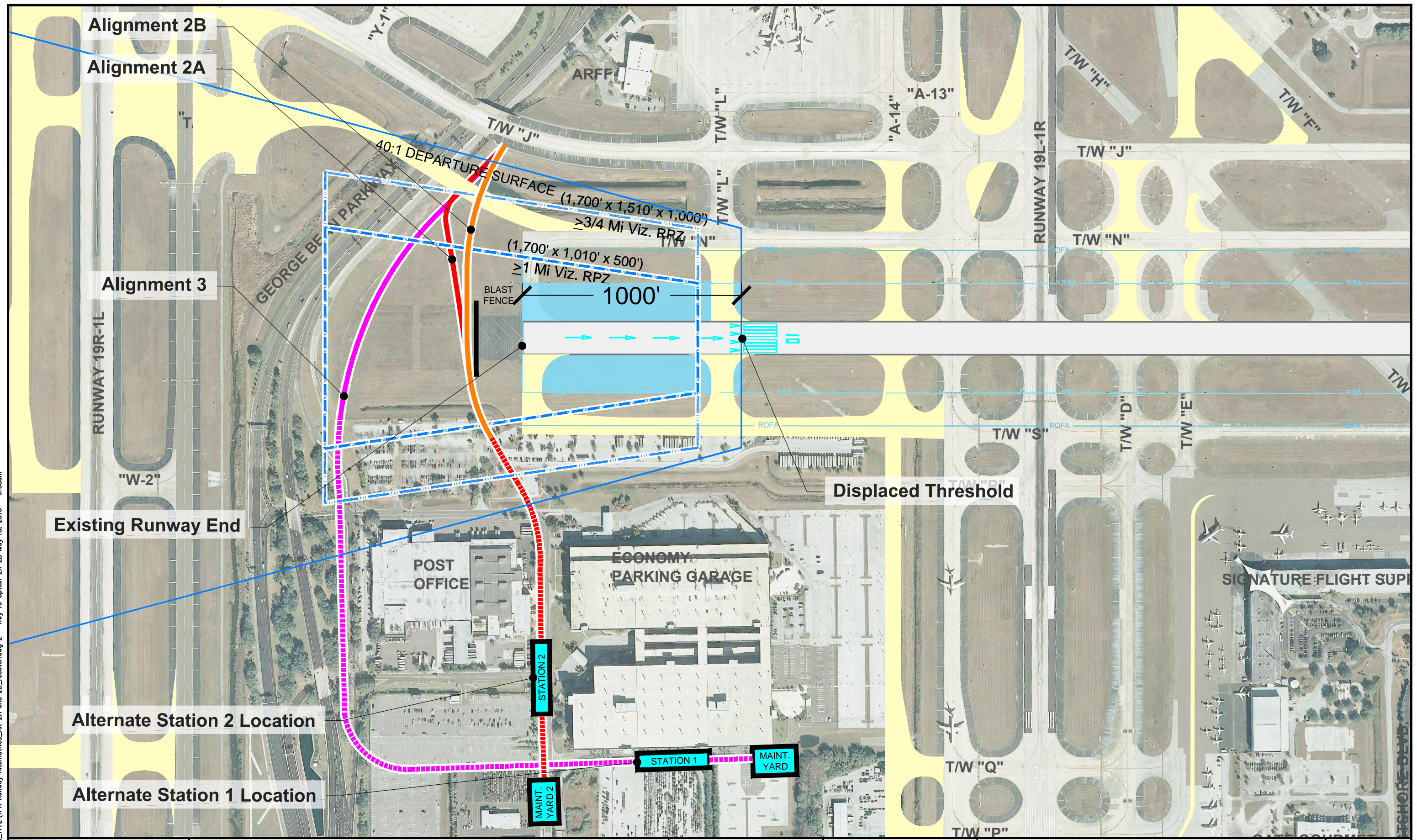
Runway 28 Alts 1A and 1B

TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Mar 02, 2012

FIGURE
X-X

C:\Temp\acPublish\1172\IPA Runway Alternatives_Alt 2A and 2B_recover.dwg 2 - Rwy 10 Option 2A 2B May 13, 2013 - 9:33am



Alignment 2B
Alignment 2A

Alignment 3

Existing Runway End

Alternate Station 2 Location

Alternate Station 1 Location

40:1 DEPARTURE SURFACE (1,700' x 1,510' x 1,000')
≥ 3/4 Mi Viz. RPZ
(1,700' x 1,010' x 500')
≥ 1 Mi Viz. RPZ
1000'

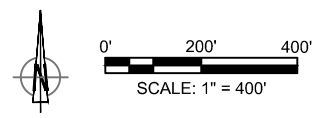
Displaced Threshold

STATION 2

STATION 1

MAINT. YARD

MAINT. YARD 2

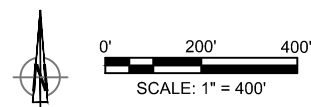
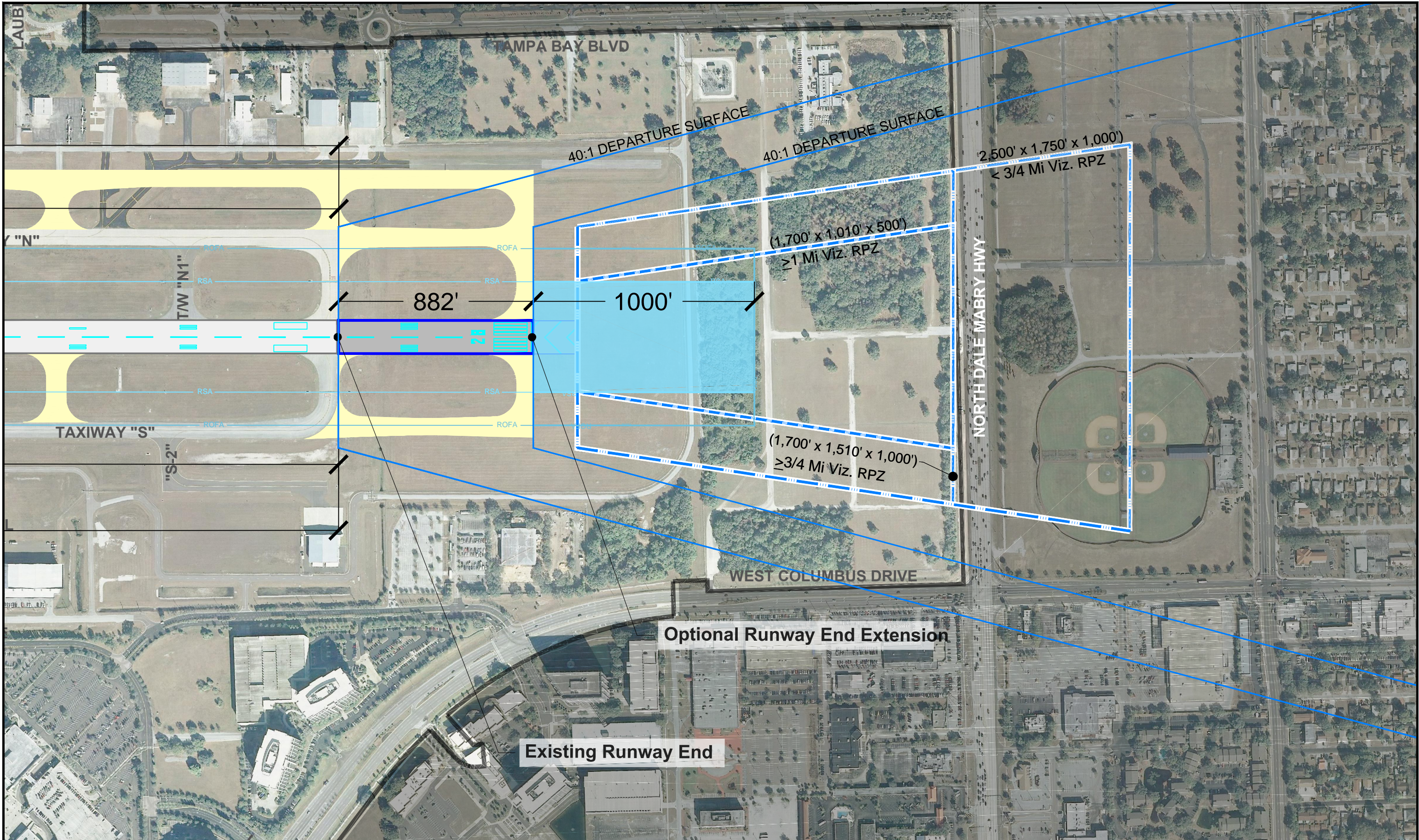


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Runway 10 Alts 2A and 2B
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
May 13, 2013
FIGURE
X-X

C:\Temp\acPublish\1172\IPA Runway Alternatives_Alt 2A and 2B_recover.dwg 2 - Rwy 28 Option 2A 2B May 13, 2013 - 9:34am

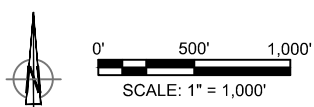
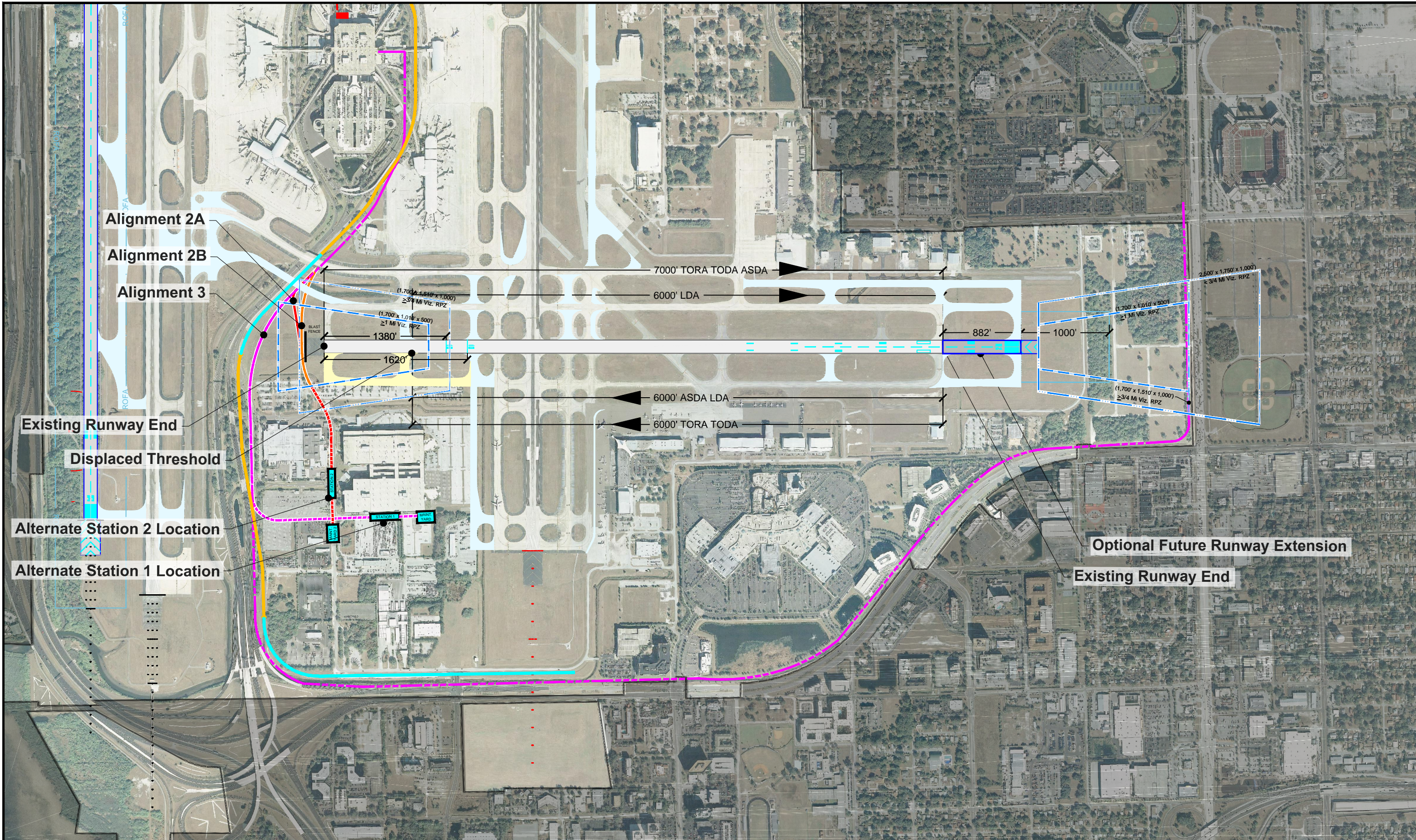


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Runway 28 Alts 2A and 2B
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
May 13, 2013
FIGURE
X-X

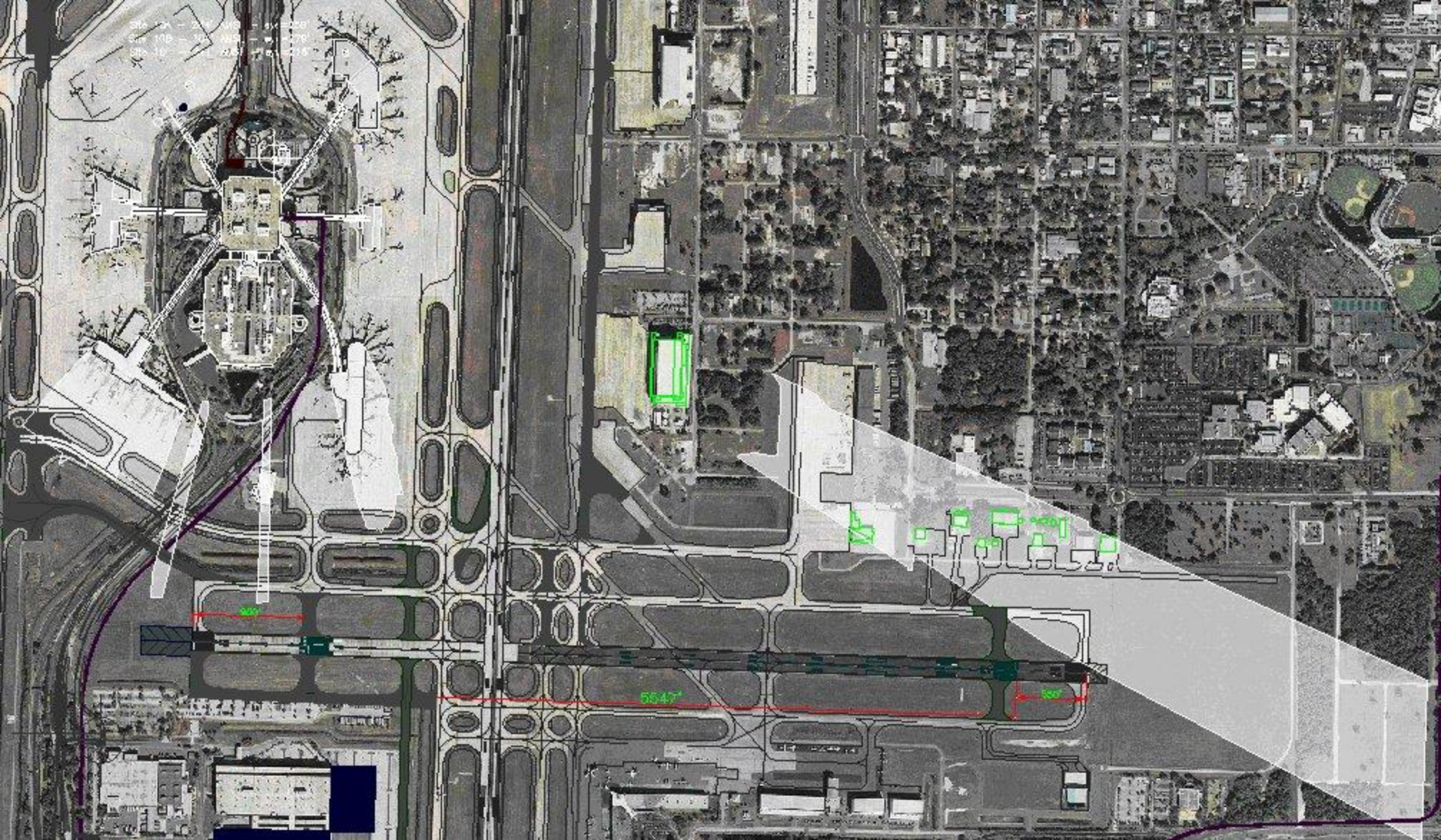
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Runway 10-28 Alts 2A and 2B
 TAMPA INTERNATIONAL AIRPORT
 TAMPA, FLORIDA

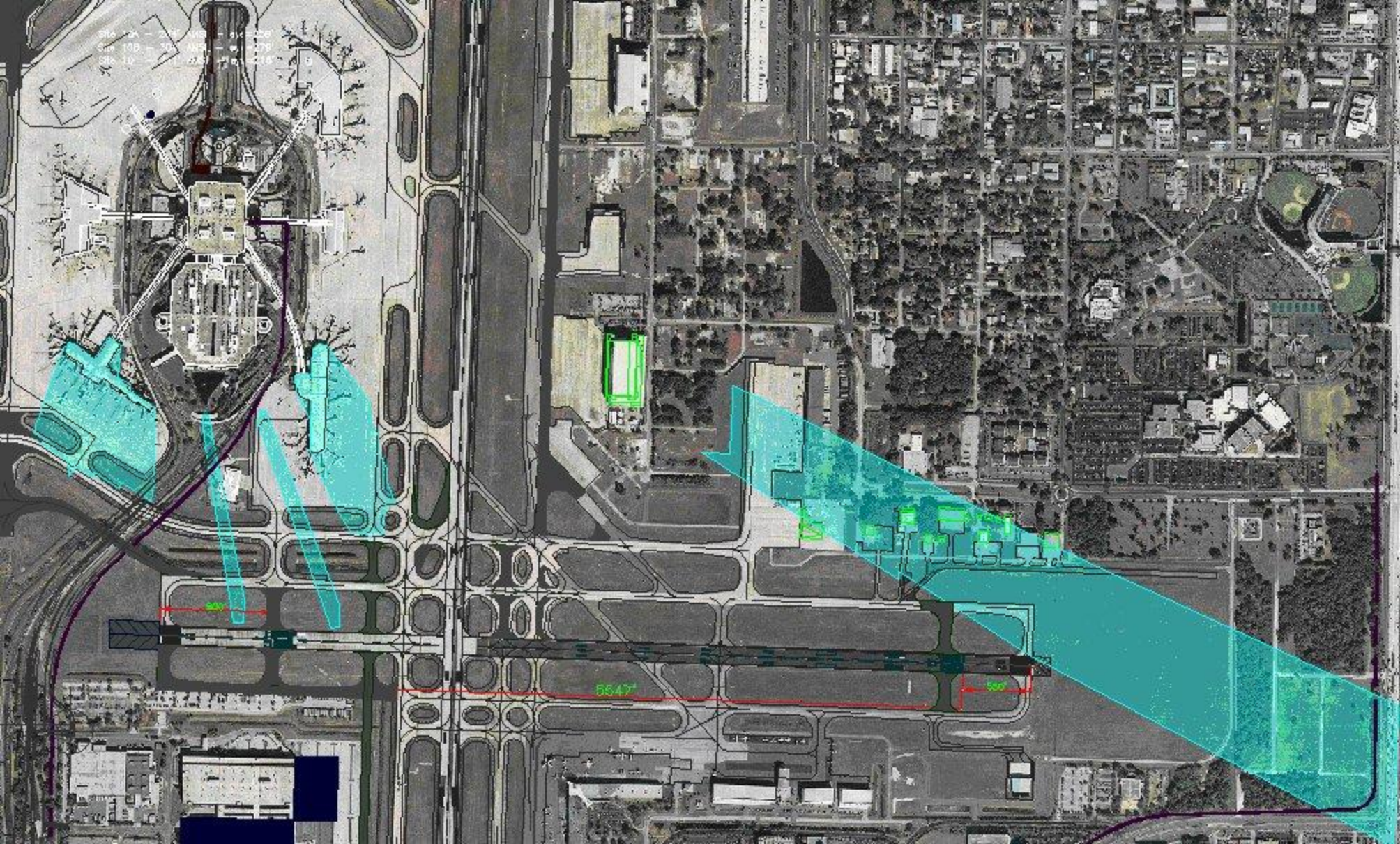
DATE:
 May 08, 2013
 FIGURE
 X-X



300'

5545'

500'



Site	10/10/2019
Scale	1/8" = 1'-0"
Date	10/10/2019
Drawn by	10/10/2019

8647

500



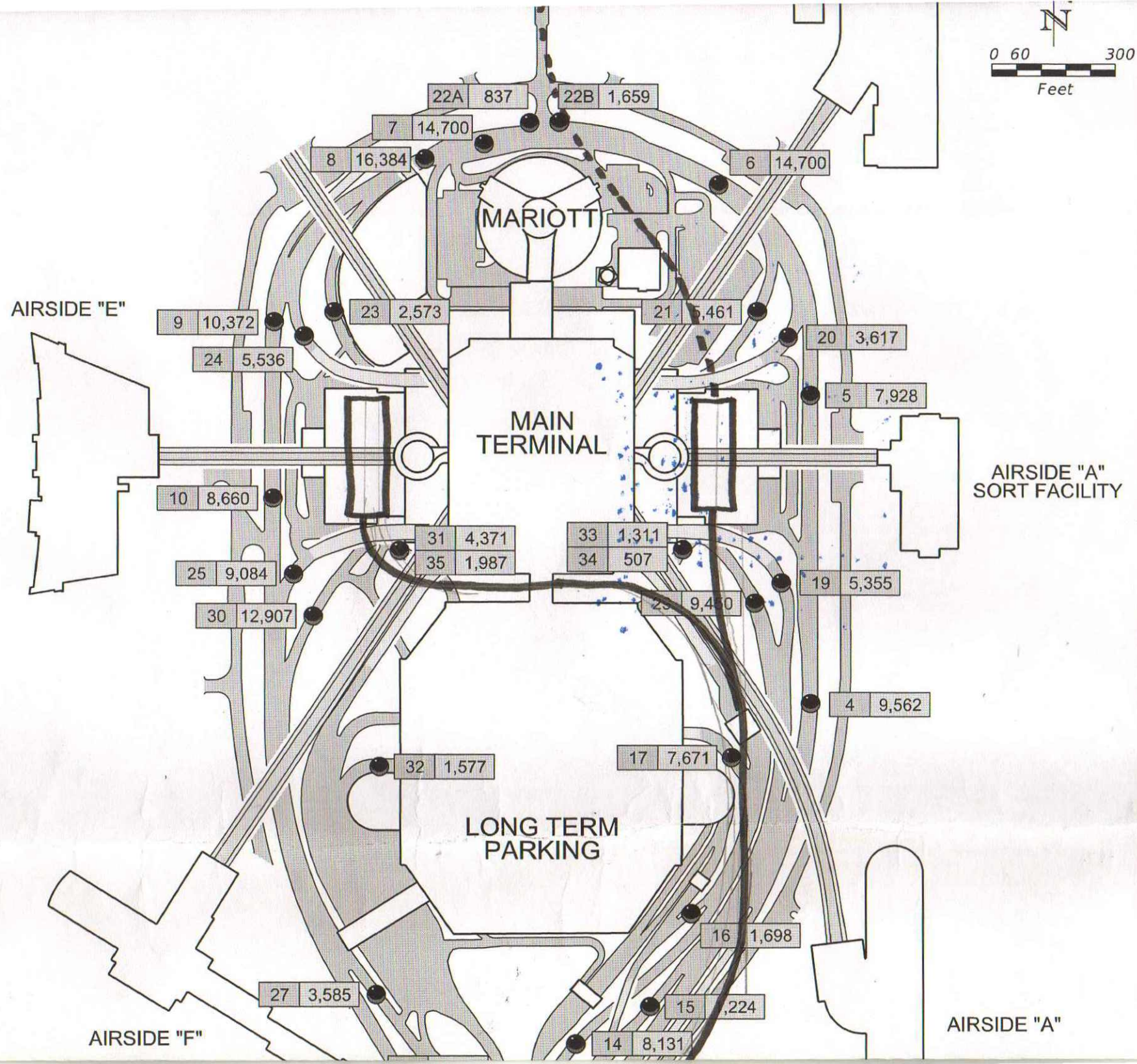
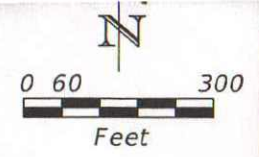
Site 1A
Scale 1/8" = 1'-0"
Date 1/0

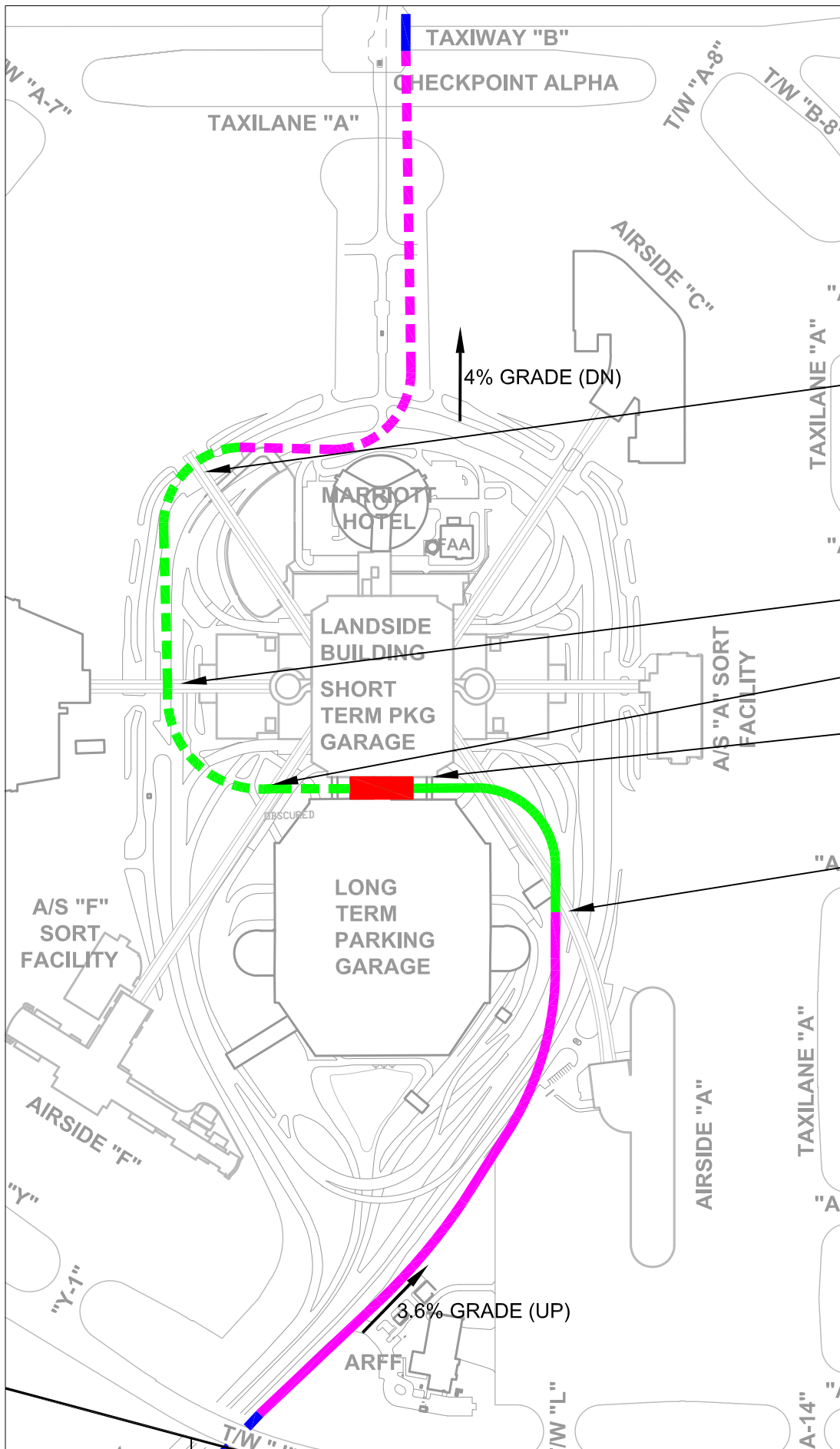


930'

6547'

550'





CRITICAL VERTICAL HEIGHT CONSTRAINT

CRITICAL VERTICAL HEIGHT CONSTRAINT

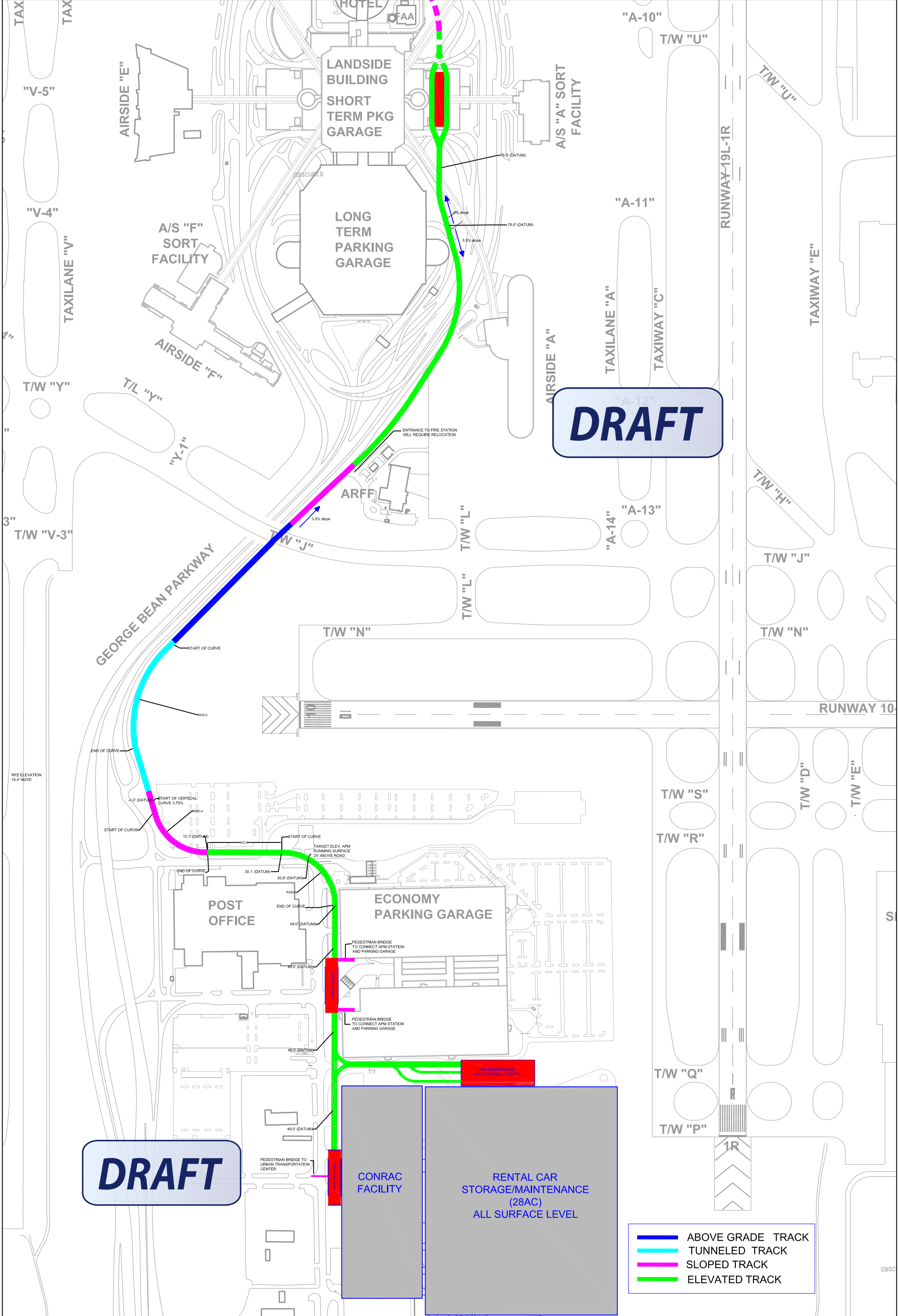
FUTURE NORTH EXPANSION

APM STATION

FLAT AT ELEVATION 79' +/- (DATUM)

LEGEND

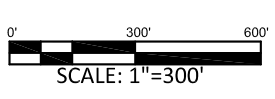
- ON GRADE
- GRADE UP/
GRADE DOWN
- FLAT LEVEL



DRAFT

DRAFT

- █ ABOVE GRADE TRACK
- █ TUNNELED TRACK
- █ SLOPED TRACK
- █ ELEVATED TRACK



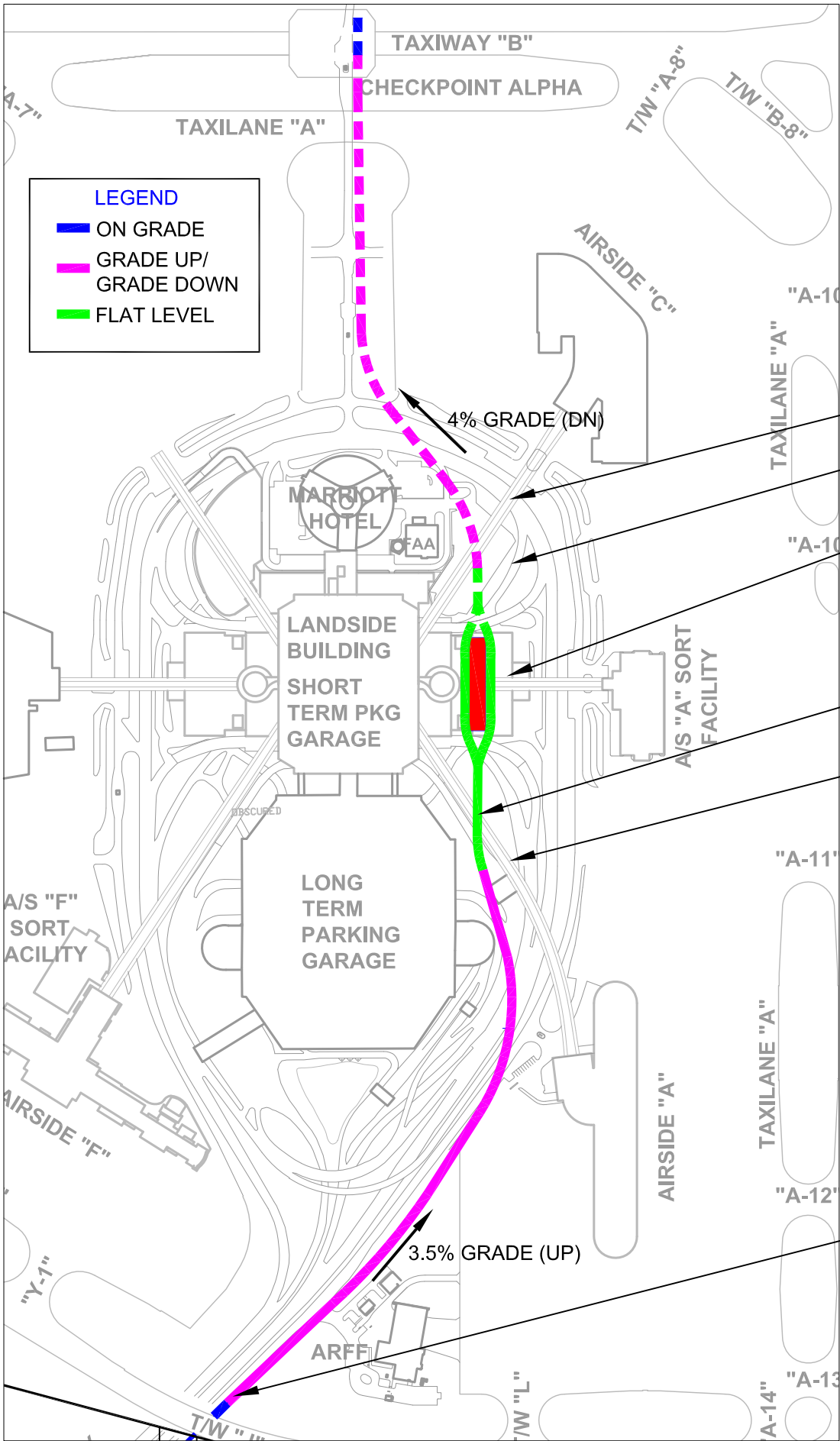
LEA ELLIOTT

5200 BLUE LAGOON DRIVE,
SUITE 250
MIAMI, FLORIDA 33126

CONCEPTUAL APM ALIGNMENT
TAMPA MATER PLAN UPDATE
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
DEC. 2012

FIGURE
1



LEGEND

- █ ON GRADE
- █ GRADE UP/
GRADE DOWN
- █ FLAT LEVEL

CRITICAL VERTICAL HEIGHT CONSTRAINT
 FUTURE NORTH EXPANSION

APM STATION

FLAT AT ELEVATION 79' +/- (DATUM)

CRITICAL VERTICAL HEIGHT CONSTRAINT

GROUND LEVEL 10' (DATUM)

4% GRADE (DN)

3.5% GRADE (UP)

MARRIOTT HOTEL
 LANDSIDE BUILDING
 SHORT TERM PKG GARAGE

LONG TERM PARKING GARAGE

A/S "A" SORT FACILITY

A/S "F" SORT FACILITY

ARFF

TAXIWAY "B"

CHECKPOINT ALPHA

TAXILANE "A"

T/W "A-8"

T/W "B-8"

AIRSIDE "C"

"A-10"

TAXILANE "A"

"A-10"

"A-11"

TAXILANE "A"

"A-12"

"A-13"

TAXILANE "A"

T/W "L"

"Y-1"

T/W "U"

OBSCURED

Preliminary Cost - Partial Tunnel

Component	Length	Width	Thickness	Quantity	Unit Cost	Cost		
Top Slab	900	36	3.5	4200	\$ 903.72	\$ 3,795,624	Area 8	Concrete, (400-4-5
Walls	900	2.5	16.5	2750	\$ 903.72	\$ 2,485,230		
Bottom Slab	900	36	3	3600	\$ 903.72	\$ 3,253,392		
Reinforcing				2637500	\$ 0.77	\$ 2,030,875	Area 8	Reinforcing 415-1-5
Subtotal						\$ 11,565,121		
Mobilization	10%					\$ 1,156,512.10		
MOT	20%					\$ 2,313,024.20		
Contingency	5%					\$ 751,732.87		
Total						\$ 15,786,390		

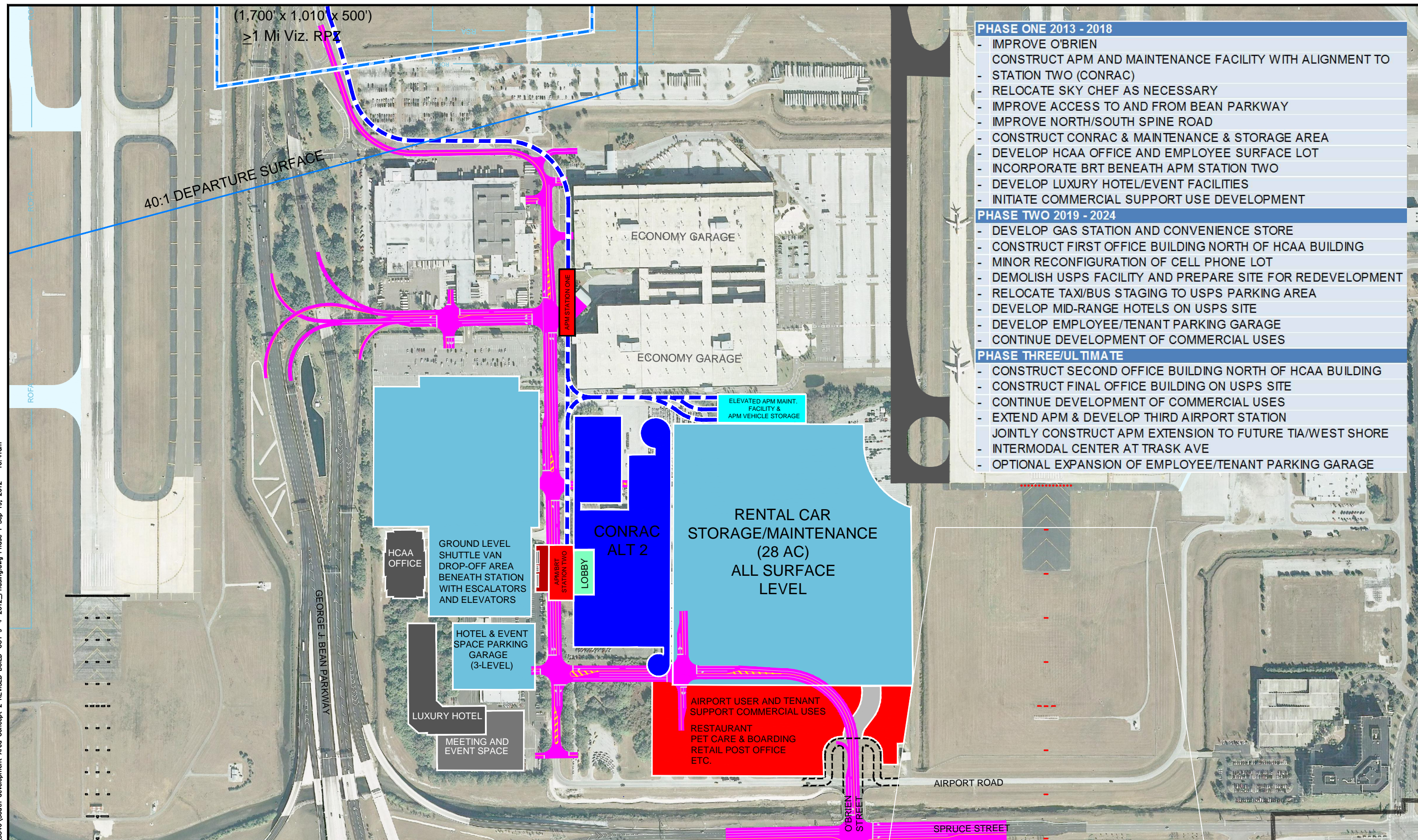
The structure would not be fully tunneled, but would be fully enclosed.

This does not include the built up each within the RPZ to provide a slope surface up to the top of the structure. Also we might want to increase contingency as we will be working in high water table. The 3.5 foot top slab is likely much more than necessary or required and we could probably use a six or 12 inch dimension.

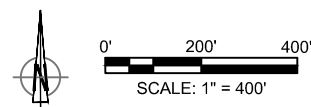
The estimate was likely tied ot a roadway tunnel under a runway where the full weight bearing capacity of the roof was required, which will not be the case in the RPZ at least the FAA has not indicated it to be required. I intend to bring a the ground up from the end of the runway out to the tunnel and this will create a sloped surface of 11 feet at its terminus at a 1.25 percent slope.

The fill cost was another 3+/- million dollars given the quantity involved and a \$15 per cubic yard cost from TPA.

C:\Temp\AcPublish_8540\South development Area Concept 2 REVISED BUILD-OUT 9-4-2012_Phasing.dwg Phase 1 Sep 19, 2012 - 10:41am



- | PHASE ONE 2013 - 2018 | |
|-----------------------|---|
| - | IMPROVE O'BRIEN |
| - | CONSTRUCT APM AND MAINTENANCE FACILITY WITH ALIGNMENT TO |
| - | STATION TWO (CONRAC) |
| - | RELOCATE SKY CHEF AS NECESSARY |
| - | IMPROVE ACCESS TO AND FROM BEAN PARKWAY |
| - | IMPROVE NORTH/SOUTH SPINE ROAD |
| - | CONSTRUCT CONRAC & MAINTENANCE & STORAGE AREA |
| - | DEVELOP HCAA OFFICE AND EMPLOYEE SURFACE LOT |
| - | INCORPORATE BRT BENEATH APM STATION TWO |
| - | DEVELOP LUXURY HOTEL/EVENT FACILITIES |
| - | INITIATE COMMERCIAL SUPPORT USE DEVELOPMENT |
| PHASE TWO 2019 - 2024 | |
| - | DEVELOP GAS STATION AND CONVENIENCE STORE |
| - | CONSTRUCT FIRST OFFICE BUILDING NORTH OF HCAA BUILDING |
| - | MINOR RECONFIGURATION OF CELL PHONE LOT |
| - | DEMOLISH USPS FACILITY AND PREPARE SITE FOR REDEVELOPMENT |
| - | RELOCATE TAXI/BUS STAGING TO USPS PARKING AREA |
| - | DEVELOP MID-RANGE HOTELS ON USPS SITE |
| - | DEVELOP EMPLOYEE/TENANT PARKING GARAGE |
| - | CONTINUE DEVELOPMENT OF COMMERCIAL USES |
| PHASE THREE/ULTIMATE | |
| - | CONSTRUCT SECOND OFFICE BUILDING NORTH OF HCAA BUILDING |
| - | CONSTRUCT FINAL OFFICE BUILDING ON USPS SITE |
| - | CONTINUE DEVELOPMENT OF COMMERCIAL USES |
| - | EXTEND APM & DEVELOP THIRD AIRPORT STATION |
| - | JOINTLY CONSTRUCT APM EXTENSION TO FUTURE TIA/WEST SHORE |
| - | INTERMODAL CENTER AT TRASK AVE |
| - | OPTIONAL EXPANSION OF EMPLOYEE/TENANT PARKING GARAGE |

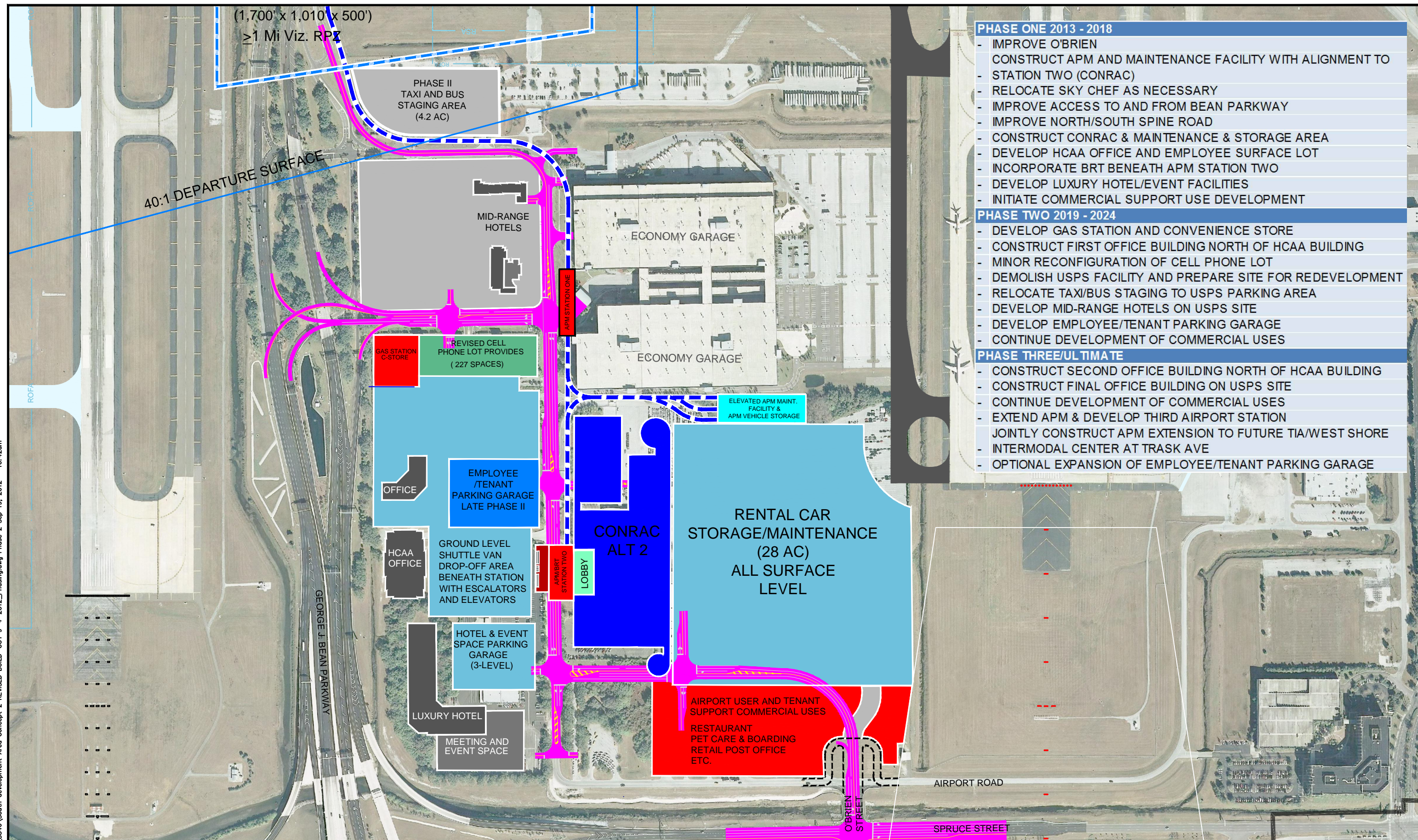


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Concept 2 Modified - Phase I
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Sep 19, 2012
FIGURE
X-X

C:\Temp\AcPublish_8540\South development Area Concept 2 REVISED BUILD-OUT 9-4-2012_Phasing.dwg Phase 2 Sep 19, 2012 - 10:42am



PHASE ONE 2013 - 2018

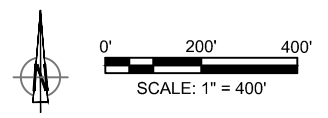
- IMPROVE O'BRIEN
- CONSTRUCT APM AND MAINTENANCE FACILITY WITH ALIGNMENT TO STATION TWO (CONRAC)
- RELOCATE SKY CHEF AS NECESSARY
- IMPROVE ACCESS TO AND FROM BEAN PARKWAY
- IMPROVE NORTH/SOUTH SPINE ROAD
- CONSTRUCT CONRAC & MAINTENANCE & STORAGE AREA
- DEVELOP HCAA OFFICE AND EMPLOYEE SURFACE LOT
- INCORPORATE BRT BENEATH APM STATION TWO
- DEVELOP LUXURY HOTEL/EVENT FACILITIES
- INITIATE COMMERCIAL SUPPORT USE DEVELOPMENT

PHASE TWO 2019 - 2024

- DEVELOP GAS STATION AND CONVENIENCE STORE
- CONSTRUCT FIRST OFFICE BUILDING NORTH OF HCAA BUILDING
- MINOR RECONFIGURATION OF CELL PHONE LOT
- DEMOLISH USPS FACILITY AND PREPARE SITE FOR REDEVELOPMENT
- RELOCATE TAXI/BUS STAGING TO USPS PARKING AREA
- DEVELOP MID-RANGE HOTELS ON USPS SITE
- DEVELOP EMPLOYEE/TENANT PARKING GARAGE
- CONTINUE DEVELOPMENT OF COMMERCIAL USES

PHASE THREE/ULTIMATE

- CONSTRUCT SECOND OFFICE BUILDING NORTH OF HCAA BUILDING
- CONSTRUCT FINAL OFFICE BUILDING ON USPS SITE
- CONTINUE DEVELOPMENT OF COMMERCIAL USES
- EXTEND APM & DEVELOP THIRD AIRPORT STATION
- JOINTLY CONSTRUCT APM EXTENSION TO FUTURE TIA/WEST SHORE
- INTERMODAL CENTER AT TRASK AVE
- OPTIONAL EXPANSION OF EMPLOYEE/TENANT PARKING GARAGE

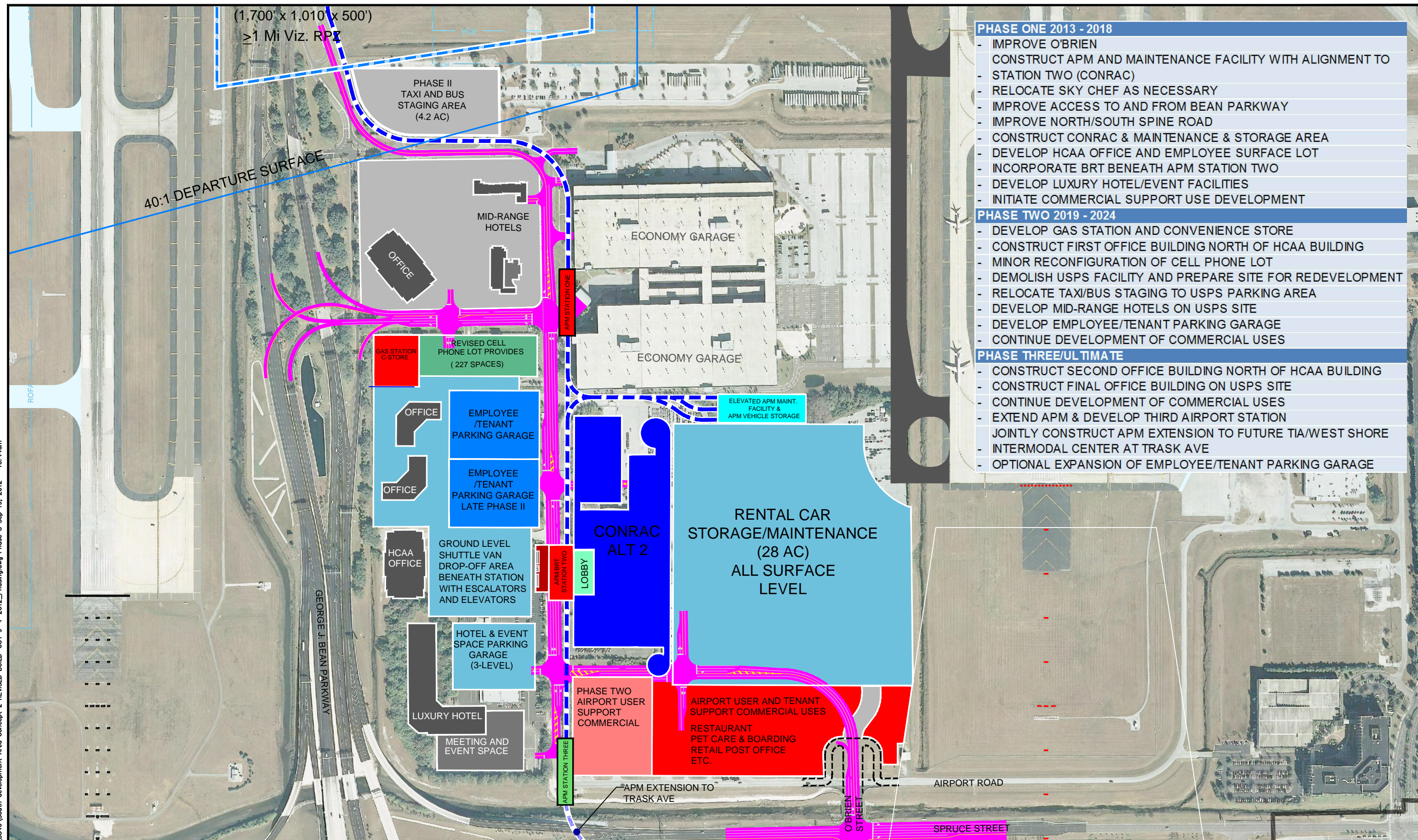


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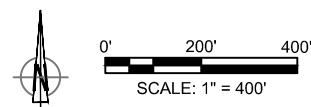
Concept 2 Modified - Phase II
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Sep 19, 2012
FIGURE
X-X

C:\Temp\AcPublish_8540\South development Area Concept 2 REVISED BUILD-OUT 9-4-2012_Phasing.dwg Phase 3 Sep 19, 2012 - 10:44am



- PHASE ONE 2013 - 2018**
- IMPROVE O'BRIEN
 - CONSTRUCT APM AND MAINTENANCE FACILITY WITH ALIGNMENT TO STATION TWO (CONRAC)
 - RELOCATE SKY CHEF AS NECESSARY
 - IMPROVE ACCESS TO AND FROM BEAN PARKWAY
 - IMPROVE NORTH/SOUTH SPINE ROAD
 - CONSTRUCT CONRAC & MAINTENANCE & STORAGE AREA
 - DEVELOP HCAA OFFICE AND EMPLOYEE SURFACE LOT
 - INCORPORATE BRT BENEATH APM STATION TWO
 - DEVELOP LUXURY HOTEL/EVENT FACILITIES
 - INITIATE COMMERCIAL SUPPORT USE DEVELOPMENT
- PHASE TWO 2019 - 2024**
- DEVELOP GAS STATION AND CONVENIENCE STORE
 - CONSTRUCT FIRST OFFICE BUILDING NORTH OF HCAA BUILDING
 - MINOR RECONFIGURATION OF CELL PHONE LOT
 - DEMOLISH USPS FACILITY AND PREPARE SITE FOR REDEVELOPMENT
 - RELOCATE TAXI/BUS STAGING TO USPS PARKING AREA
 - DEVELOP MID-RANGE HOTELS ON USPS SITE
 - DEVELOP EMPLOYEE/TENANT PARKING GARAGE
 - CONTINUE DEVELOPMENT OF COMMERCIAL USES
- PHASE THREE/ULTIMATE**
- CONSTRUCT SECOND OFFICE BUILDING NORTH OF HCAA BUILDING
 - CONSTRUCT FINAL OFFICE BUILDING ON USPS SITE
 - CONTINUE DEVELOPMENT OF COMMERCIAL USES
 - EXTEND APM & DEVELOP THIRD AIRPORT STATION
 - JOINTLY CONSTRUCT APM EXTENSION TO FUTURE TIA/WEST SHORE
 - INTERMODAL CENTER AT TRASK AVE
 - OPTIONAL EXPANSION OF EMPLOYEE/TENANT PARKING GARAGE



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Concept 2 Modified - Phase III
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Sep 19, 2012
FIGURE
X-X

Master Plan Team
CORRESPONDENCE



To
Mr. Jeff Siddle, Dir. Of Planning and
Development

From
HNTB Aviation Planning Team

Cc
Mr. Tony Mantegna, HCAA

Subject
ARFF Training Sites – Attributes and
Constraints

Date
7/18/2012

The material that follows provides a bullet point listing of the identified attributes and constraints and an affiliated graphic associated with the three potential ARFF Training Facility locations within the general limits of the East Side Development Area. These observations are provided per your request and for your consideration.

Site 1

Pros

- The site is outside of runway approach and any other object or visibility zones.
- No public vehicle parking or places of residence within the 300 or 1,000 foot radii respectfully, as set forth in design guidance.
- All designated protection areas around the facility remain on airport property.
- Access to airfield provided by existing secure airport roadway accessing north end of Taxiway E and does not require passing through security gates or access checkpoints.
- Direct line of access across Runway 1R/19L to Taxiway Bravo and Taxilane A to access northern half of Runway 1L/19R
- Direct access via Taxiway E to access Runway 10-28.
- Site One is the closest site to the previously selected ARFF Training site that was located to the north of Site One in the previous master plan.
- Sited to minimize impact to prime developable concepts and minimizes impact to planned MRO cluster development area.

Cons

- Decentralized location extends primary and secondary response times. (note: this is under the assumption that primary and secondary ARFF response vehicles are used for training

and that duplicates are not available for response purposes). The specific standards from FAR Part 139 for response are listed as follows:

2) The response required by paragraph (h)(1)(ii) of this section must achieve the following performance criteria:

(i) Within 3 minutes from the time of the alarm, at least one required aircraft rescue and firefighting vehicle must reach the midpoint of the farthest runway serving air carrier aircraft from its assigned post or reach any other specified point of comparable distance on the movement area that is available to air carriers, and begin application of extinguishing agent.

(ii) Within 4 minutes from the time of alarm, all other required vehicles must reach the point specified in paragraph (h)(2)(i) of this section from their assigned posts and begin application of an extinguishing agent.

- Ability to meet response time to Runway 1L/19R and future third parallel questioned by airport personnel
- Precludes future development of aviation related facilities (i.e. cargo/MRO etc.).
- Precludes proposed land uses in this area that based on reasonable valuation would generate a land lease of approximately \$5 per square foot which for a 10 acre site is approximately \$2,178,000 annually to the airport.
- While possible, placement of training facility in between active belly cargo, MRO, and GSE facilities is somewhat atypical. Most training installations are located at the outer limits of an airport's property away from other development and aviation activity. Some such as the new Jacksonville fire training facility that is being funded by FAA are even located at off-airport locations..
- Must cross an active runway (1R/19L) to get to 1L/19R

Site 2

Attributes

- Site 2 is outside of any runway approach zone or other object free or restricted visibility area.
- No public parking or places of residence within the 300 or 1,000 foot radii, respectfully.
- Excellent accessibility from the land side via the existing street network.
- Originally believed to have the second best accessibility to the airfield, however, on further review this accessibility is negated by the fact that the taxilane originally anticipated to access the site would not be constructed if the Training Facility were located on the site.
- All designated protection areas remain within the boundary of existing airport property

Constraints

- Decentralized location extends primary and secondary response times. (note: this is under the assumption that primary and secondary ARFF response vehicles are used for training and that duplicates are not available for response purposes).
- Access to airfield would either require the closure of North Westshore Blvd. and the development of a secure dedicated roadway to the existing taxiway extending from Taxiway E to the run-up enclosure or vehicles would be required to use public roads to access a security gate to enter the airfield.
- Response to Runway 1L-19R and future third parallel would need to be analyzed given the potential delay of crossing/using public roads and having to access via security gates. This could result in even greater response time than under Site One
- Alternative Two (Site Two) would negate the ability to develop the final parcel of land having reasonable potential for being provided airfield access for future large hangar/MRO hangar development. Preserving this potential was a key recommendation of the East Side development program. Other proposed MRO centric land uses in this area have much greater revenue potential and return-on-investment to the airport.
- Precludes proposed land uses in this area that based on reasonable valuation would generate a land lease of approximately \$5 per square foot which for a 10 acre site is approximately \$2,178,000 annually in possible revenue to the airport.
- While possible and similar to Site One, placement of training facility in between active aviation uses or in an area that will be the future site for these uses is somewhat atypical. Most training installations are located at the outer limits of an airport's property away from other development and aviation activity. Some are even located at off-airport exclaves.
- Must cross an active runway to get to 1L-19R

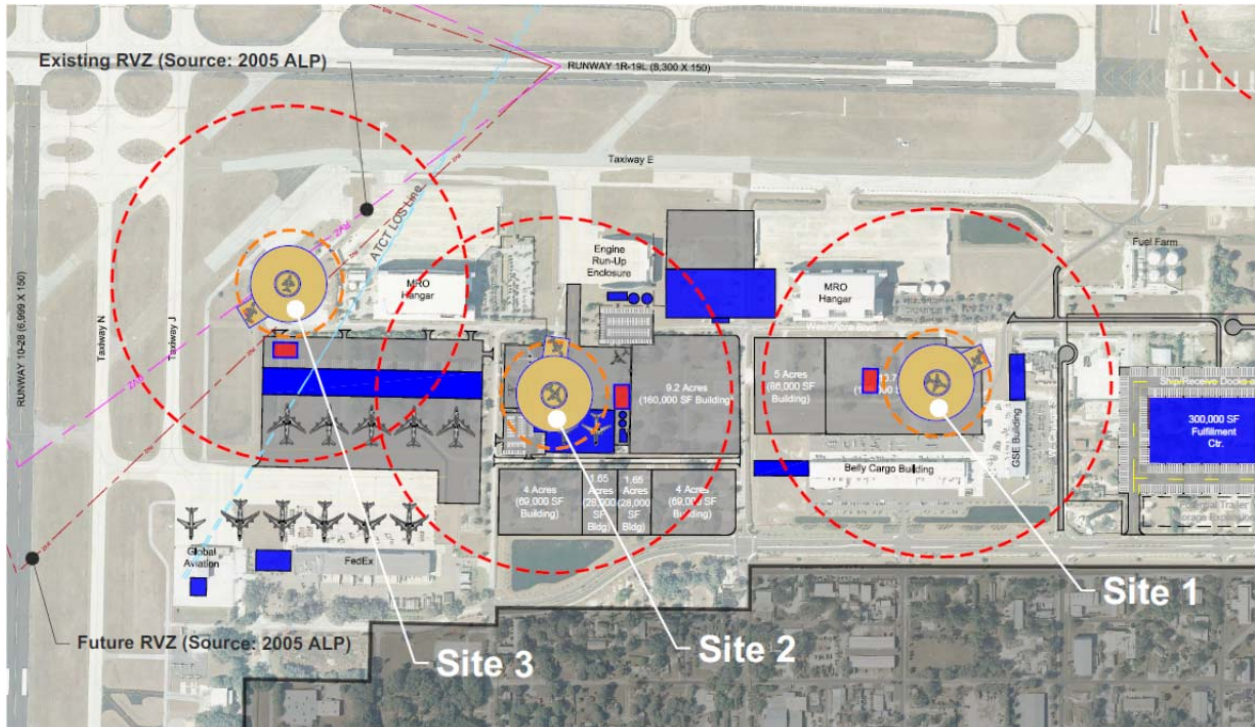
Site 3

Attributes

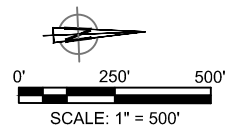
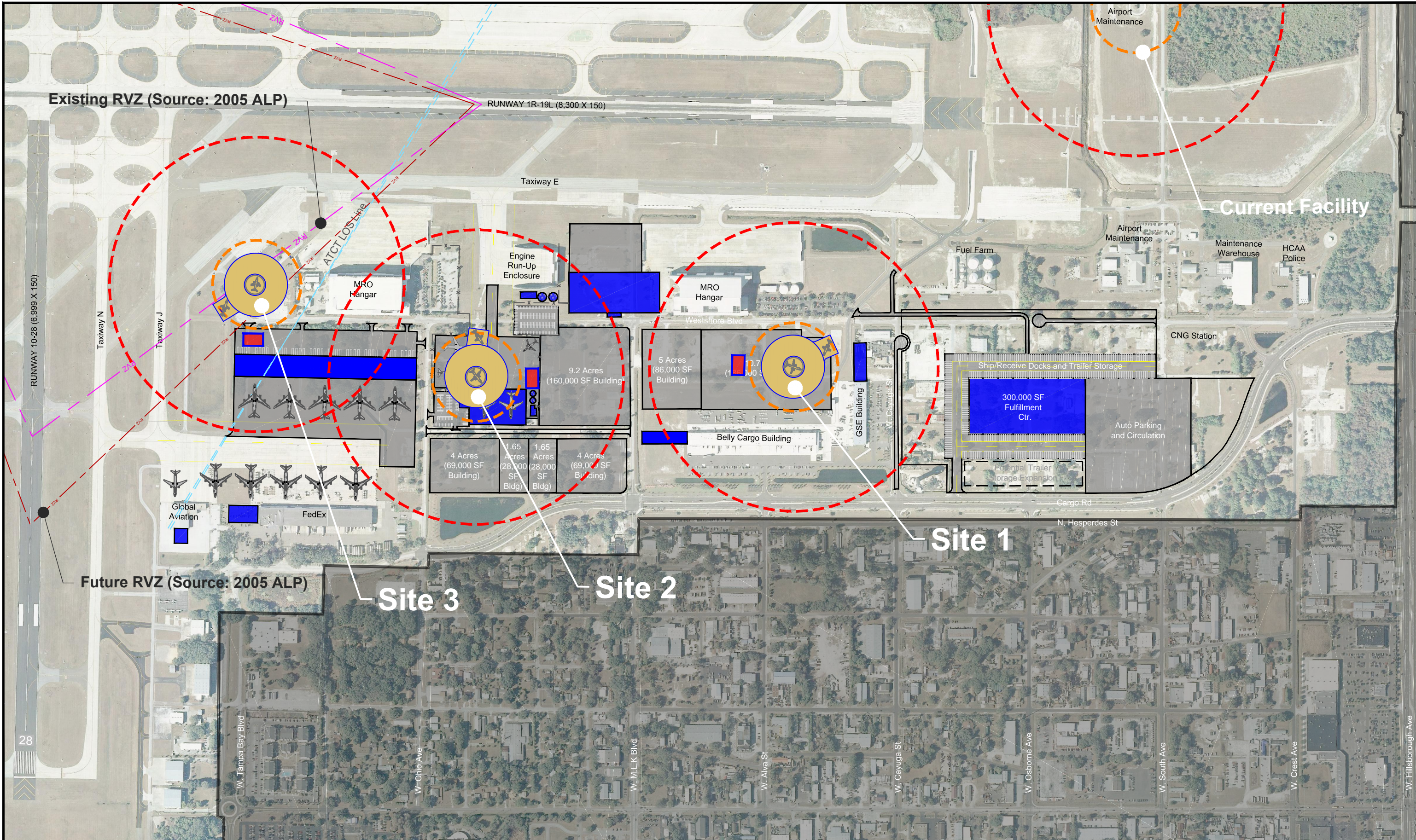
- Most centrally located site with better ability to provide primary and secondary ARFF response if/when necessary. (note: this is under the assumption that primary and secondary ARFF response vehicles are used and that duplicates are not available for training purposes).
- Response times required as specified above to the existing and future runway system is provided
- Direct airfield access from site to Site 3 via Taxiway E, Taxiway F and Taxiway J .
- Open 270 degree perspective of airfield can improve response to a real incident.
- Outside of runway approach zones.
- No public parking or places of residence within 300 or 1,000 foot radii.
- All designated protection areas remain within existing airport property.
- Does not preclude or negate any other development activity or recommended land uses as is the case with Site One and Site Two.

Constraints

- Constrained site due to minimization of facilities in RVZ and adjacent airfield and airport facilities. Any shift of the facility to the east would generate increased adverse impact to future cargo facility development space.
- Vehicles and would be required to be within the RVZ with the potential of impacting visibility.
- Placement of fuselage mock ups at this site could create potential pilot confusion for operators landing Runway 19L and Runway 28
- Location partially within the existing runway visibility zone, which may trigger concern or potential opposition to the site during the Safety Risk Management process associated with the Airport Layout Plan.
- Located inside the runway visibility zone resulting from long-term runway extensions to Runway 19L. Placement here would typically require a waiver from the FAA or the facility could require relocation at the time of an extension of Runway 1R/19L.
- Resulting smoke from facility could pose a perceived “hazard” for runway visibility, although scheduling of activity could be used to reduce this issue.
- Resulting smoke and thermal plume from facility could pose a “hazard” for ATCT controllers, by adversely impacting visibility to the existing runway 28 threshold and/or approaches to the runway 28 end.
- Depending on times of operations for such a facility it is a potential eyesore for arriving/departing passengers and also could confuse travelers that may not realize it is a training facility.
- Must cross an active runway to get to 1L-19R



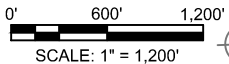
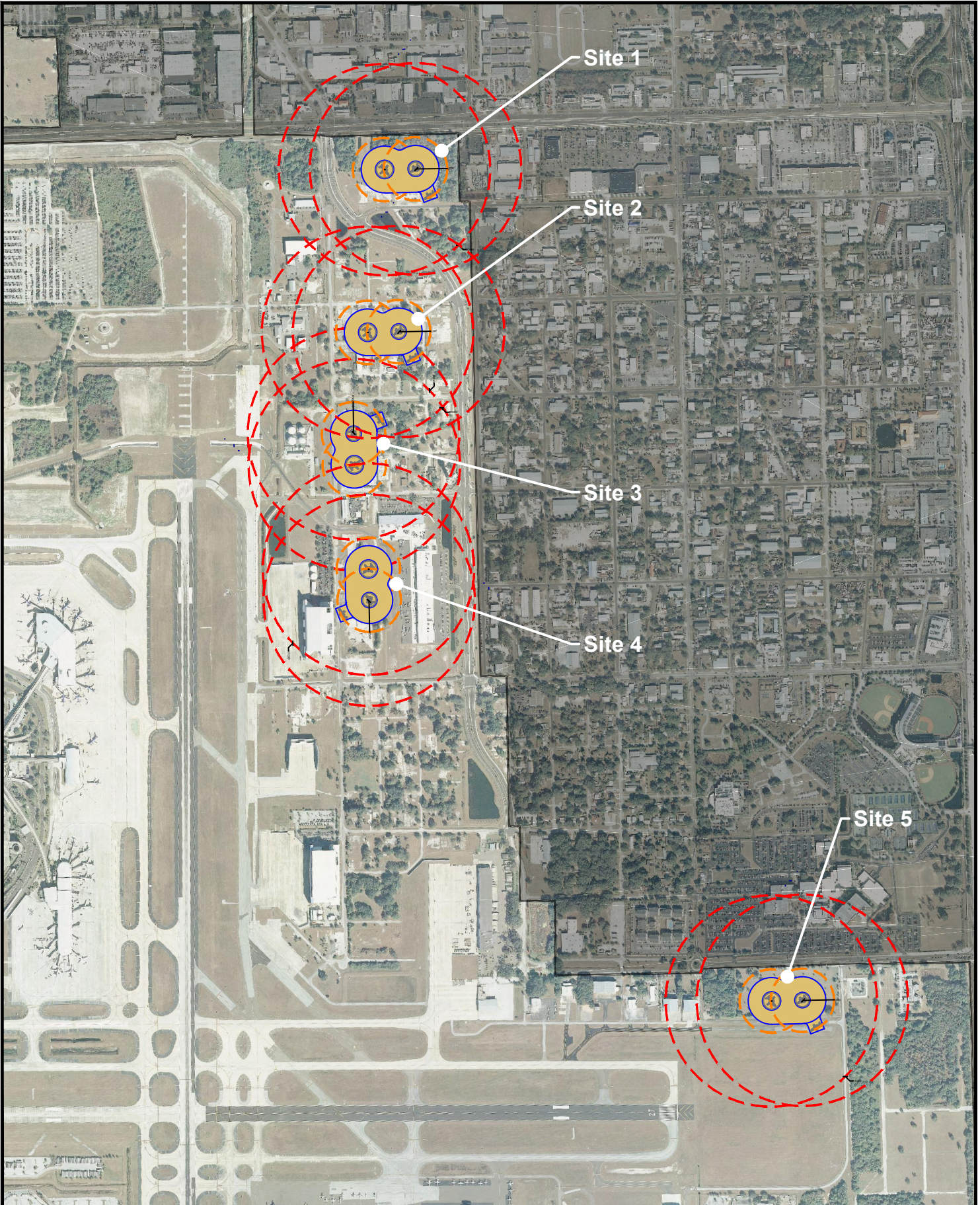
P:\Projects\97785 - Tampa MP\00-CADD\HNTB_Team_Dwg_files\TPA_Cargo Facility ALTERNATIVES_6-7-12.dwg Cargo Facilities-Alt A1 Jun 25, 2012 - 6:25pm



2900 SOUTH QUINCY STREET,
SUITE 200
ARLINGTON, VIRGINIA 22206
PH (703) 824-5100
FAX (703) 671-6210

ALT A1 - MRO CENTRIC
AIRCRAFT ACCESS TO MRO CLUSTER
TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Jun 25, 2012
FIGURE
X-X



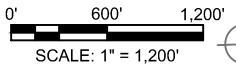
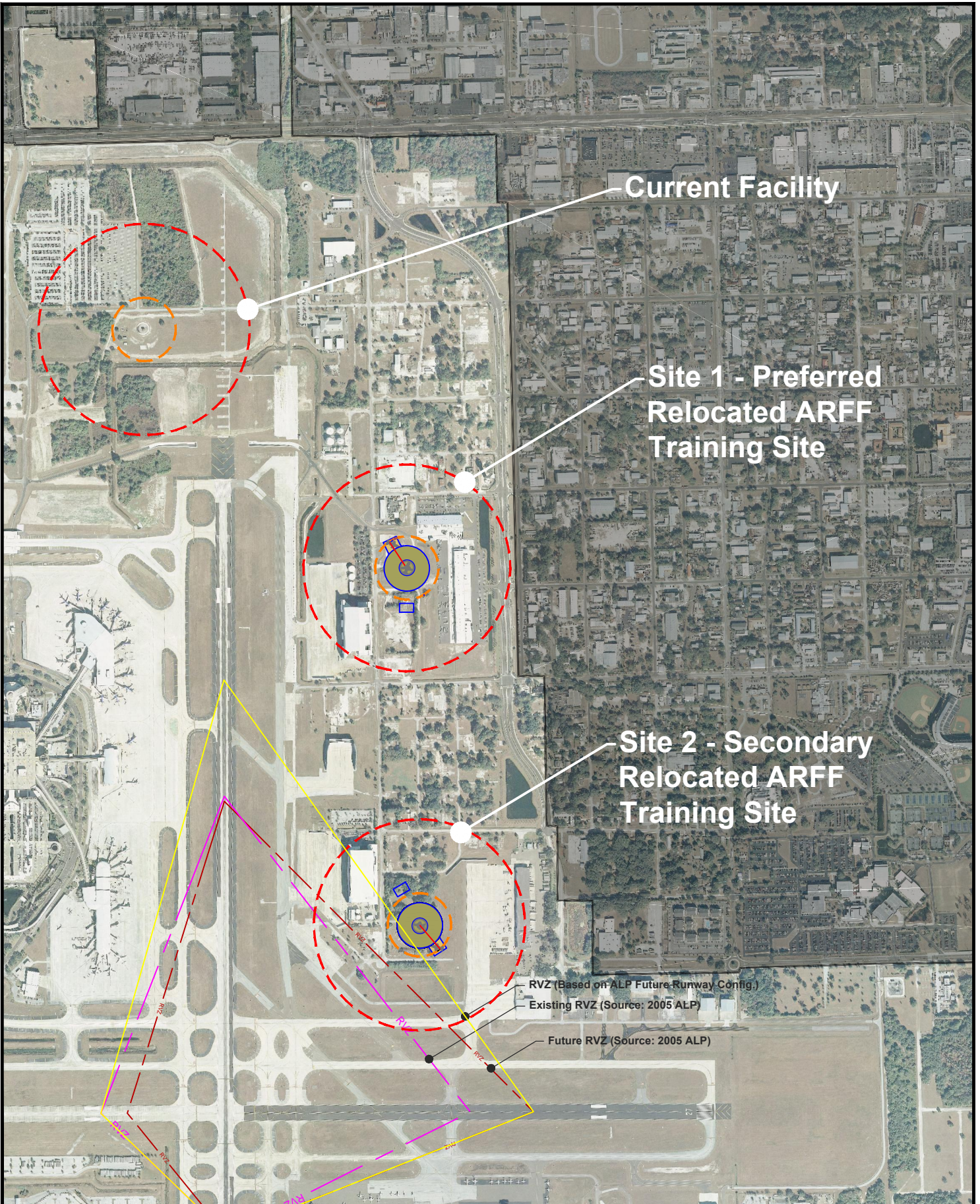
Large ARFF Training Facility - Alternate Sites

TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Jun 15, 2012

Figure:
X-X

C:\Temp\AcPublish_1272\ARFF Training Facility - Alternate Sites - Small Complex.dwg ARFF Training - Large Complex (2) Aug 06, 2012 - 11:15am

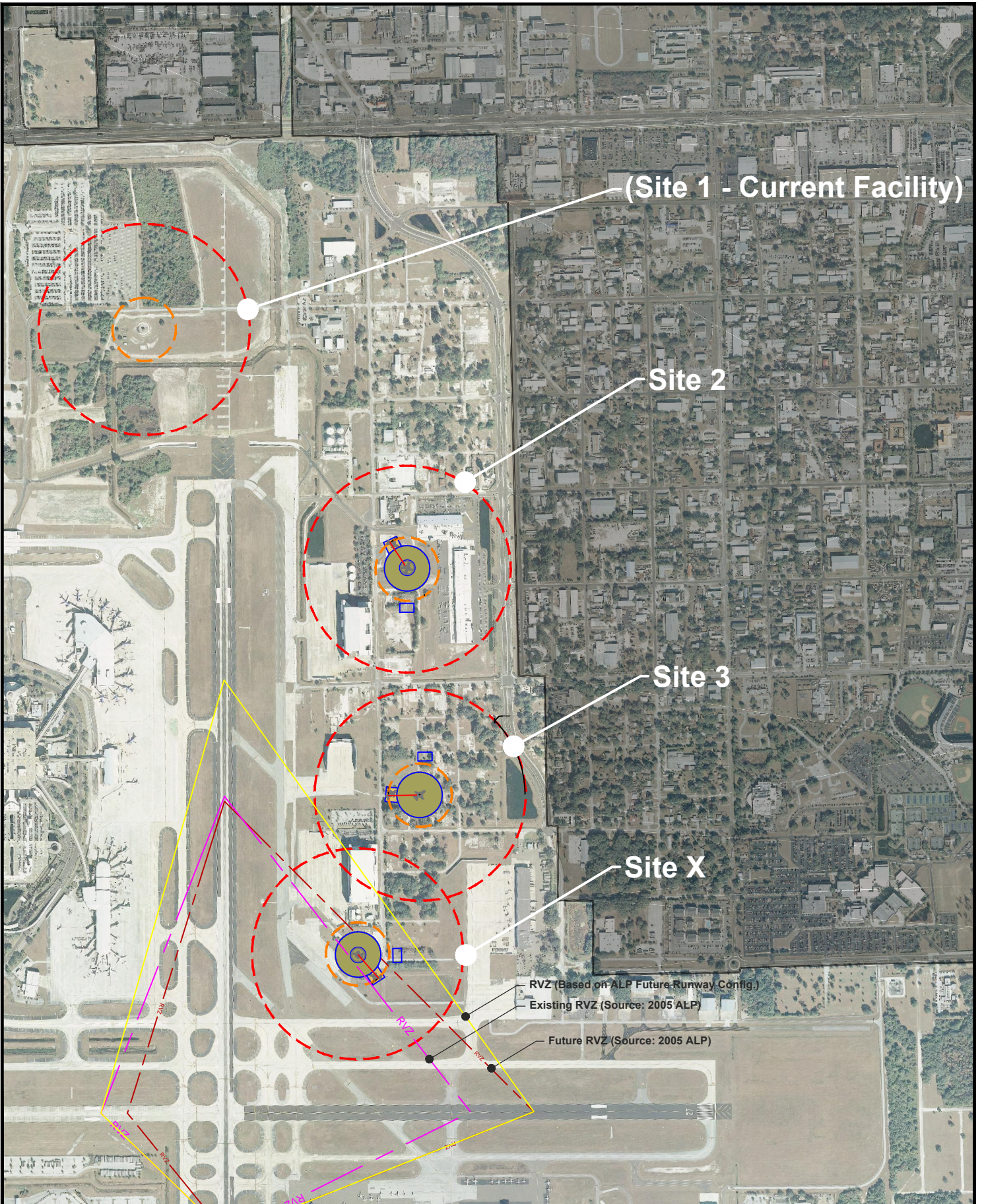


ARFF Training Facility - Alternate Sites

**TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA**

DATE:
Aug 06, 2012

Figure:
X-X



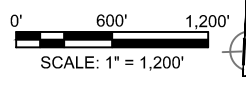
(Site 1 - Current Facility)

Site 2

Site 3

Site X

RVZ (Based on ALP Future Runway Config.)
Existing RVZ (Source: 2005 ALP)
Future RVZ (Source: 2005 ALP)

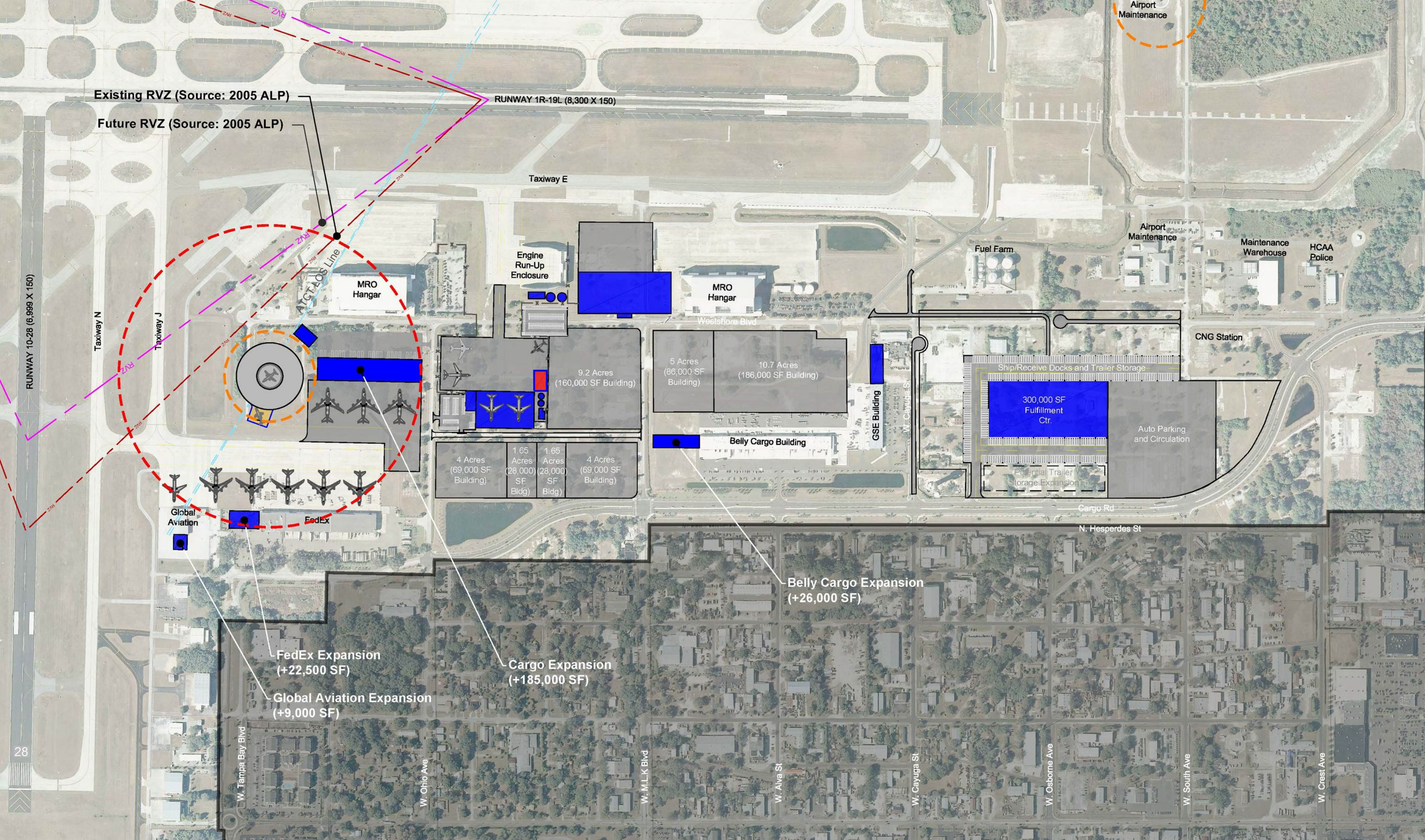


ARFF Training Facility - Alternate Sites

**TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA**

DATE:
Jun 25, 2012

Figure:
X-X



Existing RVZ (Source: 2005 ALP)

Future RVZ (Source: 2005 ALP)

RUNWAY 1R-19L (8,300 X 150)

Taxiway E

Engine Run-Up Enclosure

MRO Hangar

MRO Hangar

Fuel Farm

Airport Maintenance

Maintenance Warehouse

HCAA Police

CNG Station

RUNWAY 10-28 (6,999 X 150)

Taxiway N

Taxiway J

Aircraft Line

MRO Hangar

Westshore Blvd

5 Acres (86,000 SF Building)

10.7 Acres (186,000 SF Building)

9.2 Acres (160,000 SF Building)

Ship/Receive Docks and Trailer Storage

300,000 SF Fulfillment Ctr.

Auto Parking and Circulation

Potential Trailer Storage Expansion

Global Aviation

FedEx

4 Acres (69,000 SF Building)

1.65 Acres (28,000 SF Bldg)

1.65 Acres (28,000 SF Bldg)

4 Acres (69,000 SF Building)

Belly Cargo Building

GSE Building

Cargo Rd

N. Hesperdes St

Belly Cargo Expansion (+26,000 SF)

FedEx Expansion (+22,500 SF)

Cargo Expansion (+185,000 SF)

Global Aviation Expansion (+9,000 SF)

W. Tampa Bay Blvd

W. Ohio Ave

W. M.L.K Blvd

W. Alva St

W. Cayuga St

W. Osborne Ave

W. South Ave

W. Crest Ave

Existing Consolidated Rental Car Facilities

Airport	2008 O&D	Annual	Revenue		R/R			Dev. Cost	CFC &	DBO	Project Duration
		RAC Rev. (8/08 - 7/09)	Rank	No. RACs	Spaces	CSB Sqft	Acres		TFC		
Sacramento	10 MAP	\$94M	37	7	733	11000	33	\$6.5M	\$10.00/t	1994	
Washington	16 MAP	\$109M	32	5	1136	8300	9	N/A	\$2.50/d	1996	
Cleveland	10 MAP	\$63M	55	8	1800	16000	45	\$40M	\$8.40/t	1998	
San Francisco	36 MAP	\$316M	4	8	3800	N/A	7	\$132M	\$18.50/t	1999	
Dallas Ft. Worth	51 MAP	\$222M	13	9	5000	129000	200	\$140M	\$6.20/d	2000	
Ontario	6 MAP	\$70M	53	7	1300	10200	22	N/A	\$10.00/t	2000	
Albuquerque	6 MAP	\$88M	42	8	1270	25000	65	\$50M	\$3.90/d	2001	
Houston-Bush	33 MAP	\$168M	19	10	4650	80000	140	\$135M	\$3.75/d	2003	
Bal-Washington	20 MAP	\$143M	23	10	2800	47000	72	\$131M	\$3.75/d	2003	
Ft. Lauderdale	20 MAP	\$229M	12	9	4100	60000	50	\$210M	\$3.95/d	2005	
Phoenix	38 MAP	\$315M	5	11	5650	120000	141	\$285M	\$6.00/d	2006	7 yrs
Las Vegas	40 MAP	\$264M	8	10	5000	131000	80	\$223M	\$3.00/d	2007	11 yrs
Kansas City	11 MAP	\$93M	38	9	7500	161000	75	\$90M	\$5.00/d	2007	13 yrs
Anchorage	4 MAP	\$42M	74	8	1050	15000	6	\$63M	\$4.81/d	2007	5 yrs
Atlanta	77 MAP	\$279M	7	12	8700	137000	98	\$642M	\$4.50/d	2009	9 yrs

Pending Consolidated Rental Car Facilities

Airport	2008 O&D	Annual	Revenue		Estimated			Estimated Dev. Cost	CFC &	Estimated DBO	Estimated Project Duration
		RAC Rev. (8/08 - 7/09)	Rank	Estimated No. RACs	R/R Spaces	Estimated CSB Sqft	Estimated Acreage		TFC		
Miami	16 MAP	\$312M	6	16	6500	130000	22	\$400M	\$4.00/d	2010	12 yrs
Providence	4 MAP	\$51M	66	9	1400	14000	7	\$246M	\$4.50/d	2010	10 yrs
San Jose	10 MAP	\$124M	28	10	3000	28000	33	\$275M	\$10.00/t	2010	5 yrs
Memphis	10 MAP	\$56M	56	8	1410	11500	10	\$65M	\$4.00/d	2011	4 yrs
Charlotte	30 MAP	\$97M	35	8	2500	15000	10	\$80M	\$3.50/d	2012	7 yrs
Burbank	5 MAP	\$57M	58	9	1200	10000	10	\$100M	\$10.00/t	2012	3 yrs
New Orleans	7 MAP	\$86M	44	9	1800	32000	34	\$105M	\$6.20/d	2012	10 yrs
Seattle	26 MAP	\$231M	11	10	5400	68900	23	\$419M	\$5.00/d	2012	13 yrs
Boston	23 MAP	\$232M	10	9	3100	48550	28	\$337M	\$6.00/d	2013	7 yrs
Nashville	9 MAP	\$112M	36	8	2000	tbd	9	\$62M	\$4.00/d	2013	7yrs
San Diego	18 MAP	\$209M	15	12	2775	10000	43	\$193M	\$10.00/t	2014	tbd
Honolulu	21 MAP	\$130M	26	9	2440	42650	35	tbd	\$4.50/d	2014	5 yrs
Los Angeles	42 MAP	\$542M	2	9	7737	109491	164	\$734M	\$10.00/t	2015	7.5 yrs
Toronto	15 MAP	\$156M	22	11	2600	15000	10	tbd	n/a	2015	6 yrs
Columbus	6 MAP	\$72M	52	8	2000	30000	35	tbd	\$3.85/d	On Hold	tbd
Dulles	16 MAP	\$142M	24	8	2000	36000	63	\$230M	n/a	On Hold	tbd
Chicago Midway	17 MAP	\$80M	49	8	2000	18000	10	\$80M	\$3.75/d	On Hold	tbd
Cincinnati	13 MAP	\$55M	61	8	1800	28000	tbd	\$138M	\$3.75/d	On Hold	tbd

The next markets to develop a ConRAC (or so we hear):

Hartford	Chicago-O'Hare
Dayton	Salt Lake City
Dallas-Love	San Antonio

Initial major items from RAC Stakeholder 11-meeting

- 1.) Full agreement on the limitations and constraints associated with the current operations
- 2.) No representative of the Rental Car Companies indicated that they believed there was the ability to meet need in the current terminal area
- 3.) Representatives from Dollar Thrifty Automotive Group (DTAG) Enterprise, Avis and Hertz all stated that current operations in Blue side garage were challenging. Hertz noted specific issues with the fueling and wash areas as being a major concern in their current in-terminal facilities.
- 4.) All four existing in-terminal operators did not feel there would be an efficiency gain from co-locating Ready Return and Storage areas adjacent to one another that would result in a reduction of required spaces as had been indicated in the Consultant analysis. It was stated that the number based on a 3 hour reserved was closer to what they believed to be necessary. This number is 4,100 spaces in the CONRAC vs 3,200.
- 5.) Enterprise questioned the peak day demand numbers for 2011 indicating that they believed that the number was low. They indicated that they (Ken Crean) handled 3,000 transactions in the peak. (IT WAS NOTED BY THE CONSULTANT THAT ENTERPRISE WAS A COMPANY THAT HAD ACTUALLY PROVIDED TRANSACTION NUMBERS EARLIER IN THE YEAR AND THE NUMBERS PROVIDED DID NOT REFLECT THE PEAK LEVEL OF TRANSACTIONS THAT WAS BEING INDICATED.) Enterprise indicated that they would provide new transaction data in response to the recently distributed additional survey. Table below shows the data previously developed based on transaction data that was provided for 2011 by some of the companies.

2011

5 Hour Period Average Hourly Rentals	440
Total Peak Day Rentals	5200
5 Hour Period Average Hourly Returns	300
Total Peak Day Returns	4200

2031

5 Hour Period Average Hourly Rentals	760
Total Peak Day Rentals	8940
5 Hour Period Average Hourly Returns	500
Total Peak Day Returns	7200

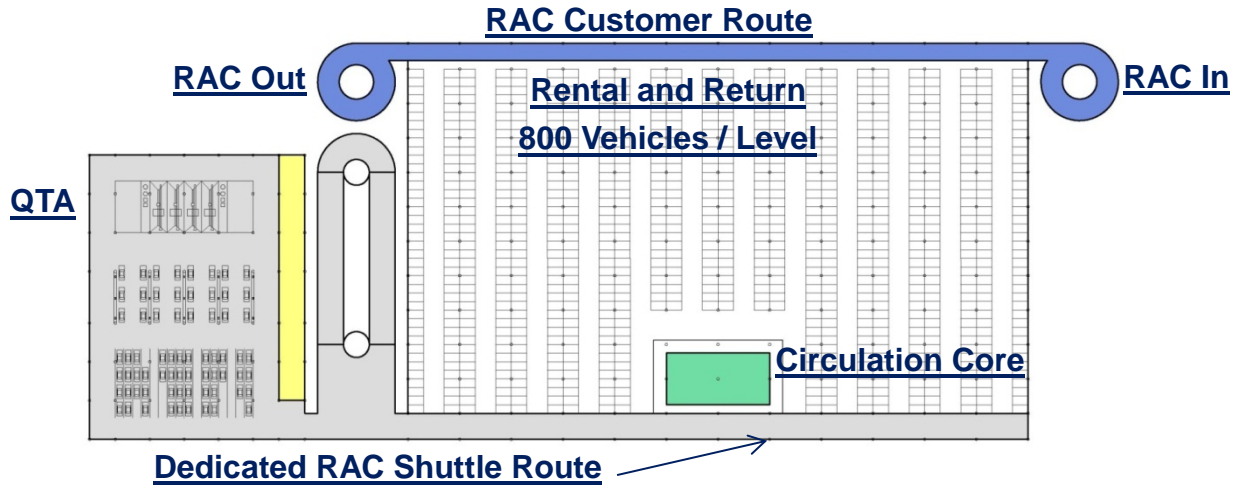
6. DTAG raised issues that they have had with CONRAC planning in the past at LAX and SFO and wants to make sure whatever is built is big enough and not limited by such issues as being in an RPZ.
7. DTAG stated that they need all the service area they have today in the future.
8. Questions were raised about the number of vehicles that could be stored on a per acre basis. Enterprise disputed the Consultant number of 300 vehicles per acre indicating that 240 vehicles per acres was more appropriate. Avis (Dave Starr) indicated that based on vehicle type the number could be 350 to 400 per acre based on his experience and Hertz suggested that 250 to 300 per acre number was not inappropriate, with 250 being a fairly conservative number
9. Representatives from Payless simply indicated that they appreciated being invited to the meeting and for being in the room with the existing on airport RAC's
10. Bob Arprati (sic) asked if room would be made available to accommodate companies that were presently not on the airport but desired to be.
11. The airport committed to sending the powerpoint presentation out to all of the attendees both those in the room and on the phone.
12. The consultant asked the representatives to review the PPT as it related to methodology for defining fueling nozzels, wash bays, etc and provide input. It was generally agreed to look into a larger facility to meet a higher number of stalls and the companies indicated they would get requested data back to the team.

SUBSEQUENT TO THE MEETING I HAVE SPENT TIME THINKING OVER SOME OF THE COMMENTS AND I OFFER THE FOLLOWING OBSERVATIONS

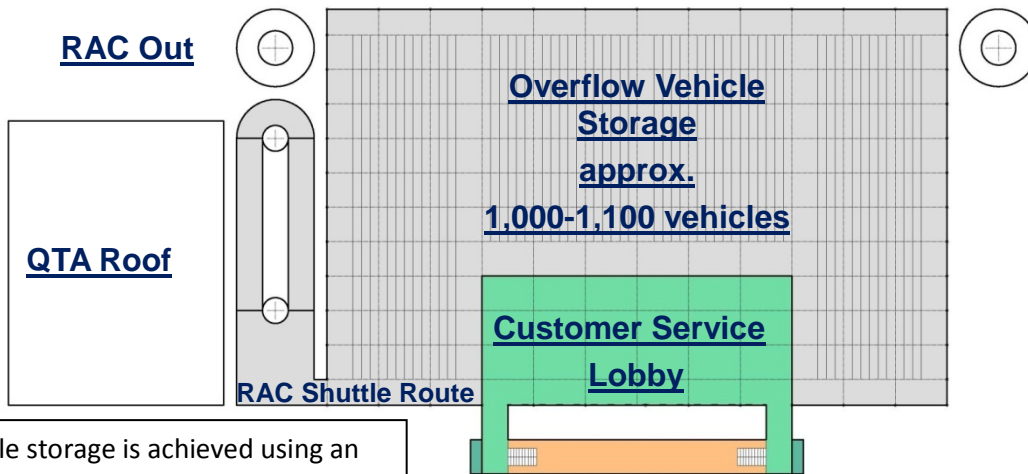
1. With a CONRAC the vast majority of fueling and washing will be done in the CONRAC, particularly if you opt to build a facility that places fuel on each floor in a connected QTA. That is becoming more the desired concept from an efficiency perspective. (DTAG representatives in the first meeting made it clear that such a configuration would be their preference) Thus, I would anticipate that need for these activities in the storage area will be lessened resulting in the storage areas having additional acreage for cars versus how they currently operate.
2. It is becoming normal to also have the ability to conduct an enhanced level of maintenance in the CONRAC's which also acts to reduce the overall size of ancillary maintenance areas elsewhere. This was noted in the first meeting by DTAG as something that needed to be incorporated into the QTA. This reduces the need to move vehicles as frequently to a separate maintenance area for more common upkeep maintenance and results in only heavier maintenance going on outside of the CONRAC. That is not the case today. Thus, it is likely that smaller maintenance and fuel capabilities are need in the storage area.

3. The storage figure of 300 vehicles per acre is not out of reason. Dave Starr from Avis in the meeting actually suggested 350-400 per acre based on vehicle mix was often use as vehicles have gotten smaller over time. The person from Hertz looked across at me and indicated 300 was not a bad figure. What used to be compacts are now considered intermediate. Consider that 40 acres of storage at the 300 per acre rate would equate to 12,000 stored vehicles in addition to the 3,200 that was originally recommended or the 4,100 that was associated with the In-Terminal RAC Option.
4. We have never been able to show a concept of how the facility might work even though we have shown it as early as April to Planning. This would clearly show significantly more vehicles in the CONRAC than presently occurs in the terminal (reducing inventory needs in their storage areas, as well as added storage on the top floor of the CONRAC (roughly equivalent to 3 acres) If we go to a higher space per floor as suggested, for example 4100 as shown for an in terminal option, the amount of vehicles in the CONRAC increase by approximately 200-220 more cars per floor and the storage area on the top floor would also increase to the capacity of approximately 4 acres due to the higher parking density.
5. I think there is a tendency to be thinking of sizing things based on how they are today rather than how they would be in the future and frankly that is part of the problem. How they will be in the future in terms of area requirements given the greater vehicle counts in the facility is going to be different with a CONRAC concept both in the CONRAC and with the adjacent storage areas. I have attached a couple of conceptual layouts that we have never been allowed to present.
6. I have heard comments that some of the storage being done at TPA is not for TPA at all, but rather for other vehicle outlets in the Tampa area. That's nice, but those could be parked elsewhere, or even elsewhere on the airport such as in the North Terminal Area.
7. A decision of what Peak you want to accommodate is going to need to be made. The vast amount of time over a year those facilities are far from being full in the south area. The peak that was used for the work to date occurs approximately 20 days a year.
8. Bhavesh indicated that he had a years worth of transaction data, could I get the information. It is interesting that Enterprise is one of the companies that actually responded by in February and provided transaction data to Ken Field (Hertz provided nothing of any value) and it was somewhat striking that the comment made by Ken Crean that the peak data was off, is inconsistent with the information that was provided by his company.
9. I have a feeling we are going to get input suggesting that each of the four on-airport rental company is anticipating capturing 45% of the market and the off site guys will capture 25% (numbers are just for illustration purposes) and we will see demands for space that are aggressive to say the least. Keep in mind that Chicago does approximately 1,000 to 1,200 more peak day transactions than Tampa and they are developing a 4,200 space CONRAC to meet future demand.

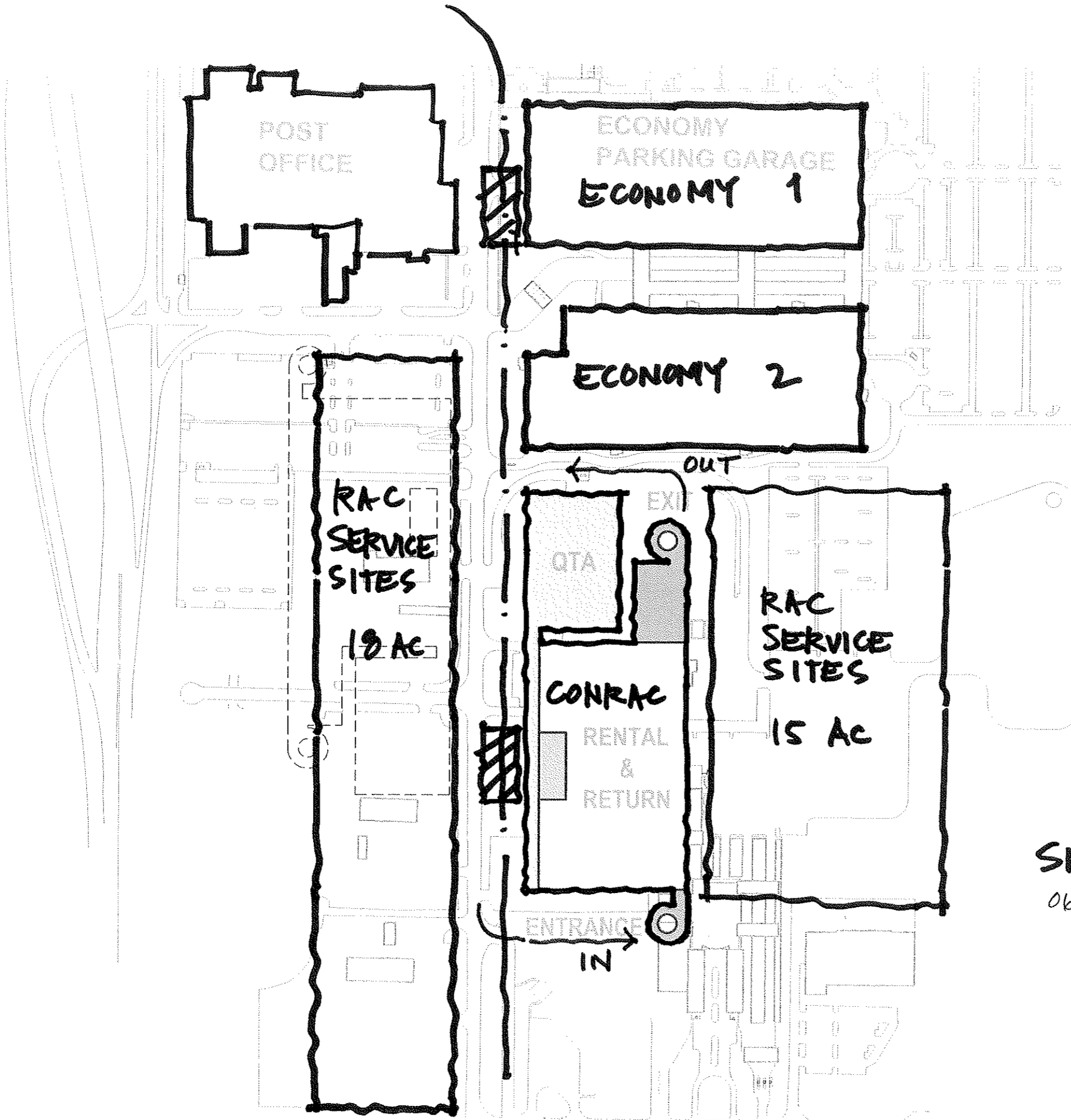
- Conceptual Rental Return Floor Plan



- CONRAC TOP FLOOR CONCEPTUAL LAYOUT PLAN



Vehicle storage is achieved using an in-line bumper to bumper vehicle layout. Each car requires roughly 0.6 the amount of space as a regular rental/return stall. Fewer movement lanes are also involved.



SITE PLAN OPTION 1

06/18/12 KF

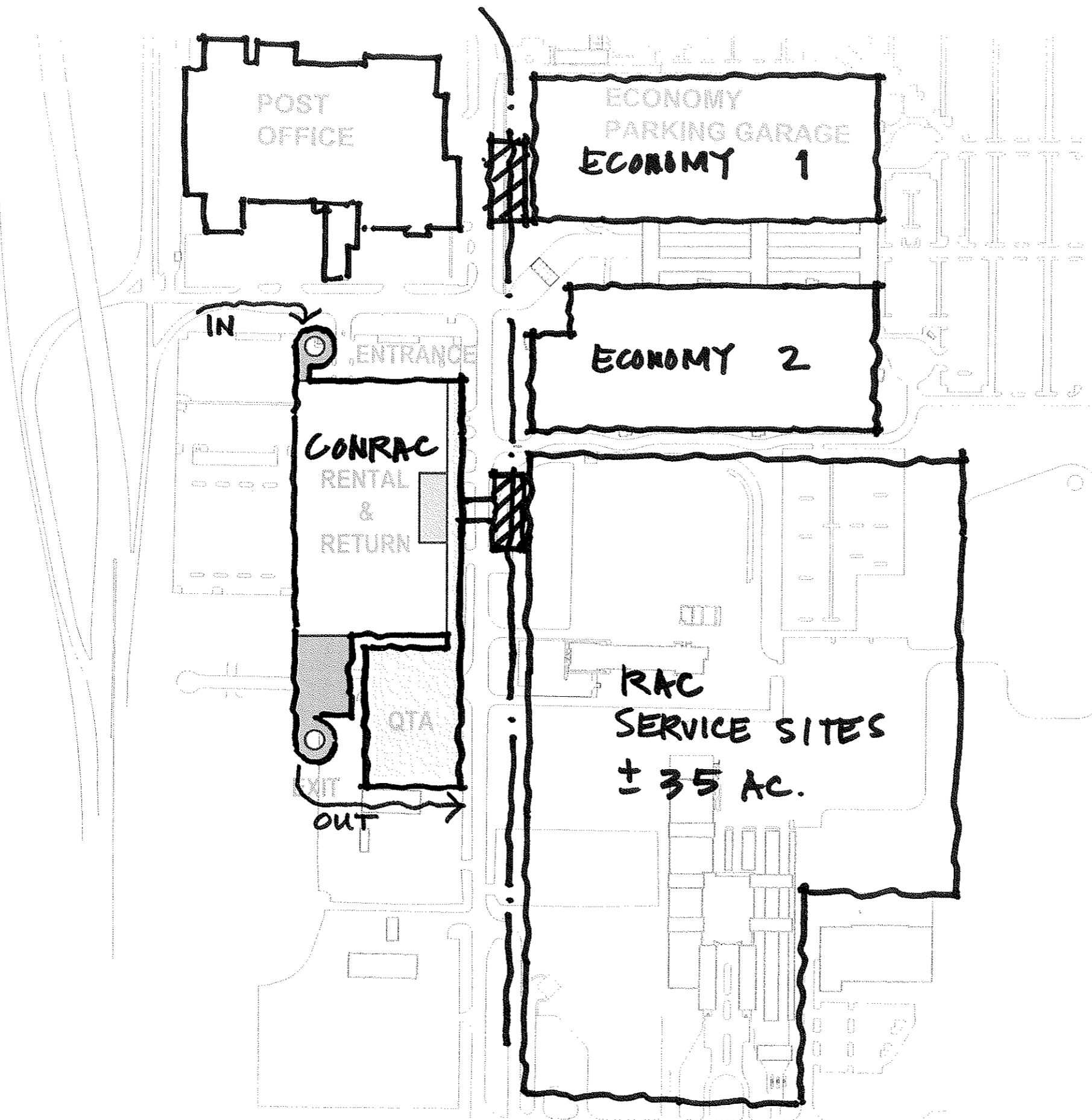
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TPA CONRAC

TITLE:
Site Plan
QTA on Each Floor

SCALE:
1"= 300'

DATE:
06+08+12

DRAWING NO:
ST-01



SITE PLAN OPTION 2

06/18/12 KF

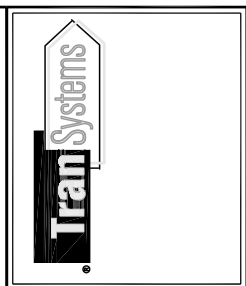
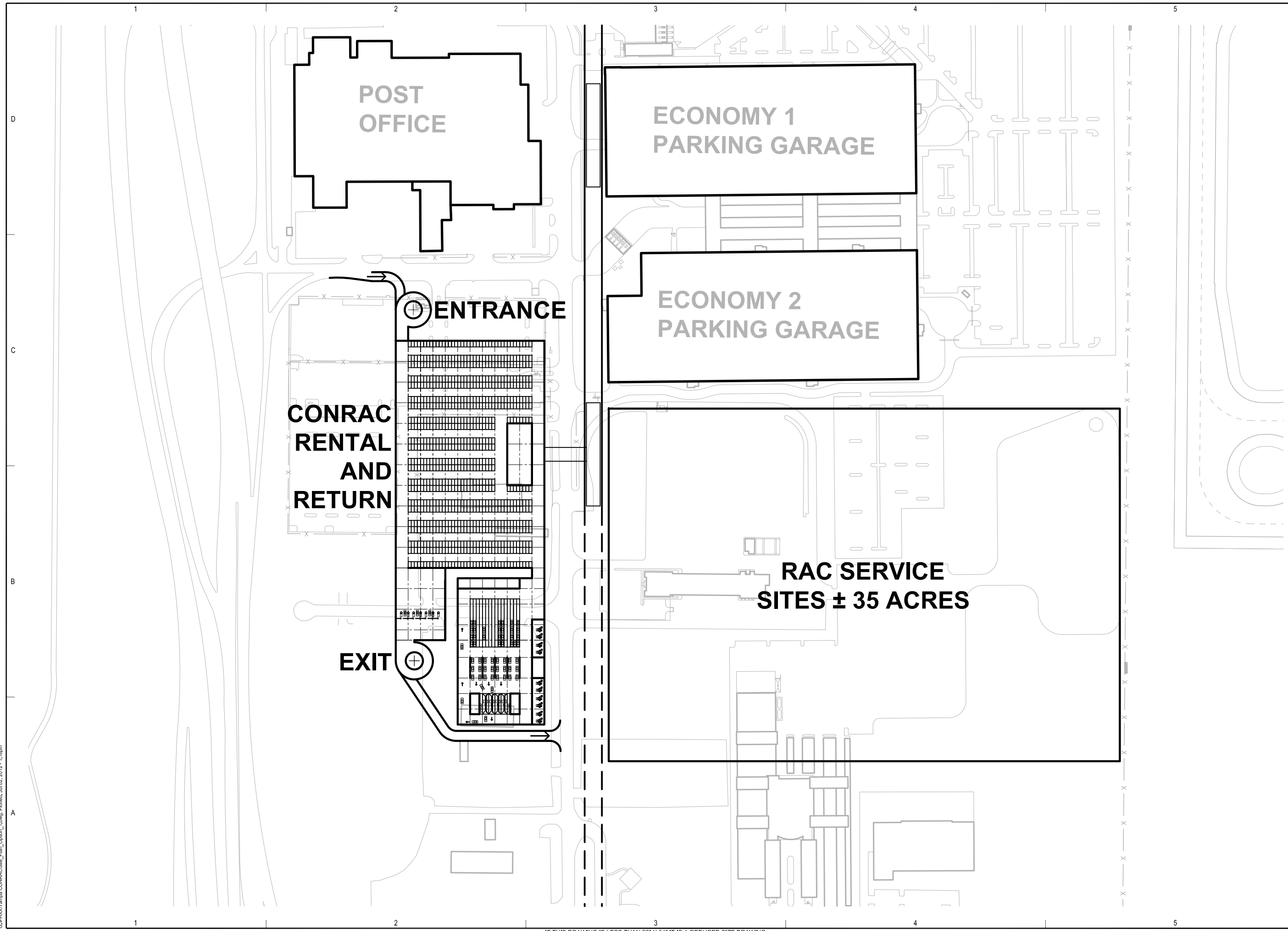
PROJECT:
TPA CONRAC

TITLE:
Site Plan
QTA on Each Floor

SCALE:
1"= 300'

DRAWING NO:
ST-02

DATE:
06+08+12



CONSULTANTS:

CONSULTANTS:

CONSULTANTS:

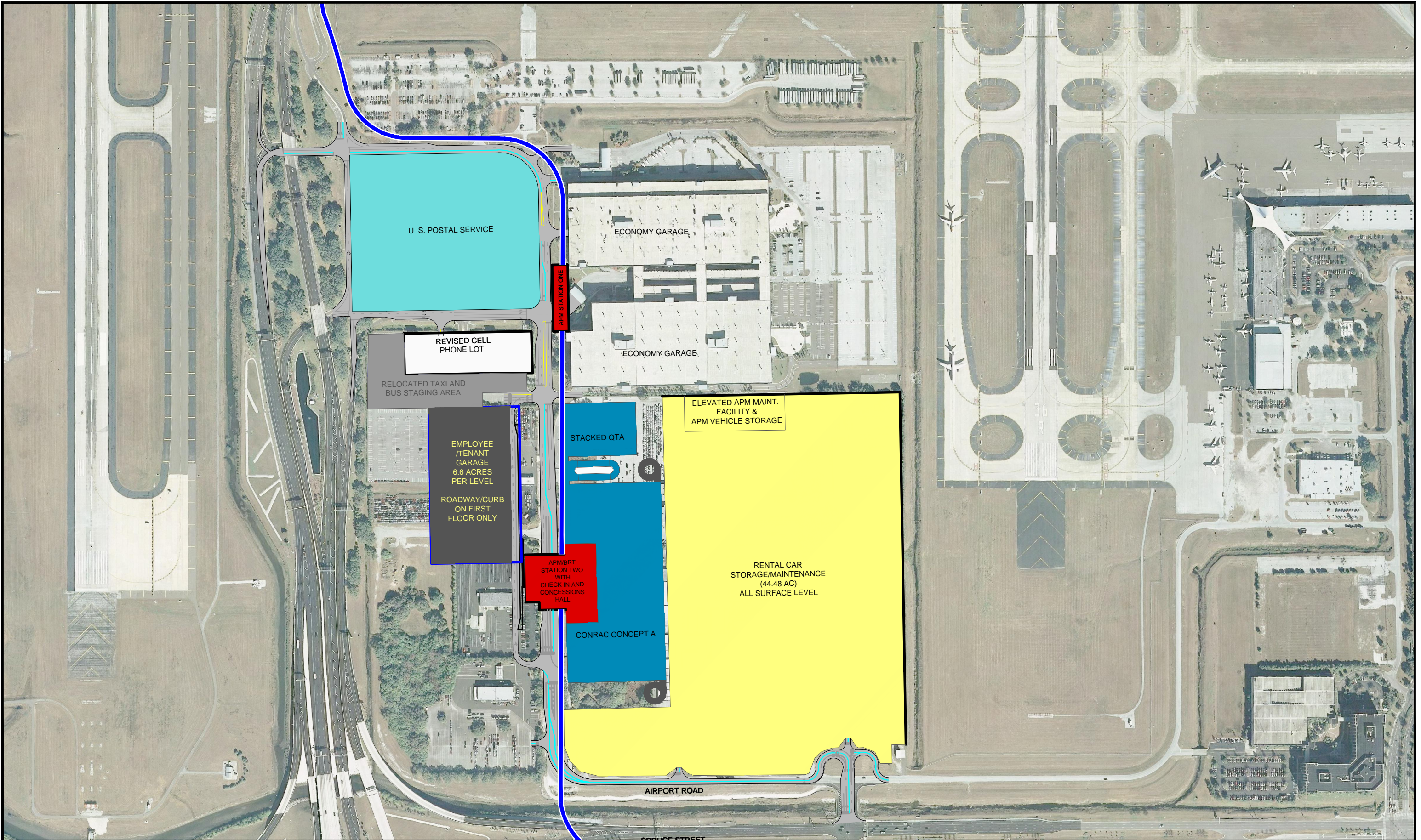
REVISIONS:	MARK	DATE	DESCRIPTION

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 DESIGNED BY: XXX
 DRAWN BY: XXX
 CHECKED BY: XXX

SHEET TITLE:
 SHEET TITLE

SHEET NO. XXX
 SHEET OF

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0' 200' 400'
SCALE: 1" = 400'



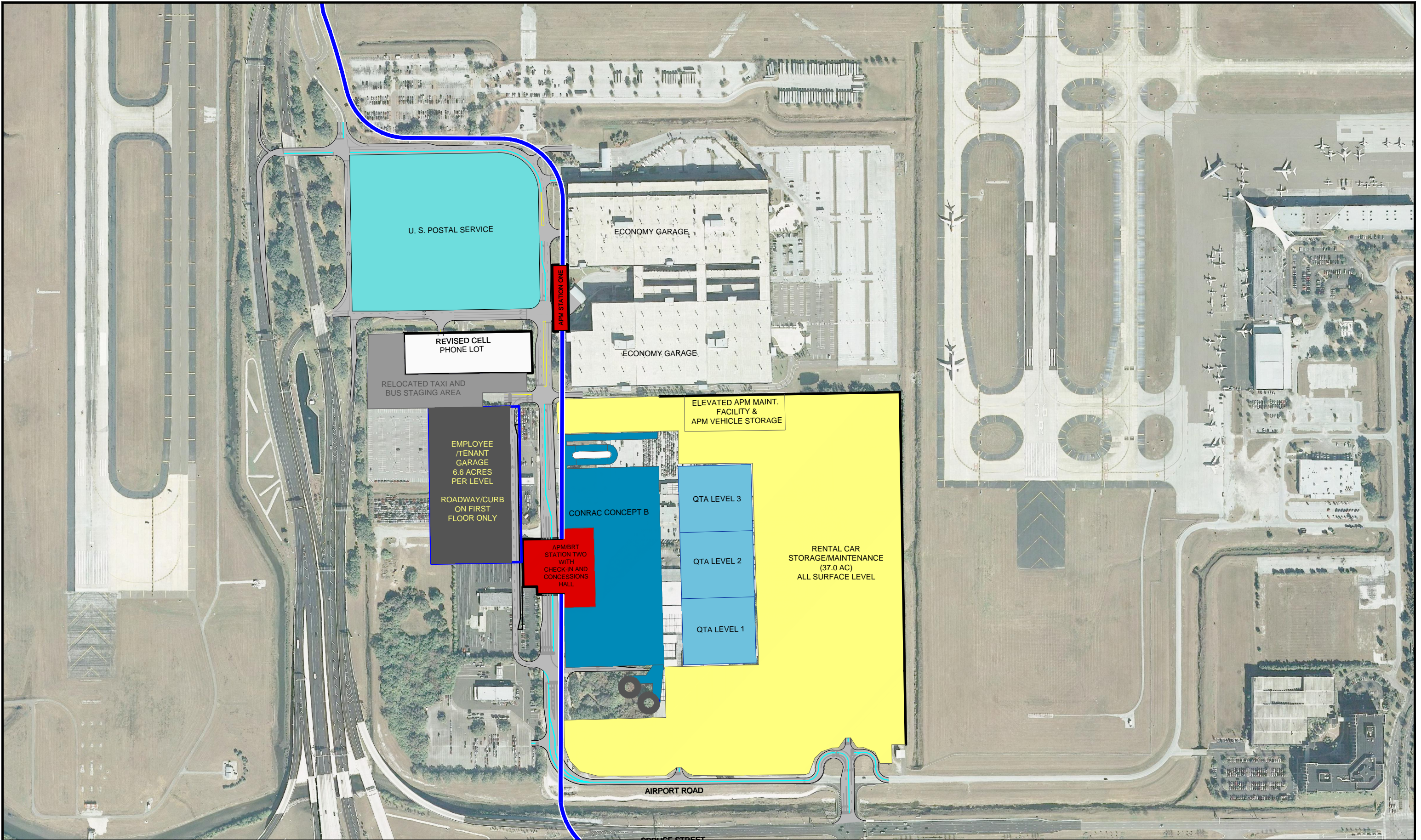
2900 SOUTH QUINCY STREET,
SUITE 200
ARLINGTON, VIRGINIA 22206
PH (703) 824-5100
FAX (703) 671-6210

TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

DATE:
Jan 25, 2013

FIGURE
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C:\Temp\AcPublish_6864\South development Area CONRAC CONCEPT B_1_23_13.dwg Layout1 Jan 25, 2013 - 10:45am



2900 SOUTH QUINCY STREET,
 SUITE 200
 ARLINGTON, VIRGINIA 22206
 PH (703) 824-5100
 FAX (703) 671-6210

TAMPA INTERNATIONAL AIRPORT
 TAMPA, FLORIDA

DATE:
 Jan 25, 2013

FIGURE
 X-X

Tampa International Airport Rental Car Master Planning



Program Update and Work Session

March 22, 2012

HNTB

Tran Systems

Outline

Tran Systems

- Introduction: Tampa RAC Experience
- Peak Day Numbers
- 2011 Ricondo Report
- Alternative “Rightsizing” Methodology
- 2026 Peak Rental Day Requirements
- Metrics
- 3 Planning Alternatives (“Cartoons”)
- Discussion

- Issues
 - Consolidated Rental Car Facility
 - Similar to, but not a Parking Garage
 - More Like a Library
 - Tampa Rental Car Experience
 - Split Operation Blue and Red
 - Separate Levels for Rentals and Returns
 - Built-in Inefficiency
 - QTA.....Not up to the Job!
 - Cannot Meet Demand
 - Circulation, Queuing and Storage Deficiencies
 - Customer Service

- Issues
 - “Not a Long Term Solution”
 - Presently at or Above Capacity
 - QTA not up to the Job!
 - Blue Side Short Term Solution
 - Expand Level 2 to Rental and Return (R/R)
 - Reduced Customer Service Levels / “Unacceptable”
 - Recent Additional Brands
 - Increased Pressure / Operational Stress
 - Customer Service
 - Is a Remote CONRAC the Answer?
 - Bussing vs Present Operational Ceiling

2011 to 2026 Total Vehicle Requirement

TPA RAC / 2011 / Peak Day of Peak Week				
Hour	Monday			
	CTR	PRF	RET	NET
01	-20	-12	4	-28
02	-14	0	4	-39
03	-2	0	16	-24
04	0	0	108	84
05	-3	0	248	329
06	-10	-4	248	563
07	-35	-12	168	684
08	-57	-24	264	867
09	-212	-96	318	877
10	-338	-148	292	684
11	-412	-191	333	414
12	-257	-144	273	286
13	-291	-88	274	181
14	-226	-102	277	130
15	-217	-74	344	183
16	-254	-93	383	219
17	-254	-96	288	157
18	-295	-105	195	-49
19	-190	-78	63	-254
20	-179	-57	34	-456
21	-133	-65	28	-625
22	-109	-64	6	-792
23	-83	-39	7	-906
24	-81	-32	12	-1008
Sub-Total	-3670	-1530		
Total		5200	4200	-1000

Peak Day Averages		
2011	10 Hour Period Average Hourly Rentals	-390
	Total Peak Day Rentals	-5200
	10 Hour Period Average Hourly Returns	300
	Total Peak Day Returns	4200
2026	10 Hour Period Average Hourly Rentals	-600
	Total Peak Day Rentals	-7800
	10 Hour Period Average Hourly Returns	450
	Total Peak Day Returns	6300

Peak Week Averages		
2011	10 Hour Period Hourly Average Rentals	-340
	Average Daily Rentals	-4700
	10 Hour Weekly Peak Average Returns	340
	Average Daily Returns	4500
2026	10 Hour Weekly Peak Average Rentals	-510
	Average Daily Rentals	-7050
	10 Hour Weekly Peak Average Returns	510
	Average Daily Returns	6750

Note: All numbers are rounded

Peak Rental Day and Peak Week Averages

2026 Total Vehicle Requirement

TPA RAC Peak Rental Day Projections		
2011	10 Hour Period Average Hourly Rentals	-390
	Total Peak Day Rentals	-5200
	10 Hour Period Average Hourly Returns	300
	Total Peak Day Returns	4200
2016	10 Hour Period Average Hourly Rentals	-480
	Total Peak Day Rentals	-6400
	10 Hour Period Average Hourly Returns	370
	Total Peak Day Returns	5150
2021	10 Hour Period Average Hourly Rentals	-540
	Total Peak Day Rentals	-7150
	10 Hour Period Average Hourly Returns	430
	Total Peak Day Returns	5800
2026	10 Hour Period Average Hourly Rentals	-600
	Total Peak Day Rentals	-8000
	10 Hour Period Average Hourly Returns	460
	Total Peak Day Returns	6450
2031	10 Hour Period Average Hourly Rentals	-670
	Total Peak Day Rentals	-8950
	10 Hour Period Average Hourly Returns	520
	Total Peak Day Returns	7200

TPA RAC Peak Day Transaction Projections				
Year	Rentals	Returns	Daily Net	Rental Stalls
2011	-5200	4200	-1000	1600
2016	-6400	5150	-1250	1980
2021	-7150	5800	-1350	2200
2026	-8000	6450	-1550	2500
2031	-8950	7200	-1750	2800

Note: All numbers are rounded

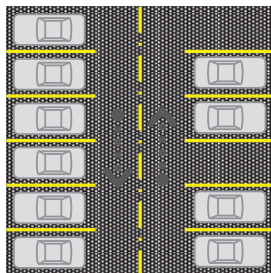
Peak Rental Day and Peak Week Averages

- 3 Factors Determine Peak Day Stall Requirement
 - Peak Rental Hour* (PRH) and Metric:
 - Rental Stalls = PRH x Capacity Metric
 - Proposed Off-Site Metric = 2.0 Hours Capacity
 - Returns at Peak Rental Hour* and Metric:
 - Return Stalls = Same (PRH) Returns x Capacity Metric
 - Proposed Off-Site Metric = 1.5 Hours Capacity
 - Peak Day Storage**:
 - Storage Stalls = Rentals minus Same Day Returns

*Average hour of 10 consecutive hours of peak activity.

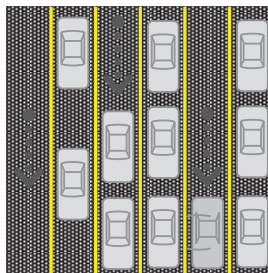
**Full peak day vehicle deficit.

- Rental Stall used as the Consistent Unit of Measure
 - Rental Stall = $12/12 = 1.0$
 - Return Stall Equivalent = $12/18 = 0.7$
 - Example: 1000 Return Stalls = 700 Rental Stalls
 - Storage Stall Equivalent = $12/24 = 0.5$
 - Example: 1000 Storage Stalls = 500 Rental Stalls



Rental 1.0

12 Stalls per Block



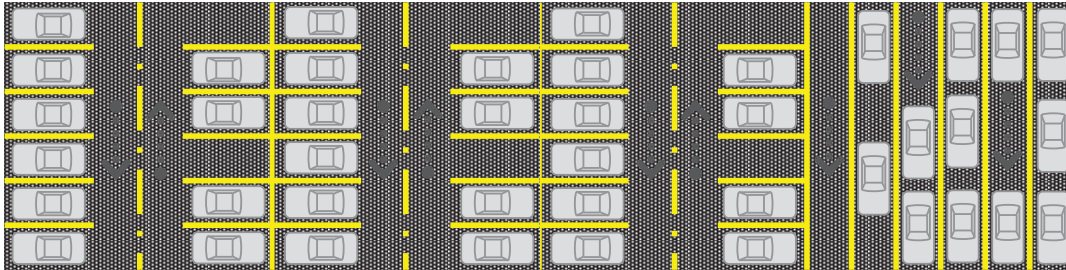
Return 0.7

18 Stalls per Block



Storage 0.6

24 Stalls per Block

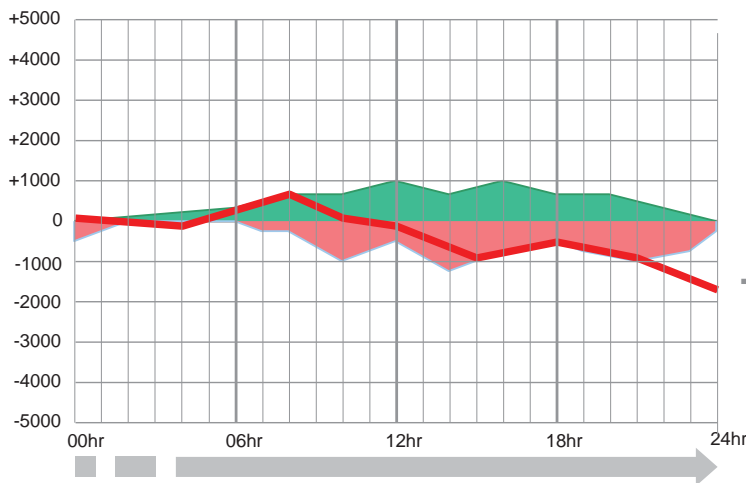


- Peak Rental Hour (2026) : 600*
 - Metric: $2.0 \times \text{PRH} = 1200$
 - 1200 Full Rental Stalls

 - Returns at PRH: 460*
 - Metric: $1.5 \times 0.7 = 500$
 - 500 Full Rental Stalls
- 1700 Equivalent Rental Stalls

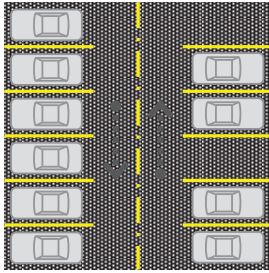
* Projected average hour based on 10 consecutive hours of peak activity.

- Storage Requirement = PRD Rentals minus PRD Returns
 - $8000 - 6450 = 1550 \text{ Stalls} \times 0.5 = \underline{800 \text{ Rental Stalls}}$
 - Storage can be accommodated On and Off-Site



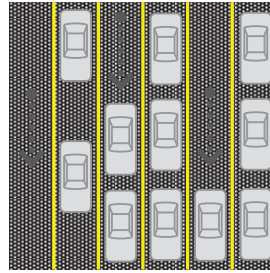
Projected
2026 Net Deficit:
-1550 Vehicles

Hour by Hour Rentals and Returns Graph



Rental Stalls

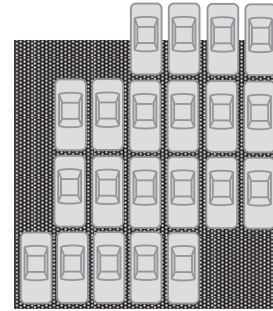
$$600 \times 2.0 \times 1.0 = \underline{1200}$$



Return Stalls

$$460 \times 1.5 \times 0.7 = \underline{500}$$

(Equivalent Stalls)



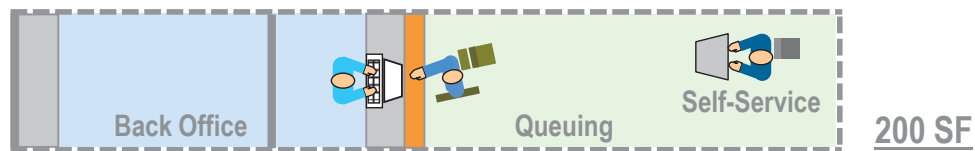
Storage Stalls

$$1550 \times 1.0 \times 0.5 = \underline{800}$$

(Equivalent Stalls)

- Rental + Return + Storage = 2500 Rental Stalls*

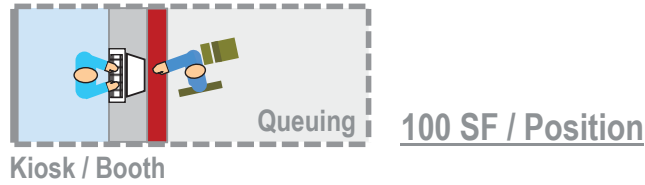
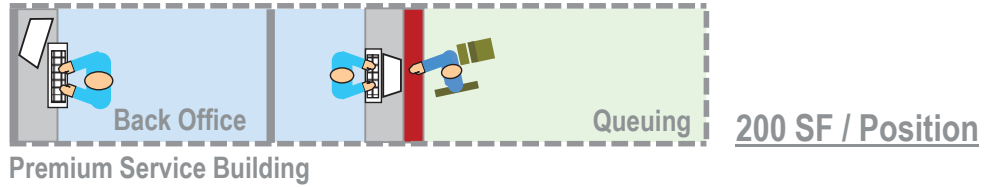
*Range of Full Rental Stall requirement to accommodate Peak Rental Day 2026



- **Total Counter Transactions = 400* TPH**
Both Regular Counter and Self-Service
- **Regular Counter PRH Transactions: 300* TPH** (Estimated at 75%)
Proposed Metric: 6 CPH / Position = 50 Counter Positions
- **Self-Service PRH Transactions: 100* TPH** (Estimated at 25%)
Proposed Metric: 20 CPH / Position
Positions Located within Queuing Lease Area per Agency

**Estimated Average based on 10 consecutive hours of peak activity

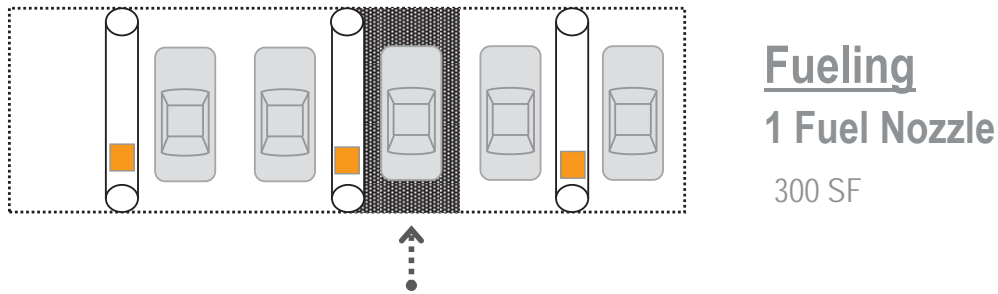
Note: 600 PRH Transactions / Estimated Ratio of 65% Regular to 35% Premium



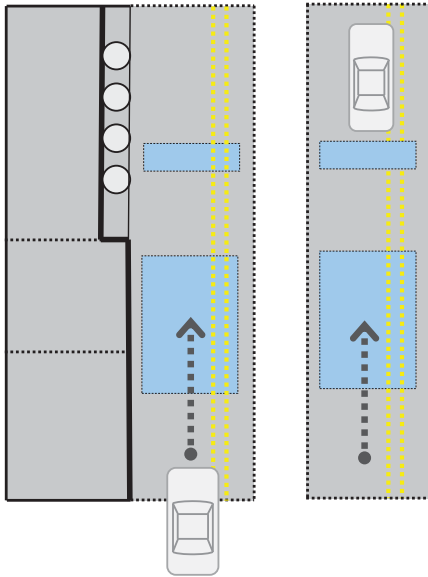
- Premium Counter and Kiosk Transactions: 200* TPH**
 Proposed Metric: 20 CPH / Position
 $200 / 20 = 10$ Positions

**Estimated Average based on 10 consecutive hours of peak activity

Note: 600 PRH Transactions / Estimated Ratio of 65% Regular to 35% Premium



- Peak Processing Hour: 460 Vehicles / Hour**
 Metric: 4 Vehicles / Hour / Fuel Nozzle = 115 Nozzles
 Metric: 5 Vehicles / Hour / Fuel Nozzle = 92 Nozzles
 Metric: 6 Vehicles / Hour / Fuel Nozzle = 76 Nozzles
- Recommendation: 5 VPH 100 Nozzles**



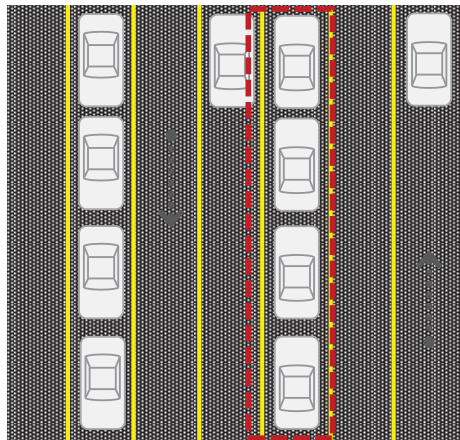
- **Wash Bay with Administration**

Single Bay: 2200 SF
Double Bay: 3300 SF

- **Peak Processing Hour: 460**

Metric: 30 Vehicles / Hour
 $460 / 30 = 15$ Wash Bays

- **Recommendation: 15 Wash Bays**



Contiguous QTA*

Queuing and Staging

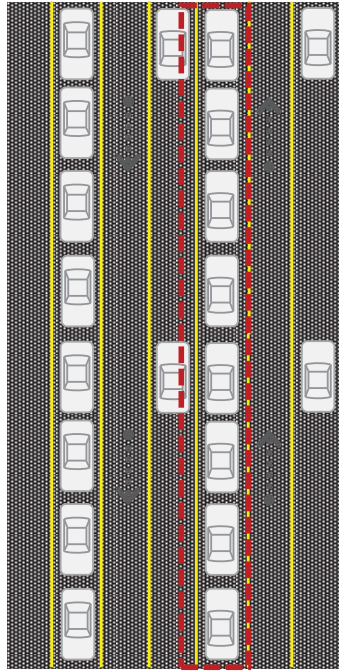
1.25 Lanes / Nozzle

1250 SF

- **Recommendation: 4 Stalls / Lane x Fuel Nozzles**

$4 \times 1.25 \times 100 = 500$ Queuing / Staging Stalls

*Directly Adjacent to Rental/Return Stalls



Remote QTA*

Queuing and Staging

1.25 Lanes / Nozzle

1250 SF

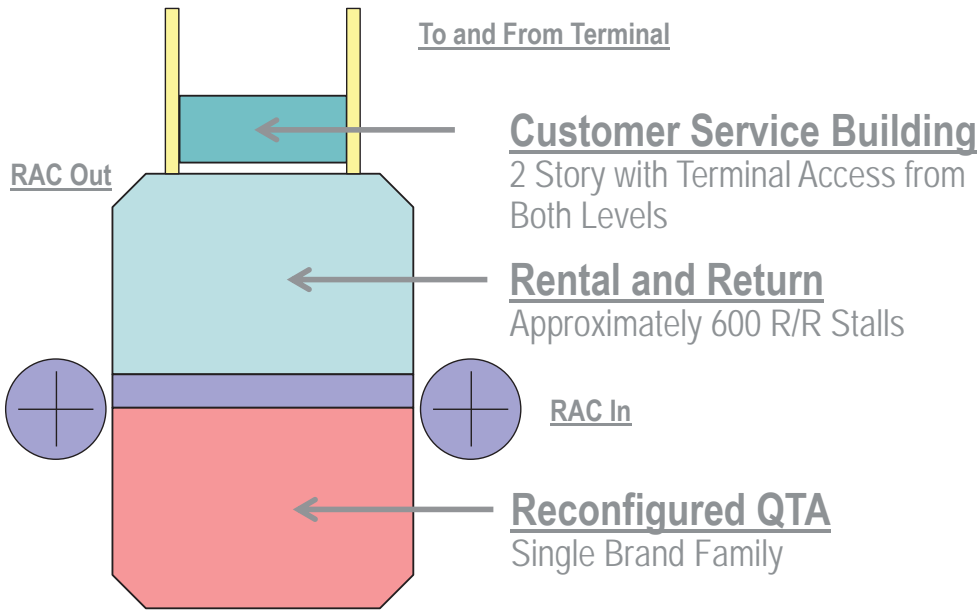
- 8 Stalls / Lane x Fuel Nozzles
1000 Queuing / Stacking Stalls

*Not Directly Accessible from Rental/Return Stalls

RAC Industry Metrics Summary

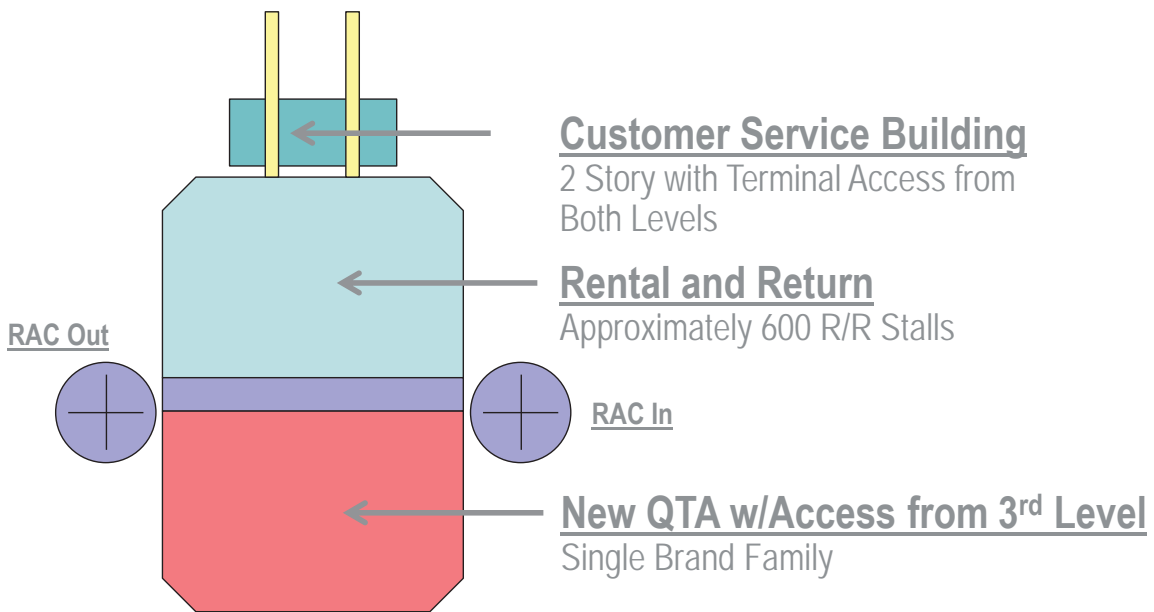
- | <u>Category</u> | <u>Metric</u> |
|------------------------------------|---------------|
| ▪ Regular Counter Transactions: | 8 CPH |
| ▪ Self-Service Transactions | 20 CPH |
| ▪ Premium Counter Transactions: | 30 CPH |
| ▪ Peak Hour Rental Stall Capacity: | 2.0 x PRH |
| ▪ Return Stall Capacity at PRH: | 1.5 x Returns |
| ▪ Peak Rental Day Storage: | PRD Deficit |
| ▪ Fueling / Servicing Processing: | 5 VPH |
| ▪ Wash Bay Processing: | 30 VPH |
| ▪ QTA Turnaround Processing: | 4.0 VPH |

Alternative #1: Blue Side Only

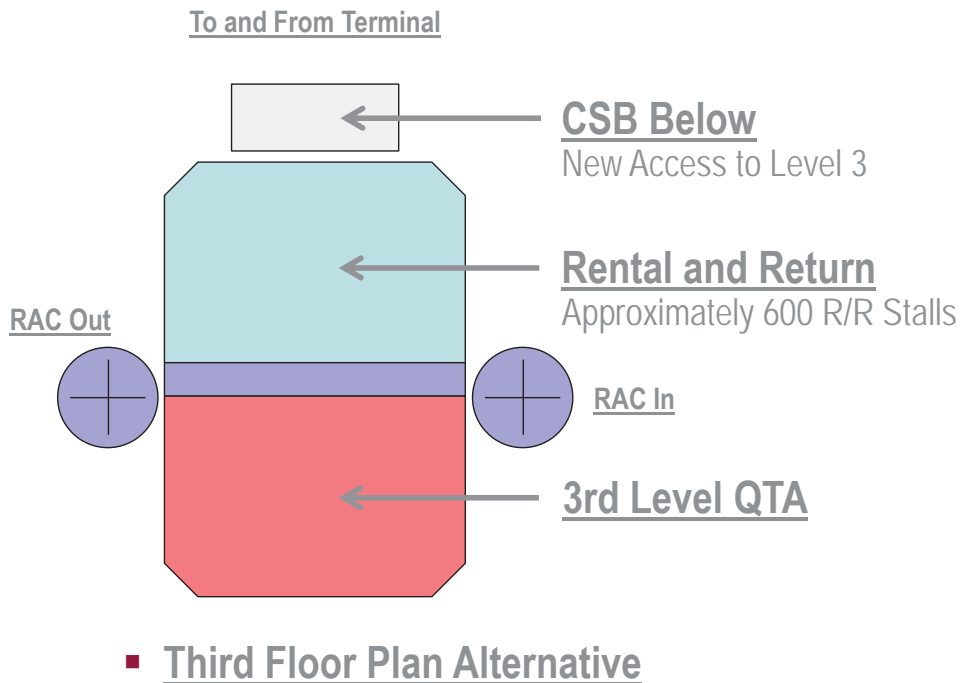
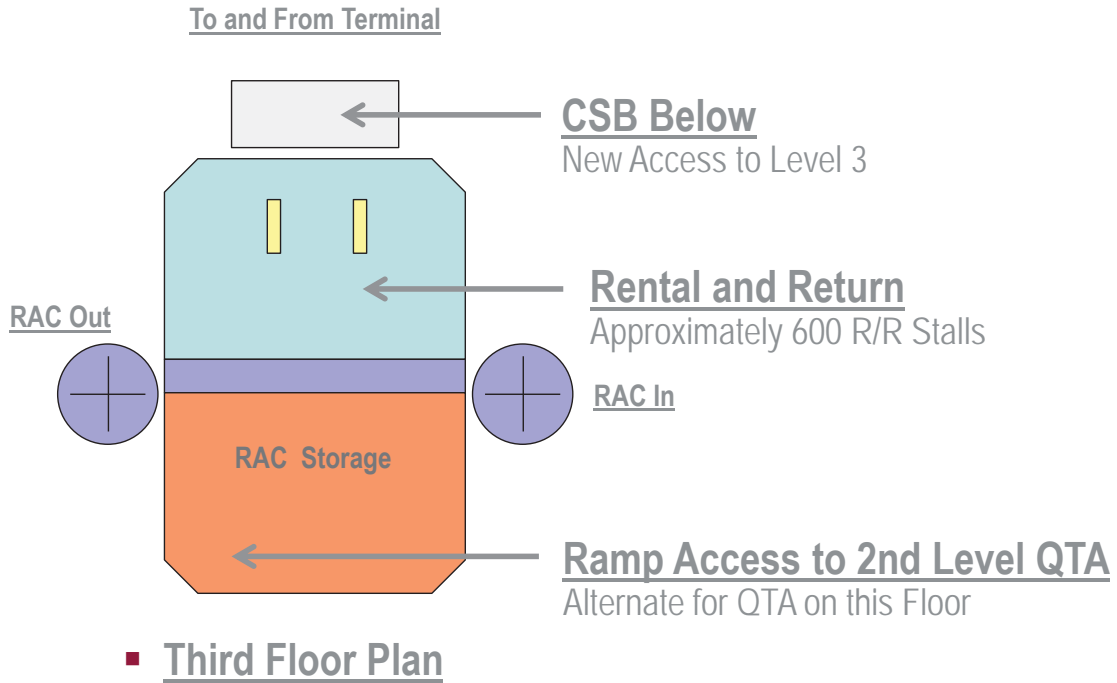


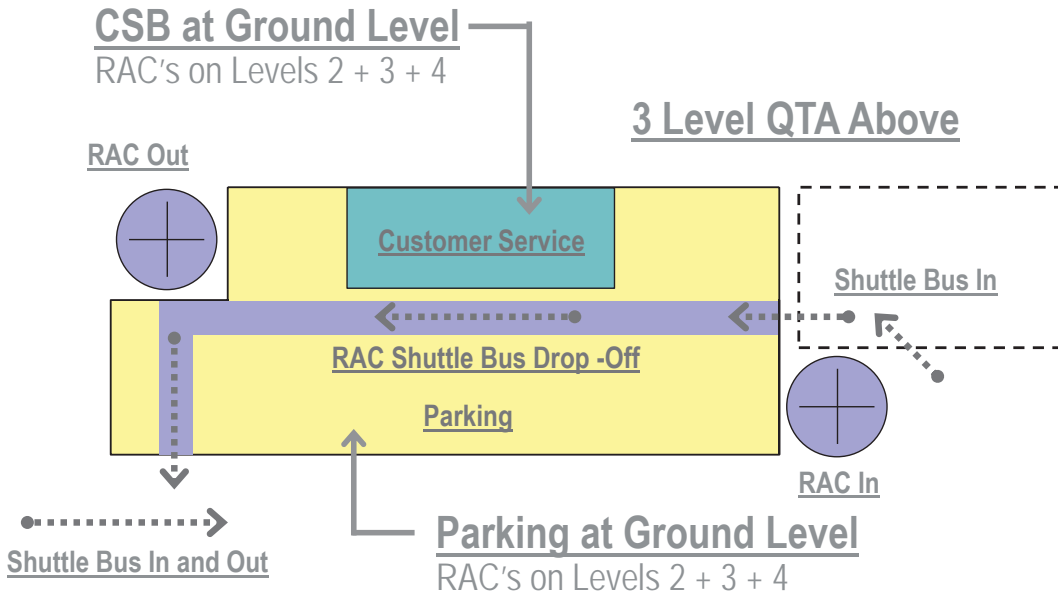
▪ Ground Floor Plan

Alternative #1: Blue Side Only

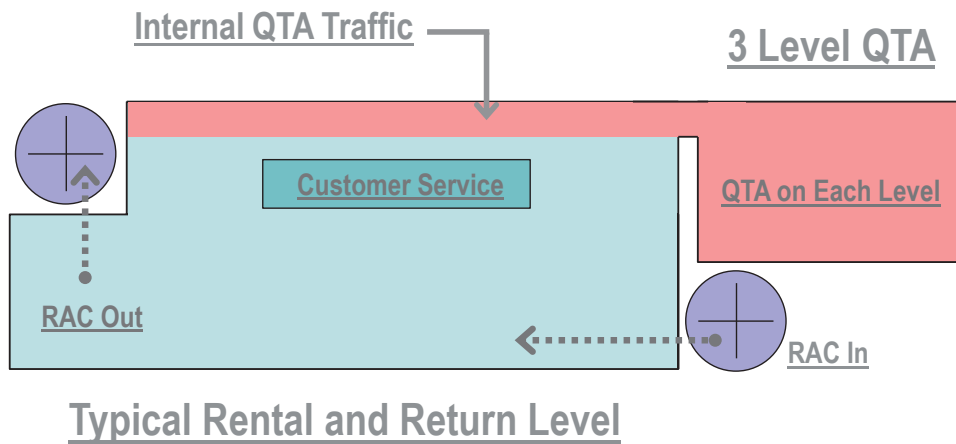


▪ Second Floor Plan

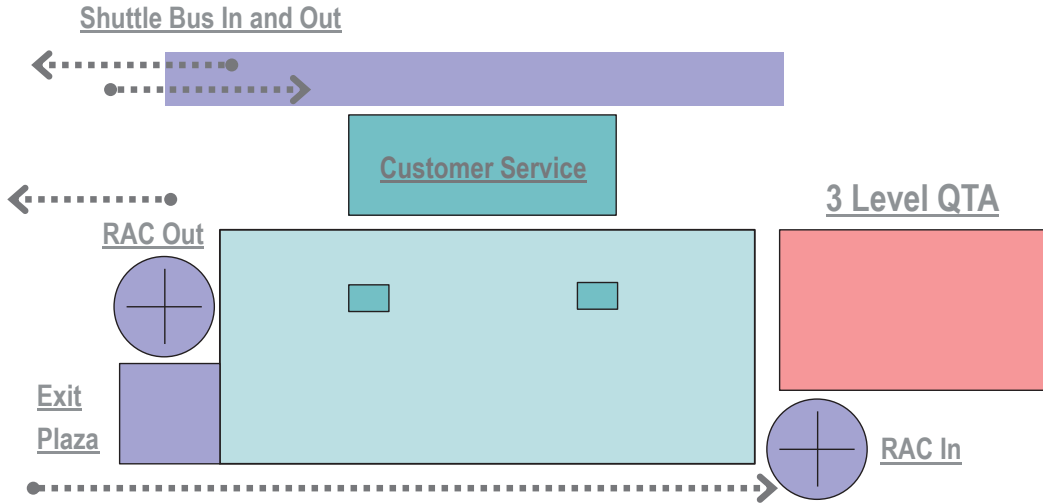




▪ Ground Floor Plan

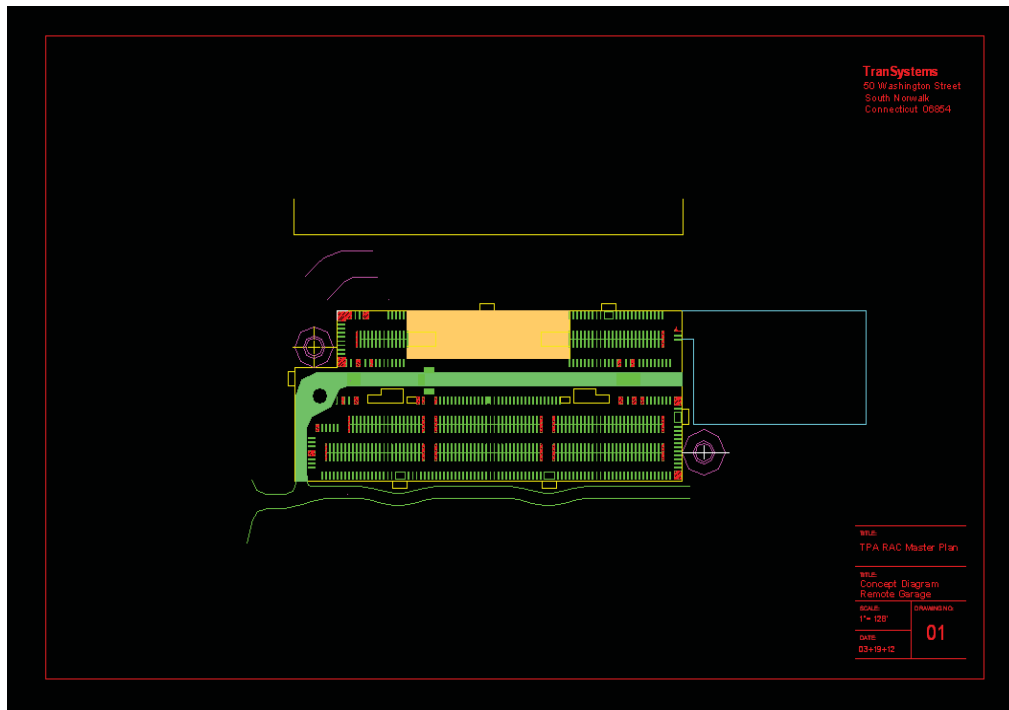


▪ Floor Plans 2 + 3 + 4



Typical Rental and Return Level
3 Levels: 900 R/R Stalls per Level

- Floor Plans 1 + 2 + 3



Tampa International Airport Rental Car Master Planning



Presentation / Part A

April 18, 2012

HNTB

Tran Systems

2011 Ricondo Report

Tran Systems

■ Issues

■ Focus on Customer Service

- Time Delay
- Safety / Pedestrian Vehicle Conflicts
- Walking Distances
- Wrong Side Customer
- Premium Service Offerings
- Customer Car Rental Cost Impact

■ Issues

■ RAC Operations

- Multiple Customer Touch Points
- Did not Address Inefficient QTA
- Oversized Return Area on Blue Level 2
- High Flat Peak
- Split Operation w/ Lack of Flexibility
- “Keys Out” Distribution Issues

■ Issues

■ Present Facility

- At or Above Capacity
- QTA not up to the Job!

■ Blue Side Short Term Solution

- Expand Level 2 to Rental and Return (R/R)

■ Additional Brands

- Operational Stress?

■ Plan for a Long Term Solution

- Is a Remote CONRAC the Answer?
- Bussing vs. APM

TPA RAC / 2011 / Peak Day of Peak Week				
Hour	Monday			
	CTR	PRF	RET	NET
01	-20	-12	4	-28
02	-14	0	4	-39
03	-2	0	16	-24
04	0	0	108	84
05	-3	0	248	329
06	-10	-4	248	563
07	-35	-12	168	684
08	-57	-24	264	867
09	-212	-96	318	877
10	-338	-148	292	684
11	-412	-191	333	414
12	-257	-144	273	286
13	-291	-88	274	181
14	-226	-102	277	130
15	-217	-74	344	183
16	-254	-93	383	219
17	-254	-96	288	157
18	-295	-105	195	-49
19	-190	-78	63	-254
20	-179	-57	34	-456
21	-133	-65	28	-625
22	-109	-64	6	-792
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24	-81	-32	12	-1008
Sub-Total	-3670	-1530		
Total		5200	4200	-1000

TPA RAC Peak Rental Day Projections		
2011	10 Hour Period Average Hourly Rentals	390
	Total Peak Day Rentals	5200
	10 Hour Period Average Hourly Returns	300
	Total Peak Day Returns	4200
2016	10 Hour Period Average Hourly Rentals	480
	Total Peak Day Rentals	6400
	10 Hour Period Average Hourly Returns	370
	Total Peak Day Returns	5150
2021	10 Hour Period Average Hourly Rentals	540
	Total Peak Day Rentals	7150
	10 Hour Period Average Hourly Returns	430
	Total Peak Day Returns	5800
2026	10 Hour Period Average Hourly Rentals	600
	Total Peak Day Rentals	8000
	10 Hour Period Average Hourly Returns	460
	Total Peak Day Returns	6450
2031	10 Hour Period Average Hourly Rentals	670
	Total Peak Day Rentals	8950
	10 Hour Period Average Hourly Returns	520
	Total Peak Day Returns	7200

Peak Rental Day Averages

Peak Day Stall Requirement

Peak Rental Hour* (PRH):

- Rental Stalls = PRH x Capacity Metric
- On-Site Proposed Metric = **3.0 Hours Capacity**
- Off-Site Proposed Metric = **2.0 Hours Capacity**

Returns at Peak Rental Hour*:

- Return Stalls = Same (PRH) Returns x Capacity Metric
- On-Site Proposed Metric = **2.0 Hours Capacity**
- Off-Site Proposed Metric = **1.5 Hours Capacity**

Peak Day Storage**:

- Storage Stalls = Rentals minus Same Day Returns

*Average hour of 10 consecutive hours of peak activity.

**Full peak day vehicle deficit.

TPA RAC On and Remote Site Stall Requirement Comparison						
Year	On-Site Alternative			Off-Site Alternative		
	Rental Stalls 3.0 Metric	Return Stalls* 2.0 Metric	Storage Spaces	Rental Stalls 2.0 Metric	Return Stalls 1.5 Metric	Storage Spaces
2011	1200	600*	1000**	800	450	1000
2016	1500	750*	1250**	1000	550	1250
2021	1650	860*	1400**	1100	650	1400
2026	1800	920*	1550**	1200	700	1550
2031	2000	1040*	1730**	1350	800	1730

*All Returns Remain at Level 2 of Blue Side Garage

** Additional Storage at Level 2 of Blue Side Garage + Off-Site

2011 Ricondo Report

■ On-Site Program Comparisons

Program Comparisons										
Year	Ricondo (Split Operation)					TranSystems (Non-Split Operation)				
	Counter Positions	Rental Stalls	Return Stalls	Fuel Positions	Wash Bays	Counter Positions	Rental Stalls	Return Stalls	Fuel Positions	Wash Bays
2011	94	1306	1930	148	13	50	1200	600	75	10
2016	61	1962	1099	162	16	54	1500	750	92	13
2021	69	2256	1224	180	18	62	1650	860	108	15
2026						68	1800	920	115	16
2031						76	2000	1040	130	18



Tampa International Airport Rental Car Master Planning

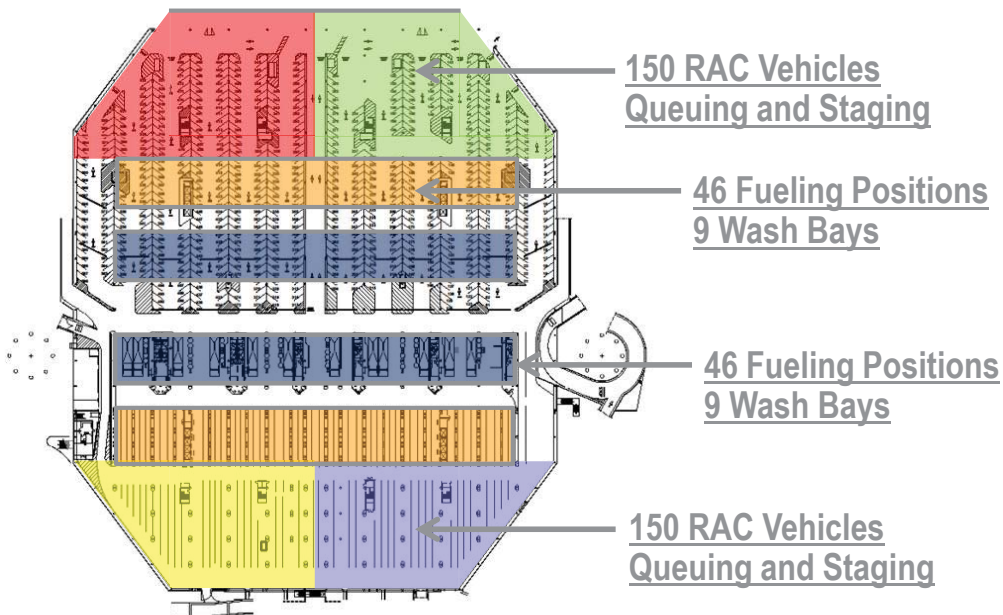


Presentation / Part B

April 18, 2012

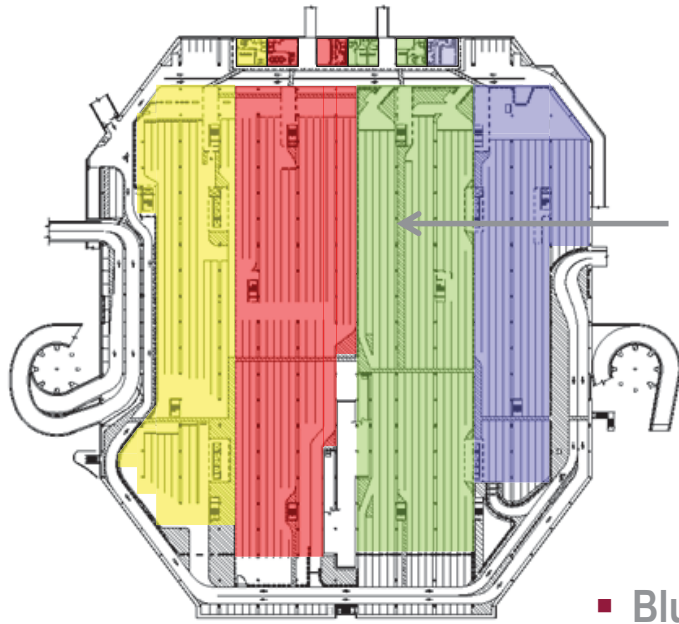


Blue Side Garage QTA Capacity



■ Blue Side Level 1 QTA Expansion

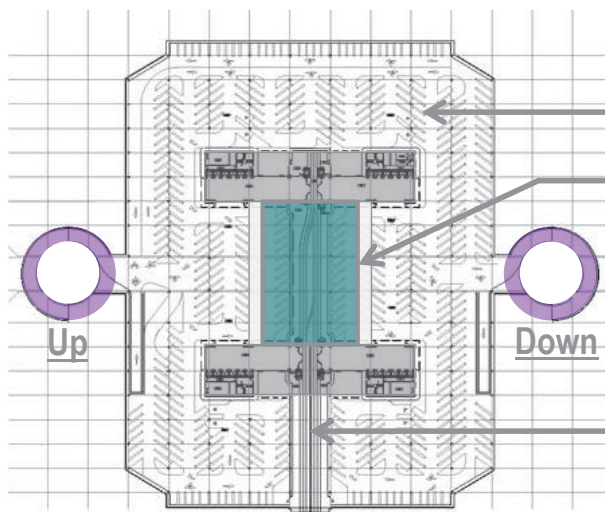
Blue Garage Level 2 Capacity



1900 Return and Storage Vehicles

- Blue Side Garage Level 2
1900 RAC Return Spaces

Short Term Garage RAC Capacity



300 RAC Vehicles

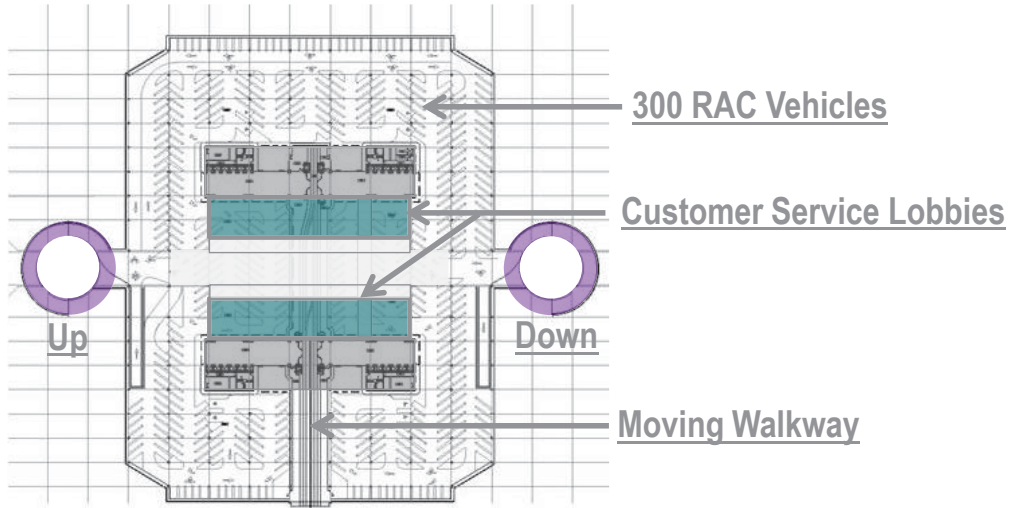
Customer Service Lobby

Up

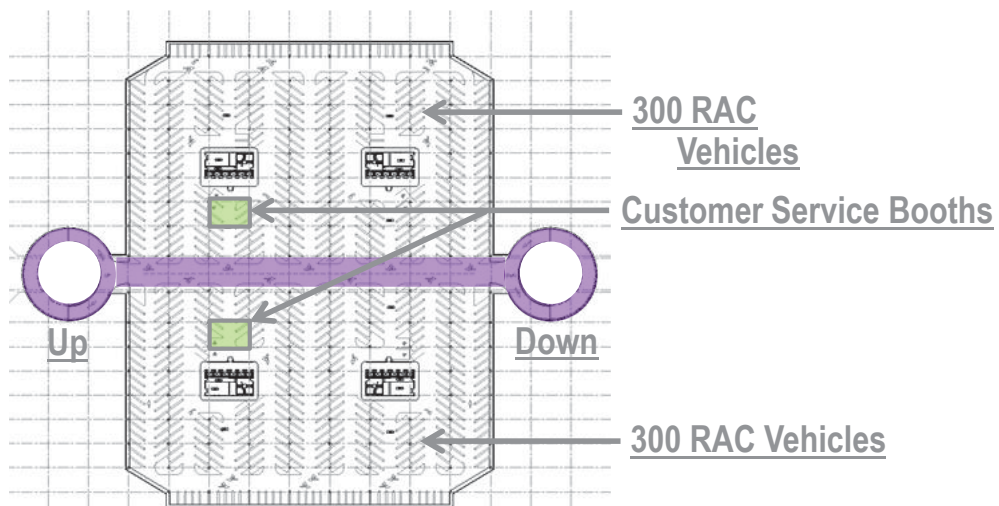
Down

Moving Walkway

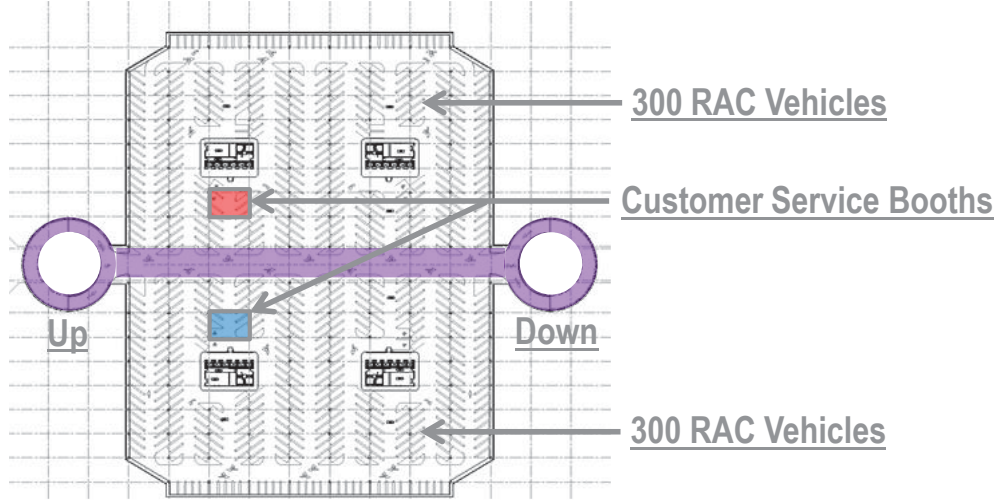
- Short Term Garage Level 5
300 RAC Rental Spaces



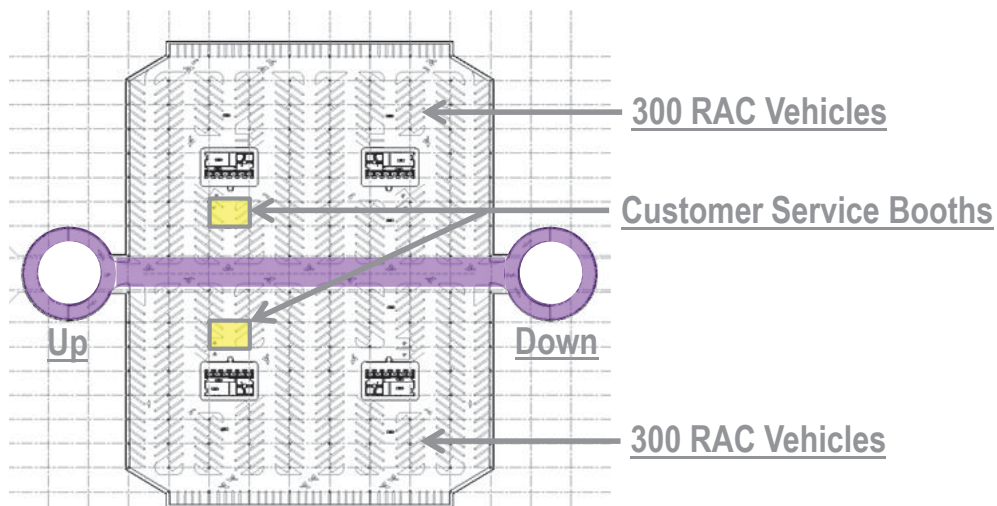
- Short Term Garage Level 5 / CSB Alternative
300 RAC Rental Spaces



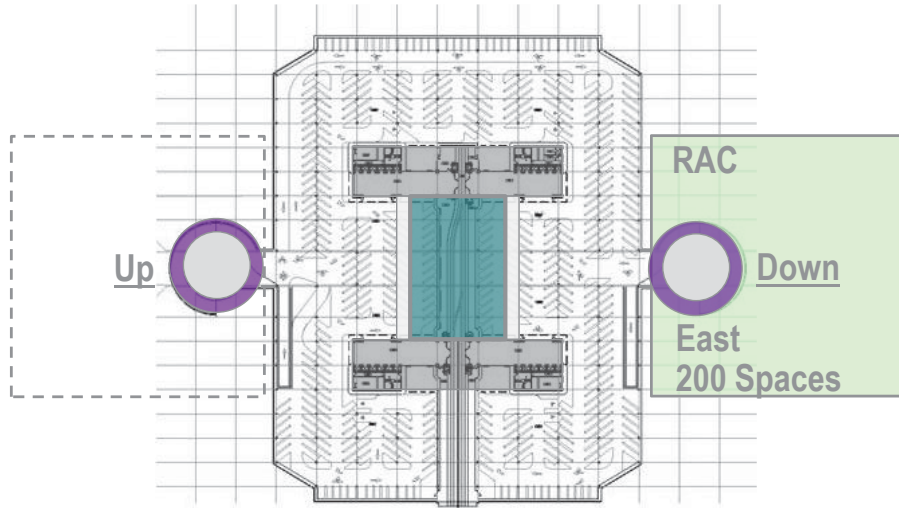
- Short Term Garage Level 6
600 RAC Rental Spaces



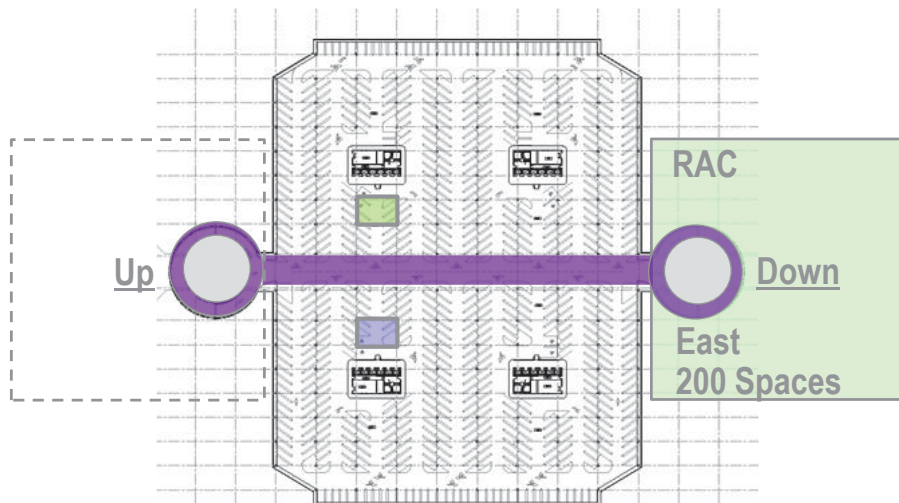
- Short Term Garage Level 7
600 RAC Rental Spaces



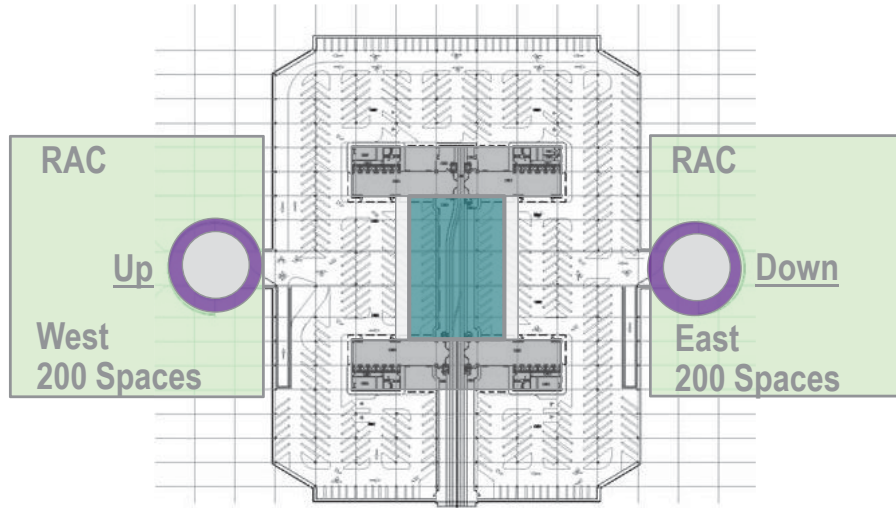
- Short Term Garage Level 8
600 RAC Rental Spaces



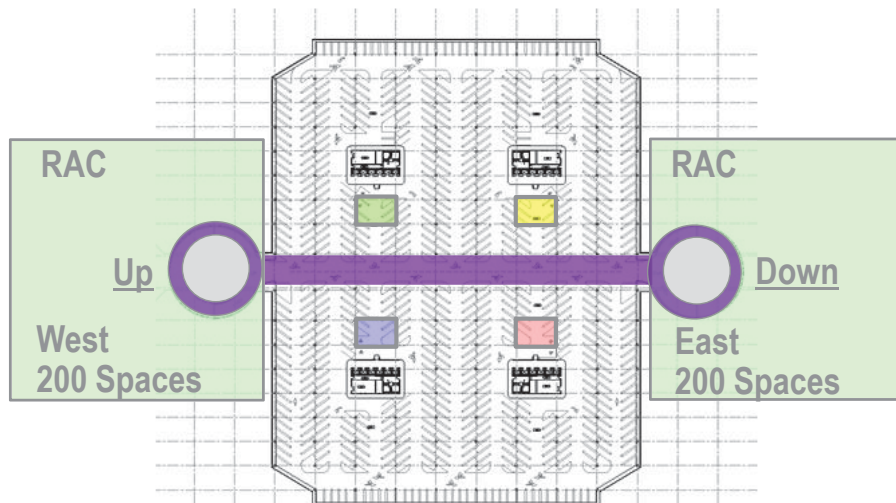
- Level 5 w/ East and West Garage Additions
500 RAC Spaces



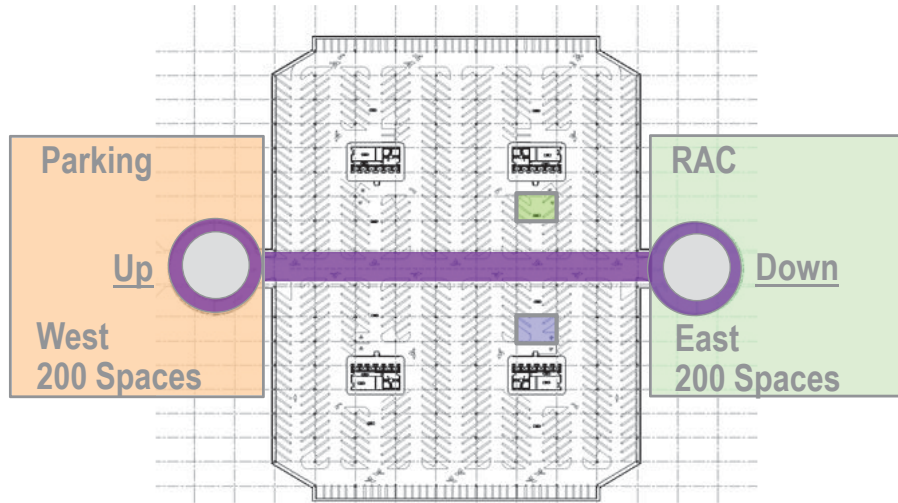
- Level 6 w/ East Garage Addition
800 RAC Spaces



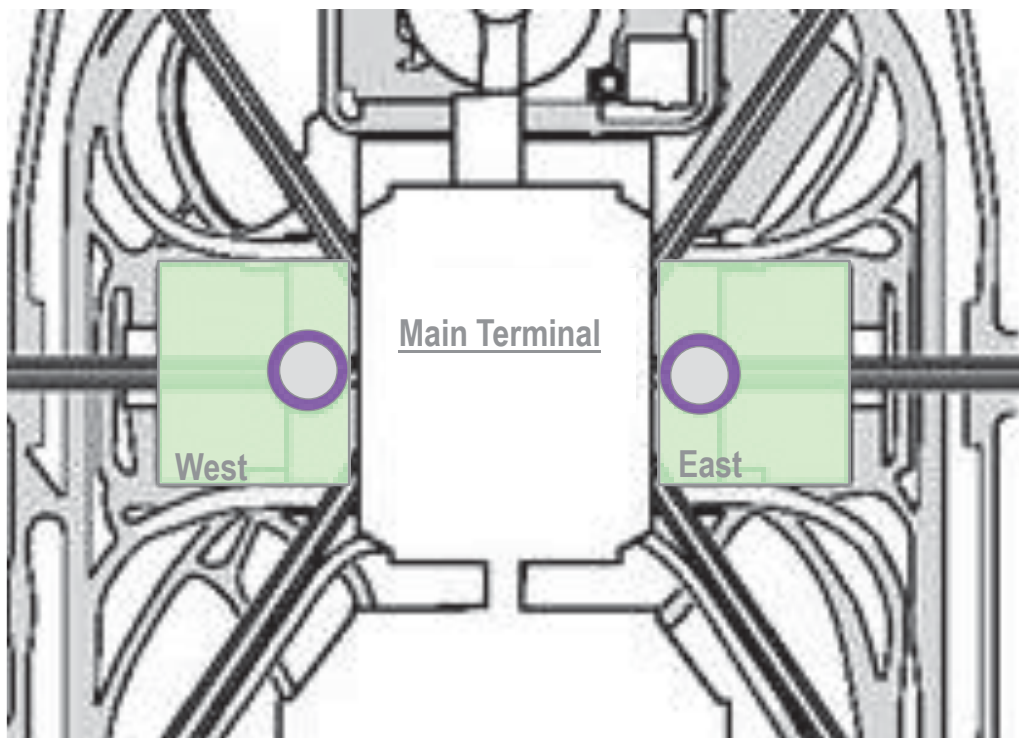
- Level 5 w/ East and West Garage Additions
700 RAC Spaces

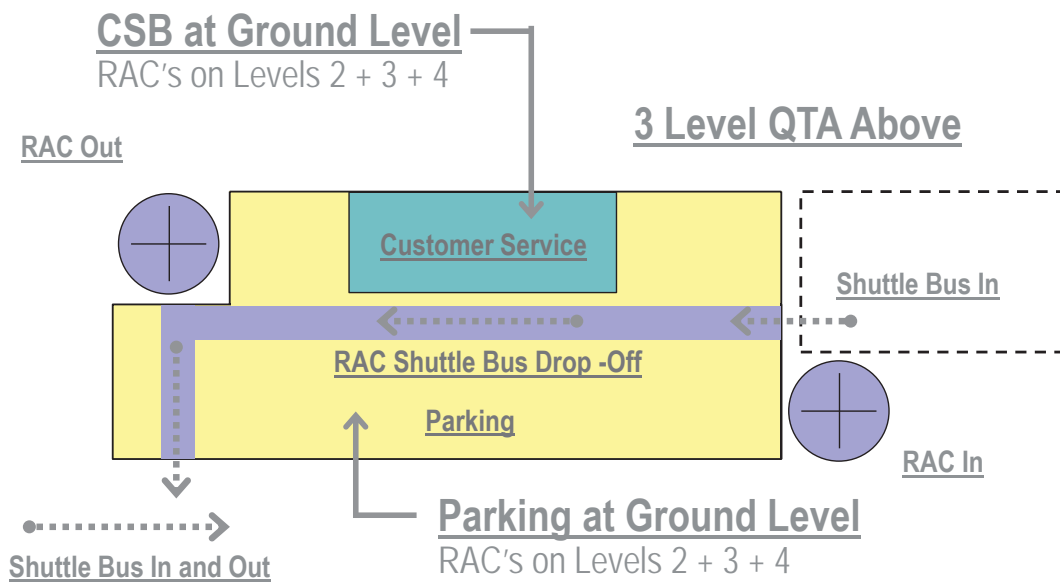


- Level 6 w/ East and West Garage Additions
1000 RAC Spaces

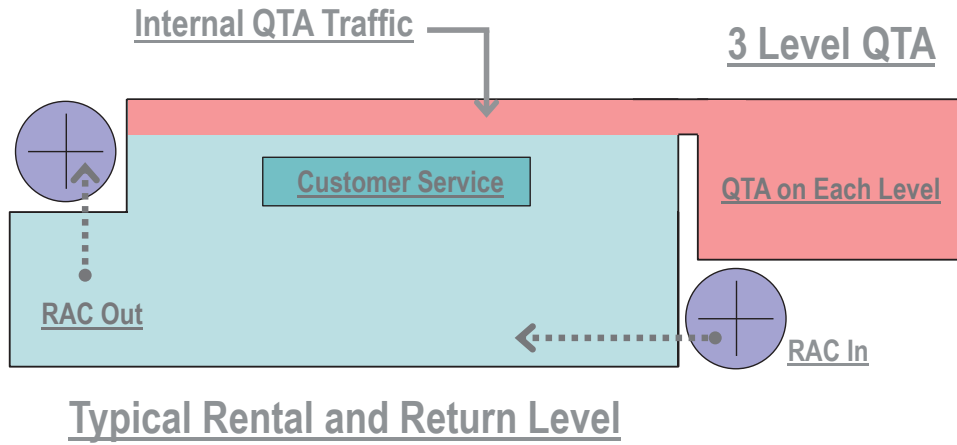


- Level 7 w/ East and West Garage Additions
800 RAC Spaces

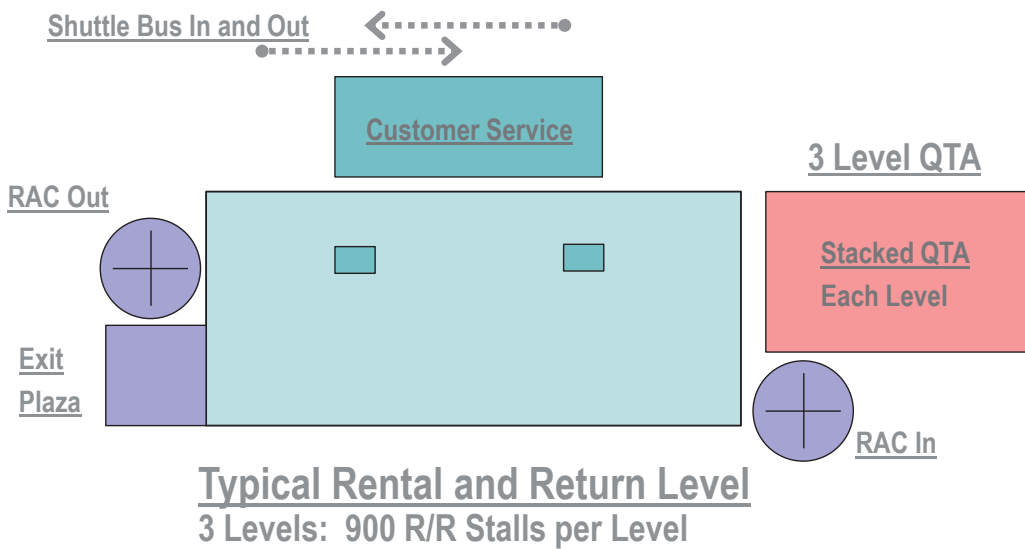




▪ **Ground Floor Plan**



- Floor Plans 2 + 3 + 4



- Floor Plans 1 + 2 + 3

Prepared by:

HNTB Corporation

- C&S Companies
- Cost Management Inc.
- Curtis Transportation Consulting
- Lea+Elliott
- TransSystems
- Quest Corporation of America
- TransSolutions