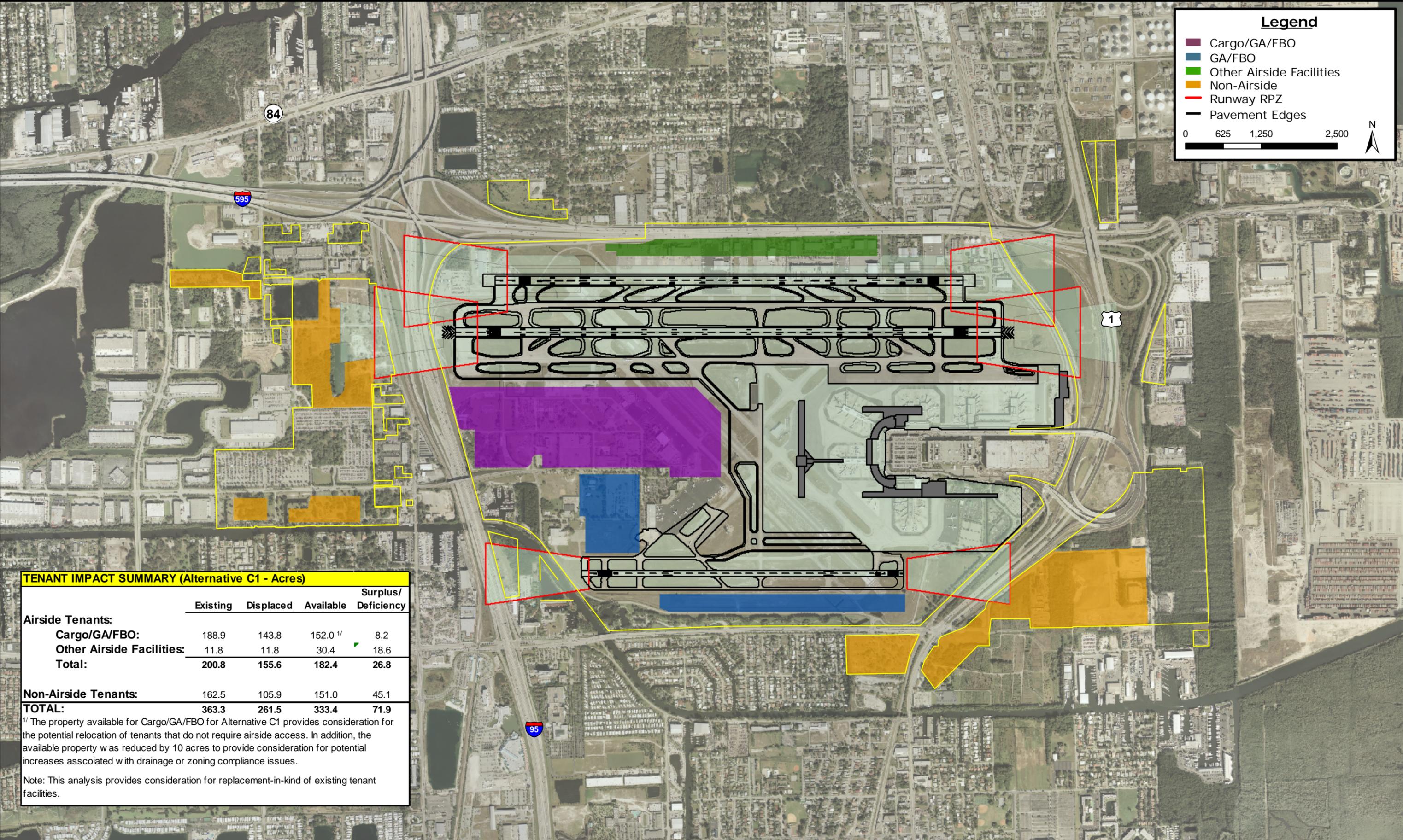


**Legend**

- Cargo/GA/FBO
- GA/FBO
- Other Airside Facilities
- Non-Airside
- Runway RPZ
- Pavement Edges

0 625 1,250 2,500

N



**TENANT IMPACT SUMMARY (Alternative C1 - Acres)**

	Existing	Displaced	Available	Surplus/ Deficiency
<b>Airside Tenants:</b>				
Cargo/GA/FBO:	188.9	143.8	152.0 <sup>1/</sup>	8.2
Other Airside Facilities:	11.8	11.8	30.4	18.6
<b>Total:</b>	<b>200.8</b>	<b>155.6</b>	<b>182.4</b>	<b>26.8</b>
<b>Non-Airside Tenants:</b>	162.5	105.9	151.0	45.1
<b>TOTAL:</b>	<b>363.3</b>	<b>261.5</b>	<b>333.4</b>	<b>71.9</b>

<sup>1/</sup> The property available for Cargo/GA/FBO for Alternative C1 provides consideration for the potential relocation of tenants that do not require airside access. In addition, the available property was reduced by 10 acres to provide consideration for potential increases associated with drainage or zoning compliance issues.

Note: This analysis provides consideration for replacement-in-kind of existing tenant facilities.



## F.6.4 ALTERNATIVE B4 SENSITIVITY ANALYSIS<sup>1</sup>

Alternative B4 includes the development of a new 6,001-foot at-grade runway (with EMAS) located 340 feet north of existing south runway to replace existing Runway 9R/27L. Because the runway length for Alternative B4 is the shortest of all of the runway development alternatives by 1,720 feet to 2,599 feet, a sensitivity analysis was performed to understand the impact on delay if a lower runway use percentage were used for departures on the 6,001-foot runway. **Table F-19 Alternative B4 Sensitivity Analysis - Delays** present the resulting delays at the 2012 and 2020 demand levels.

For this sensitivity analysis of 2012 and 2020 conditions, the runway suitability for all aircraft was determined using dry landing conditions with aircraft at 90 percent payload. This sensitivity analysis further assumed that, based on pilot refusal, approximately 80 daily departures of jet aircraft would opt to use the longer existing north runway instead of the 6,001-foot Runway 9R/27L to avoid taking a payload penalty.

The analysis results, provided in Table F-19, shows the consequence of that assumption is an increase in delay from 2.2 minutes per aircraft in 2012 to 3.1 minutes. And, in 2020, the delay increases from 4.7 minutes to 10.2 minutes. The higher delay numbers are attributable to the assumption that airlines would not take a payload penalty to use Runway 9R/27L at a lower level of delay. The delay numbers calculated on the 90 percent payload conditions without the 'pilot refusal assumption' were presented earlier in Table F-11 *Alternatives Delay Detail–Year 2012* and Table F-12 *Alternatives Delay Detail–Year 2020*.

**Table F-19**  
**ALTERNATIVE B4 SENSITIVITY ANALYSIS - DELAYS**  
**Fort Lauderdale-Hollywood International Airport**

Demand	Alternative	Direction	VFR/IFR	Arrivals				Departures				Total	
				North Runway(s)		South Runway		North Runway(s)		South Runway		Ops	Delay
				Ops	Delay	Ops	Delay	Ops	Delay	Ops	Delay		
2012	B4	East	VFR	270	2	266	1	402	5	134	0	1072	2.7
2012		West	VFR	295	3	241	1	386	9	150	0	1072	4.4
2012		East	IFR	270	2	266	2	402	7	134	0	1072	3.6
2012		West	IFR	295	3	241	1	386	13	150	0	<u>1072</u>	<u>5.8</u>
		<b>Average</b>										<b>1072</b>	<b>3.1</b>
2020	B4	East	VFR	252	2	382	3	482	17	152	1	1268	8.0
2020		West	VFR	300	3	334	2	457	45	177	1	1268	17.6
2020		East	IFR	252	2	382	5	482	32	152	1	1268	14.0
2020		West	IFR	300	4	334	3	457	60	177	1	<u>1268</u>	<u>23.2</u>
		<b>Average</b>										<b>1268</b>	<b>10.2</b>

Source: Landrum & Brown analysis, 2007

Using the same methodology as presented previously in Section F.4 *Demand/Capacity Analysis* and F.5 *Net Benefits Analysis*, new capacity numbers and a new

<sup>1</sup> During the EIS process, concerns were raised with the length of Alternative B4 and the potential necessity for payload penalties on aircraft operations. Therefore, the FAA conducted a sensitivity analysis on Alternative B4 to determine the impact estimated refusals caused by potential payload penalties would have on delay. The FAA also received comments on the Draft EIS from several airlines expressing this concern with Alternative B4.

BCA ratio were calculated for Alternative B4. **Table F-20 Net Benefits versus Costs Showing Alternative B4 Sensitivity Analysis**, shows the new capacity and BCA ratios comparison between alternatives based on this Alternative B4 sensitivity analysis. The numbers in Table F-20 are the same as shown in Table F-14 for all alternatives, except for Alternative B4.

**Table F-20  
NET BENEFITS VERSUS COSTS SHOWING ALTERNATIVE B4  
SENSITIVITY ANALYSIS  
Fort Lauderdale-Hollywood International Airport**

Alternative	Year	Benefit <sup>1</sup>	Cost <sup>1</sup>	BCA Ratio	Capacity	
					@6-min delay	@10-min delay
No Action	2020	N/A	N/A	N/A	310,000	340,000
	2030	N/A	N/A	N/A		
B1	2020	\$1,151,871,000	\$ 616,196,000	1.87	445,000	475,000
	2030	\$2,342,791,000	\$ 625,041,000	3.75		
B1b	2020	\$1,151,871,000	\$ 617,127,000	1.87	445,000	475,000
	2030	\$2,342,791,000	\$ 624,302,000	3.75		
B1c	2020	\$1,025,498,000	\$ 617,127,000	1.66	445,000	475,000
	2030	\$2,137,772,000	\$ 624,302,000	3.42		
B4	2020	\$1,293,750,000	\$ 441,206,000	2.93	375,000	450,000
	2030	\$2,286,086,000	\$ 446,126,000	5.12		
B5	2020	\$1,151,871,000	\$ 578,950,000	1.99	445,000	475,000
	2030	\$2,342,791,000	\$ 586,436,000	3.99		
C1	2020	\$1,218,193,000	\$ 413,319,000	2.95	420,000	450,000
	2030	\$2,133,739,000	\$ 419,868,000	5.08		
D1	2020	\$1,227,131,000	\$ 933,318,000	1.31	over 510,000	over 510,000
	2030	\$2,989,828,000	\$ 943,266,000	3.17		
D2	2020	\$1,655,549,000	\$ 790,200,000	1.98	470,000	500,000
	2030	\$3,197,128,000	\$ 797,549,000	3.80		

<sup>1</sup>. Net Present Value of total benefits and costs over evaluation period expressed in 2007 U.S. dollars.

Source: Landrum & Brown analysis, 2007

The sensitivity analysis indicates that Alternative B4 would provide adequate capacity to serve 2012 demand even with the reduced utilization of Runway 9R/27L to avoid payload penalties. However, as forecast operations increase through 2020, the resulting delay increase would be greater than six to ten minutes per operation. It is then likely that the airlines could opt to operate on Runway 9R/27L with some payload penalty to avoid the higher delay. As shown in Table F-19, this would result in average delays of greater than 10 minutes per operation. Therefore, Alternative B4 would provide the least long-term capacity when compared to of all the runway development alternatives.

The sensitivity analysis also shows that Alternative B4 yields a positive BCA ratio of 2.93 in 2020 and 5.12 in 2030 even with the reduced utilization of Runway 9R/27L. This is a direct result of the lower development cost for Alternative B4 as compared to the other runway development alternatives.