

Existing Short Intermediate Long Term Term Term









RUNWAY LENGTH ANALYSIS

A 64	MITOM		Runway Leng	gth (ft.) Needed At	% Useful Load	
Aircraft	MTOW	60%	70%	80%	90%	100%
Pilatus PC-12	9,921	2,119	2,292	2,473	2,663	2,861
Citation V	15,900	3,168	3,445	3,742	4,054	4,383
Citation CJ3	13,870	3,179	3,429	3,718	4,016	4,371
Citation Mustang	8,645	3,272	3,654	4,134	4,780	5,519
Citation Encore	16,630	3,316	3,685	4,030	4,445	4,915
King Air 200 GT	12,500	3,447	3,560	3,680	3,804	3,935
Citation CJ2	12,375	3,487	3,775	4,094	4,412	4,701
Citation II	13,300	3,499	3,871	4,248	4,646	5,063
King Air 350	15,000	3,617	3,776	3,966	4,275	4,656
Citation Sovereign	30,300	3,653	3,762	3,968	4,270	4,623
Citation Excel/XLS	20,200	3,768	4,072	4,412	4,744	5,141
Lear 31A	17,000	4,237	4,604	5,008	5,450	5,933
Beechjet 400A	16,300	4,250	4,574	4,893	5,227	5,714
Citation Bravo	14,800	4,292	4,617	4,980	5,399	5,862
Lear 40XR	21,000	4,353	4,655	5,039	5,454	5,836
Falcon 900EX	49,200	4,370	4,950	5,650	6,360	7,000
Premier 1A	12,500	4,419	4,945	5,563	6,241	6,945
Lear 45XR	21,500	4,490	4,846	5,272	5,715	6,151
Gulfstream V	90,500	4,522	5,072	5,899	6,901	8,050
Citation CJ1	10,600	4,527	5,297	6,162	7,113	8,127
Gulfstream 280	39,600	4,536	5,004	5,542	6,128	6,838
Global 5000	92,500	4,548	5,066	5,608	6,175	6,768
Hawker 4000	39,500	4,599	5,021	5,470	6,001	6,744
Falcon 7X	70,000	4,649	5,220	5,837	6,523	7,260
Lear 40	21,000	4,684	5,154	5,684	6,089	6,999
Gulfstream 450	74,600	4,684	5,161	5,702	6,277	6,904
Falcon 50 EX	41,000	4,690	5,199	5,737	6,304	6,826
Hawker 800/850 XP	28,000	4,722	5,166	6,141	Climb Limited	Climb Limited
Gulfstream IV	74,600	4,783	5,095	5,683	6,228	Climb Limited
Gulfstream 550	91,000	4,803	5,507	6,223	7,013	7,964
Challenger 300	38,850	4,866	5,336	5,825	6,338	6,873
Global Express	98,000	4,956	5,560	6,196	6,860	7,558
Lear 45	21,500	4,976	5,496	5,891	6,617	7,802
Falcon 2000	35,800	5,113	5,729	6,593	7,217	8,202
Gulfstream 650	99,600	5,119	5,639	6.236	6,926	7,719
Challenger 604/605	48,200	5,170	5,724	6,348	7,013	7,719
Citation III	21,500	5,170	5,743	6,366	Climb Limited	Climb Limited
CRJ-200	53,000	5,237	5,831	6,522	7,293	8,211
Challenger 601	45,100	5,240	5,850	6,520	7,400	8,470
Gulfstream 150	26,100	5,251	5,536	5.800	6,359	Climb Limited
Lear 55	21,500	5,270	5,878	6,670	7,741	Field Limited
Citation X	35,700	5,270	5,878	6,382	6,992	7,681
Citation VII	23,000	5,300	5,735	6,206	6,730	Climb Limited
Lear 60	23,500	5,606	6,212	6,206	7,521	8,358
Hawker 1000	31,000		6,212	6,857 6,970	Climb Limited	8,358 Climb Limited
		5,610		· ·		
Embraer 135	49,604	5,717	6,336	6,704	7,188	7,925
Lear 35A	19,600	5,765	6,541	7,375	Climb Limited	Climb Limited
Average Takeoff I	Length	4,518	4,973	5,490	5,928	6,476

Calculation assumptions: 389.5' MSL field elevation; 0.7% runway grade; 98.2°F ambient temperature. Green figures are less than Runway 13-31.

Yellow figures are those that are greater than Runway 13-31 but less than Runway 4-22.

Red figures are greater than the available runway lengths at TXK.

Boldface indicates current critical design aircraft for Runway 13-31 length determination. MTOW: Maximum Takeoff Weight

Climb Limited: Minimum required one engine out climb performance not met Field Limited: Takeoff field length limited

Source: Ultranav software; Coffman Associates analysis

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Aircraft	MLW	Dry	Dry Runway Condition			Wet Runway Condition		
AllClaft	IVILVV	Part 25	80% Rule	60% Rule	Part 25	80% Rule	60% Rule	
King Air 200 GT	12,500	1,218	1,523	2,030				
Pilatus PC-12	9,921	2,372	2,965	3,953		N/A		
Citation II	12,700	2,467	3,084	4,112	5,961	7,451	9,935	
Challenger 300	33,750	2,626	3,283	4,377	5,033	6,291	8,388	
Hawker 800/850 XP	23,350	2,675	3,344	4,458	4,219	5,274	7,032	
Global 5000	78,600	2,690	3,363	4,483	3,093	3,866	5,155	
Global Express	78,600	2,690	3,363	4,483	3,093	3,866	5,155	
Embraer 135	40,785	2,705	3,381	4,508	3,101	3,876	5,168	
Gulfstream 550	75,300	2,794	3,493	4,657	5,380	6,725	8,967	
Challenger 604/605	38,000	2,808	3,510	4,680	4,378	5,473	7,297	
Gulfstream V	75,300	2,809	3,511	4,682	3,230	4,038	5,383	
Citation Mustang	8,000	2,811	3,514	4,685	3,967	4,959	6,612	
Lear 40	19,200	2,891	3,614	4,818	3,727	4,659	6,212	
Lear 40XR	19,200	2,893	3,616	4,822	3,727	4,659	6,212	
Lear 45	19,200	2,893	3,616	4,822	3,727	4,659	6,212	
Lear 45XR	19,200	2,893	3,616	4,822	3,727	4,659	6,212	
CRJ-200	47,000	2,930	3,663	4,883	5,616	7,020	9,360	
Hawker 1000	25,000	2,934	3,668	4.890	4,014	5,018	6,690	
Falcon 7X	62,400	2,944	3,680	4,907	3,386	4,233	5,643	
Falcon 50 EX	35,715	2,949	3,686	4,915	3,392	4,240	5,653	
King Air 350	15,000	3,002	3,753	5,003	3,452	4,315	5,753	
Lear 31A	16,000	3,084	3,855	5,140	4,317	5,396	7,195	
Falcon 2000	33,000	3,149	3,936	5,248	3,621	4,526	6,035	
Citation Sovereign	27,100	3,216	4,020	5,360	4,174	5,218	6,957	
Gulfstream 280	32,700	3,245	4,056	5,408	3,731	4,664	6,218	
Citation CJ1	9,800	3,246	4,058	5,410	4,419	5,524	7,365	
Gulfstream 450	66,000	3,285	4,106	5,475	5,964	7,455	9.940	
Lear 35A	15,300	3,305	4,131	5,508	4,627	5,784	7,712	
Citation V	15,200	3,307	4,134	5,512	4,897	6,121	8.162	
Gulfstream 150	21,700	3,331	4,164	5,552	4,917	6,146	8,195	
Challenger 601	36,000	3,349	4,186	5,582	4.019	5,024	6.698	
Citation CJ3	12,750	3,368	4,210	5,613	4,600	5,750	7,667	
Citation Encore	15,200	3,387	4,234	5,645	5.127	6,409	8.545	
Lear 55	18,000	3,423	4,279	5,705	5,478	6,848	9,130	
Citation VII	20,000	3,440	4,300	5,733	4.691	5,864	7,818	
Hawker 4000	33,500	3,455	4,319	5,758	3.974	4,968	6.623	
Premier 1A	11,600	3,464	4,330	5,773	4,497	5,621	7,495	
Citation CJ2	11,500	3,549	4,436	5,915	5,113	6,391	8,522	
Gulfstream IV	66,000	3,653	4,566	6.088	7,002	8,753	11,670	
Lear 60	19,500	3,668	4,585	6,113	5,006	6,258	8,343	
Citation Excel/XLS	18,700	3,714	4,643	6,190	5,921	7,401	9,868	
Beechjet 400A	15,700	3,800	4,750	6,333	5,748	7,185	9,580	
Citation Bravo	13,500	3,964	4,955	6,607	6,241	7,103	10.402	
Gulfstream 650	83,500	4.086	5,108	6.810	5.301	6,626	8.835	
Citation III	19,000	4,180	5,225	6,967	6,063	7,579	10,105	
Falcon 900EX	44,500	4,180	5,314	7,085	4,251	5,314	7,085	
Citation X	31,800	4,296	5,370	7,083	6,169	7,711	10,282	
Average Landing		3,175	3,968	5,291	4,580	5,725	7,633	
Average Landing	Lengtii	3,173	3,500	3,291	4,300	3,723	7,055	

Calculation assumptions: 389.5' MSL field elevation; 0.7% runway grade; 98.2°F ambient temperature. Green figures are less than Runway 13-31.

Yellow figures are those that are greater than Runway 13-31 but less than Runway 4-22.

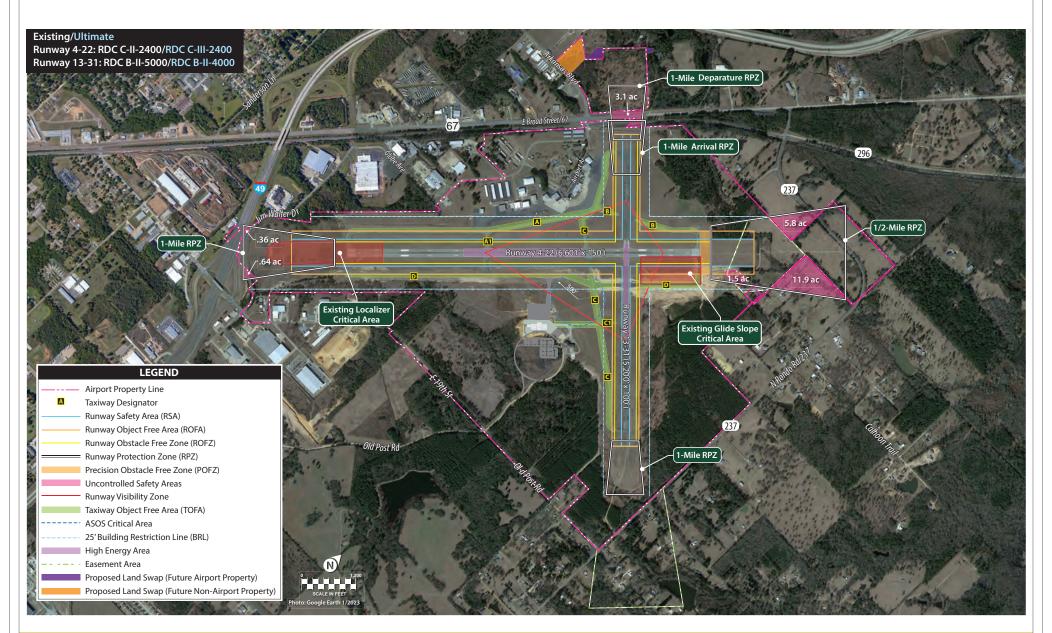
Red figures are greater than the available runway lengths at TXK. **Boldface** indicates current critical design aircraft for Runway 13-31 length determination. MLW: Maximum Landing Weight

N/A: Aircraft landing length not adjusted for wet runway conditions Source: Ultranav software; Coffman Associates analysis





AIRPORT SAFETY AREAS











AIRSIDE FACILITY REQUIREMENTS

RUNWAYS	AVAILABLE	SHORT TERM Runway 4-22	LONG TERM
RUNWATS	RDC C-II-2400	Maintain	RDC C-III-2400
	6,601' x 150'	7,101' x 150'	Consider extensions up to 10,001' x 150' Consider width reduction to 100' if AIP funding is unavailable
	50,000 lbs. S 86,000 lbs. D 120,000 lbs. 2D	Maintain	Consider 200,000 lbs. D 400,000 lbs. 2D 600,000 lbs. 3D 900,000 lbs. 2D2
	Standard RSA; Standard ROFZA; Foliage within ROFA	Remove foliage within ROFA; Mitigate incompatibilities with extension	Maintain corrected condition
	RPZs partially owned, extends over private property, public roads	Mitigate RPZ incompatibilities	Maintain corrected condition
		Runway 13-31	
	RDC B-II-5000	Maintain	RDC B-II-4000
	5,200' x 100'	Maintain	Consider width reduction to 75' if AIP funding is unavailable
	25,000 lbs. S	Maintain	30,000 lbs. SWL 70,000 lbs. DWL
	Standard RSA; Standard ROFA; Standard ROFZ	Maintain	Maintain Mitigate new RPZ incompatibilities with upgrading
	RPZs partially owned, extends over public roads	Mitigate RPZ incompatibilities	to RDC B-II-4000 standards
TAXIWAYS	TOGO		TOGO
	TDG 2B	Maintain	TDG 3
	All taxiways at least 50' wide	Maintain	Maintain
	Main ramp provides direct access to runways	Consider corrective measures	Maintain corrected condition
HA	Acute angle runway intersections - TWYs B, C Non-standard holding bay - TWY B	Consider corrective measures Consider corrective measures	Maintain corrected condition Maintain corrected condition
	High-energy runway crossings - TWYs A1, D1	Consider corrective measures	Maintain corrected condition Maintain corrected condition
NAVIGATIONAL AND APPROACH AIDS	High-energy runway crossings - TWTS AT, DT	Consider corrective measures	Maintain Corrected Condition
NAVIGATIONAL AND APPROACH AIDS	ILS or LOC - RWY 22	Maintain	Maintain
	RNAV (GPS) with ½-mile Visibility Minimum - RWY 22	Maintain	Maintain
	RNAV (GPS) with 1-mile Visibility Minium - RWYs 4, 13, 31	Maintain	Consider 3/4-mile Visibility Minimums - RWYs 4, 13, 31
Mark Comments of the Comments	LOC BC - RWY 4	Maintain	Maintain
	VOR-RWY13	Maintain	Maintain
	MALSR - RWY 22	Maintain	Maintain
	VASI-4 - RWY 4	Consider PAPI-4	Maintain
	PAPI-4 - RWYs, 13, 31	Maintain	Maintain
	REILs - None	Consider REILs for RWYs 4, 13, 31	Maintain
	ATCT	Maintain	Maintain
	ASOS	Relocate ASOS outside RVZ	Maintain corrected condition
	Segmented Circle/Lighted Windcones	Relocate Segmented Circle/Wind Cone outside RVZ	Maintain corrected condition
LIGHTING, MARKING, AND SIGNAGE			
	Rotating Beacon	Maintain	Maintain
	Precision Markings - RWY 4-22	Maintain	Maintain
	Non-Precision Markings - RWY 13-31	Maintain	Maintain
	HIRL - RWY 4-22	Maintain	Consider replacement with LED technology
	MIRL - RWY 13-31	Maintain	Consider replacement with LED technology
	RWY 4-22 Holding Position Markings, located 250' from centerline	Maintain	Maintain
4/4	RWY 13-31 Holding Position Markings - located on turns, not parallel	Consider corrective measures	Maintain corrected condition
	Lighted airfield location, directional, distance remaining signage	Maintain	Consider replacement with LED technology
AIP - Airport Improvement Program ATCT - Airport Traffic Control Tower DWL - Distance Measuring Equipment DOD - Department of Defense DWL - Dual Wheel Loading DWL - Localizer	sity Runway Lighting with Runway Alignment Indicator Lights de Instrument Landing System NDB - Nondirectional Radio Beacon	REIL - Runway End Identification Light S - Single When RNAV - Area Navigation SWL - Single When	el Loading 2D - Duál Tandem Wheel Loading Navigational Aid 2D2 - Double Dual Tandem Wheel Loading







TERMINAL REQUIREMENTS

	Unit	Available	Short Term	Intermediate Term	Long Term
Enplanements		35,699	39,080	42,412	48,789
DEPARTURE PROCESSING					
Ticket Counters					
Counter Frontage	lf lf	60	6	18	18
Airline Ticketing	sf	647	70	200	200
Ticketing Queuing	sf	2,237	575	1,104	1,195
Airline Offices	sf	1,013	250	740	740
Agent Positions	#	6	1	3	3
Kiosk Positions	#	4	1	1	2
Outbound Baggage	sf	1,486	290	860	860
EDS Automated Machines	#	1	1	1	1
Security					
Security Queuing	sf	1,232	130	280	310
Security Screening Lanes	#	1	1	1	1
Security Screening	sf	2,223	875	875	875
TSA Office Space	sf	736	700	700	700
Walk-thru Metal Detectors (WTMD)	#	1	1	1	1
Whole Body Imagers (WBI)	#	1	1	1	1
Bag X-Ray Machines	#	1	1	1	1
CONCOURSE FACILITIES					
Passenger Holdrooms					
Gates	#	2	2	2	2
Gate Check-In	sf	1,000	584	584	584
Holdroom	sf	2,260	1,000	1,000	1,100
Concourse Circulation	sf	1,651	924	1,414	1,498
ARRIVALS PROCESSING					
Inbound Baggage	sf	1,420	366	915	1,098
Baggage Claim Display Frontage	lf	80	20	50	60
Claim Device Floor Area	sf	480	100	250	300
Baggage Claim Lobby	sf	1,650	830	1,780	1,940
PUBLIC SPACES					
Greeting Lobby/Circulation	sf	10,021	3,280	7,040	7,680
Restrooms	sf	1,928	530	1,140	1,250
Food/Beverage/Retail	sf	798	710	760	880
Rental Car Counter Frontage	lf	36	10	20	20
Rental Car Counter & Office Space	sf	435	150	300	300
Rental Car Queuing	sf	450	80	160	160
ADDITIONAL OFFICE SPACES					
Administrative Offices	sf	1,798	1,798	1,798	1,798
FUNCTIONAL AREA TOTAL	sf	33,465	13,242	21,900	23,468
Building Systems/Support					
HVAC/Mechanical/Server Room	sf	1,738	1,059	1,752	1,877
TOTAL TERMINAL	sf	35,203	14,301	23,652	25,345

Note: Red indicates demand is greater than available capacity







LANDSIDE FACILITY REQUIREMENTS

	AVAILABLE	SHORT-TERM	INTERMEDIATE TERM	LONG-TERM
AIRCRAFT STORAGE HANGARS				
T-Hangar Area (sf)	55,900	55,900	57,300	58,700
Conventional Hangar Area (sf)	125,600	137,600	140,600	152,600
Total Hangar Storage Area (sf)	181,500	193,500	197,900	211,300



AIRCRAFT PARKING APRON				
Local Apron Area (sy)	41,400	6,500	7,000	7,000
Transient Apron Area (sy)	13,000	32,600	33,600	36,400
Total Apron Area (sy)	54,400	39,100	40,600	43,400



GENERAL AVIATION TERMINAL FACILITY AND AUTOMOBILE PARKING						
Building Space (sf)	2,000	3,200	4,100	5,000		
Parking Spaces	200+	102	123	148		



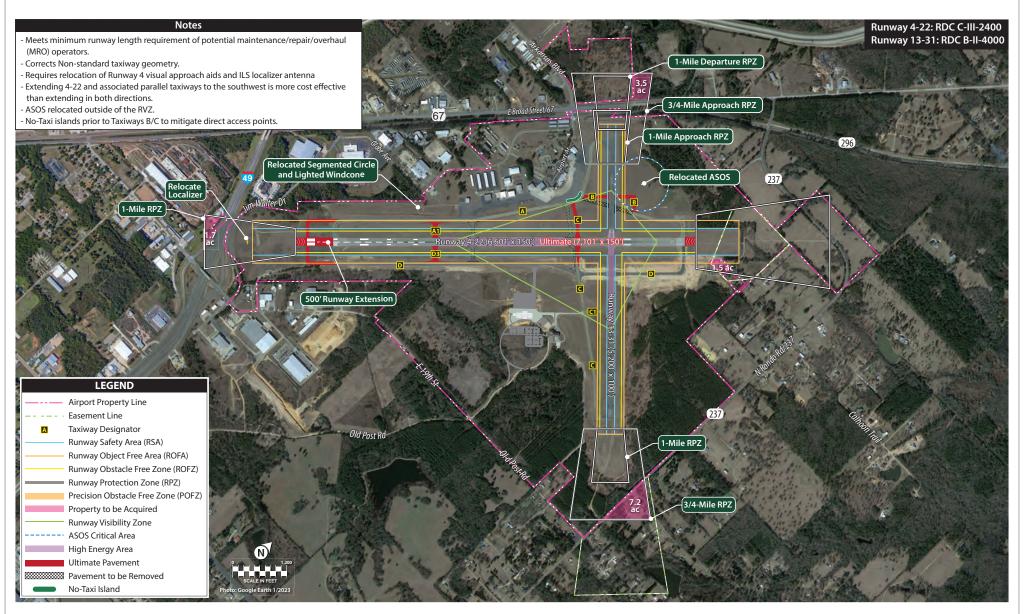
SUPPORT FACILITIES				
14-Day Fuel Storage, Jet A	40,000	33,054	37,352	43,610
14-Day Fuel Storage, AvGas (100LL)	13,200	1,960 1,988 2		2,086
ARFF Index	A	ARFF Index B		



Red numbers indicate a deficiency in meeting demand.













SMALL AIRCRAFT AND BUSINESS JET RUNWAY LENGTH REQUIREMENTS

Airport Elevation: 389.5 feet above MSL
Average High Monthly Temp: 92.8 degrees (August)

Runway Gradient: 46.2' elevation difference on Runway 4-22 (max difference of all runways)

Fleet Mix Category	Raw Runway Length from FAA AC	Runway Length with Gradient Ad- justment	Wet Surface Land- ing Length for Jets (+15%) ¹	Final Runway Length
100% of small airplanes	3,800	N/A	N/A	3,800
100% of small airplanes (10+ seats)	4,300	N/A	N/A	4,300
75% of fleet at 60% useful load	4,752	5,214	5,464	5,500
100% of fleet at 60% useful load	5,628	6,090	5,500	6,100
75% of fleet at 90% useful load	6,908	7,370	7,000	7,400
100% of fleet at 90% useful load	8,848	9,310	7,000	9,300

¹Max 5,500' for 60% useful load and max 7,000' for 90% useful load in wet conditions

Note: All lengths are in feet

COMMERCIAL AIRCRAFT TAKEOFF LENGTH REQUIREMENTS

Aineneft	MTOW	TOW		Runway Length (ft) Needed At % Payload		
Aircraft	MTOW	60%	70%	80%	90%	100%
Embraer E170	79,344	3,500	3,900	4,400	4,900	5,300
Embraer E190	110,892	3,900	4,500	5,200	6,600	7,600
Boeing 737-600	144,500	4,100	5,000	5,900	6,600	7,600
Bombardier CRJ-700	75,000	4,300	4,800	5,400	5,600	6,000
Boeing 767-200	315,000	4,400	4,900	5,300	5,800	6,300
Boeing 757-200	240,000	4,800	5,300	5,800	6,500	7,800
Boeing 737-500	133,500	4,800	5,300	6,000	7,000	9,000
Bombardier CRJ-900	82,500	5,000	5,700	6,100	6,500	7,000
Boeing 737-700	154,500	5,000	5,900	6,800	8,000	10,100
Boeing 777-200	508,000	5,000	5,500	6,100	6,800	7,100
Boeing 757-300	255,000	5,100	5,800	6,300	7,000	7,800
Boeing 737-800	174,200	5,100	5,900	6,500	7,100	8,100
Boeing 747-SP	670,000	5,500	5,800	6,100	6,600	7,400
Boeing 767-300F	412,000	6,000	6,800	7,400	7,900	11,500
Boeing 767-400	450,000	6,800	7,800	8,500	9,600	11,700

Boldface indicates current critical design aircraft for Runway 4-22 length determination.

Calculation assumptions: 389.5' MSL field elevation; zero wind; zero gradient; dry surface; 86°F ambient temperature.

MTOW: Maximum Takeoff Weight







AIRSIDE PLANNING CONSIDERATIONS

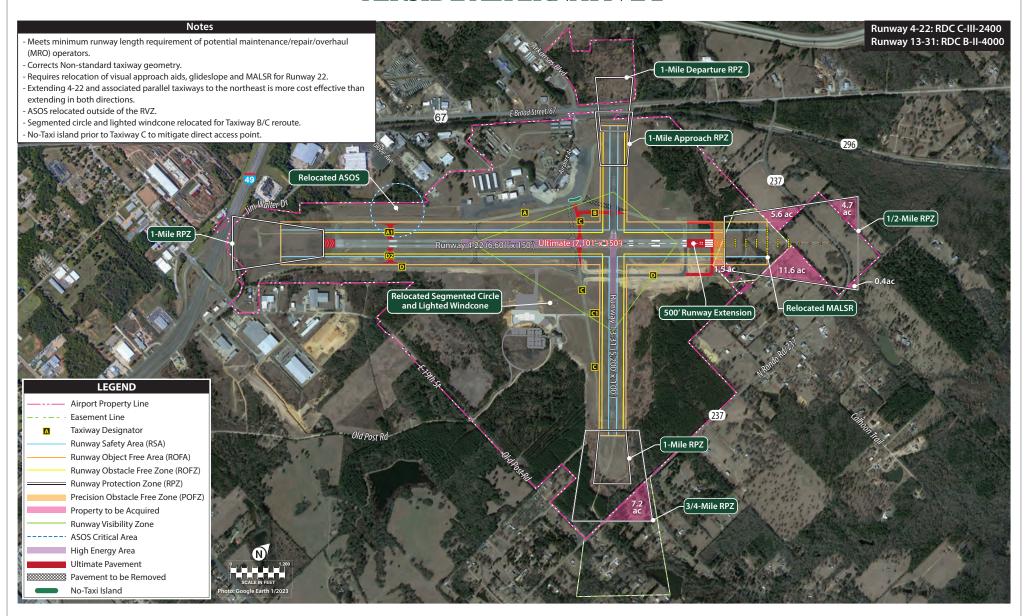
- Meet runway design code (RDC) C-III-2400 standards on Runway 4-22
- Meet RDC B-II-4000 standards on Runway 13-31
- Extend Runway 4-22 to more safely accommodate larger commercial aircraft
- Increase strength rating on both Runway 4-22 and 13-31
- Relocate Automated Surface Observing System (ASOS) and Segmented Circle/Wind Cone outside the runway visibility zone (RVZ)
- Consider corrective measures for non-standard taxiway design

LANDSIDE PLANNING CONSIDERATIONS

- Terminal area improvements
- Identify locations for hangar development
- Development potential for FBO or specialized aviation service operators (SASO)-related facilities
- Identify locations for incoming large-scale maintenance/repair/overhaul (MRO) businesses
- Development potential for future air cargo operations
- Non-aviation use development for revenue enhancement
- Identify land areas optimal for future acquisition

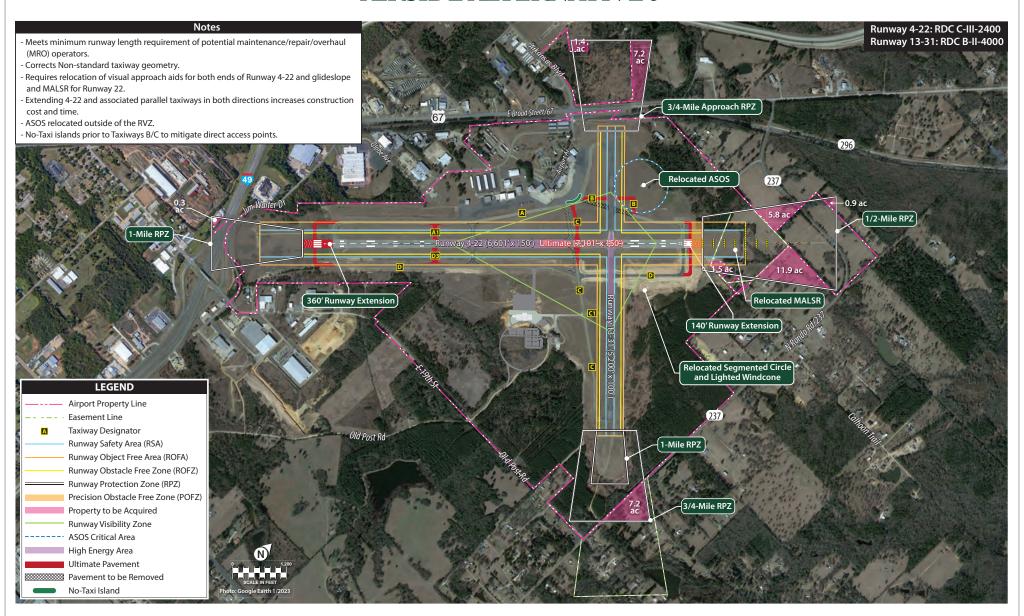






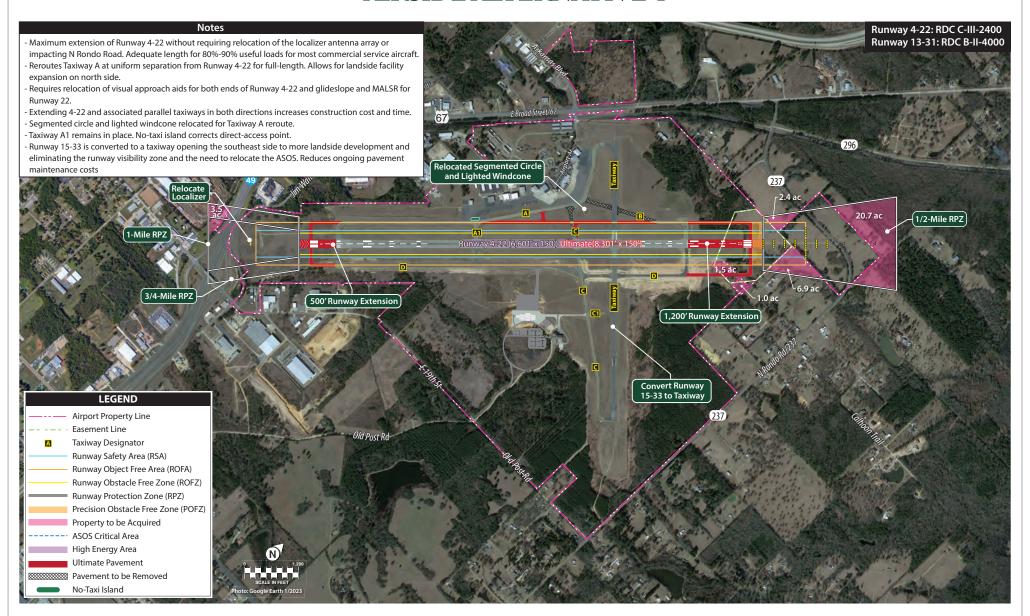






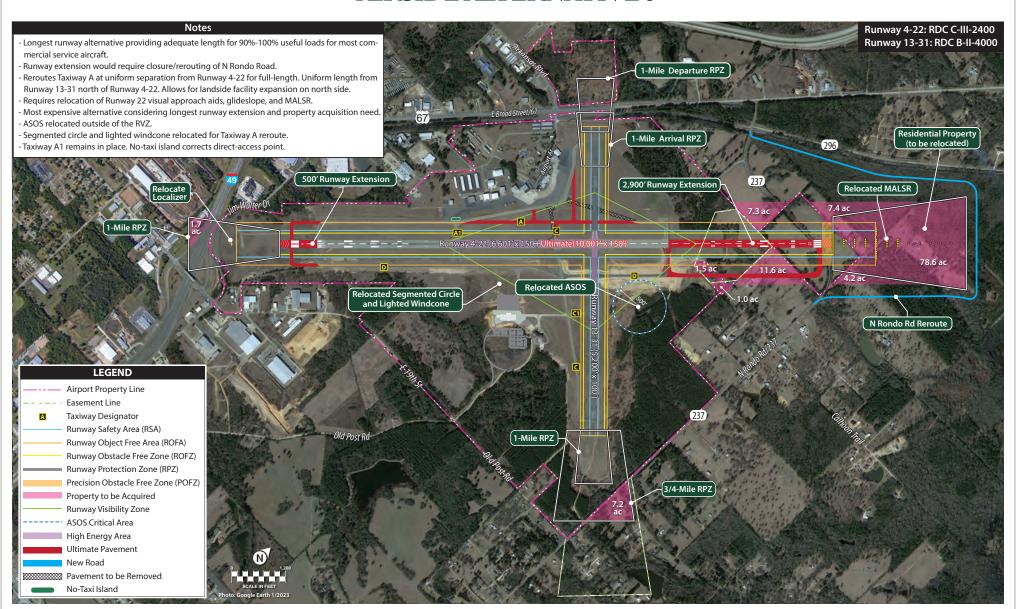








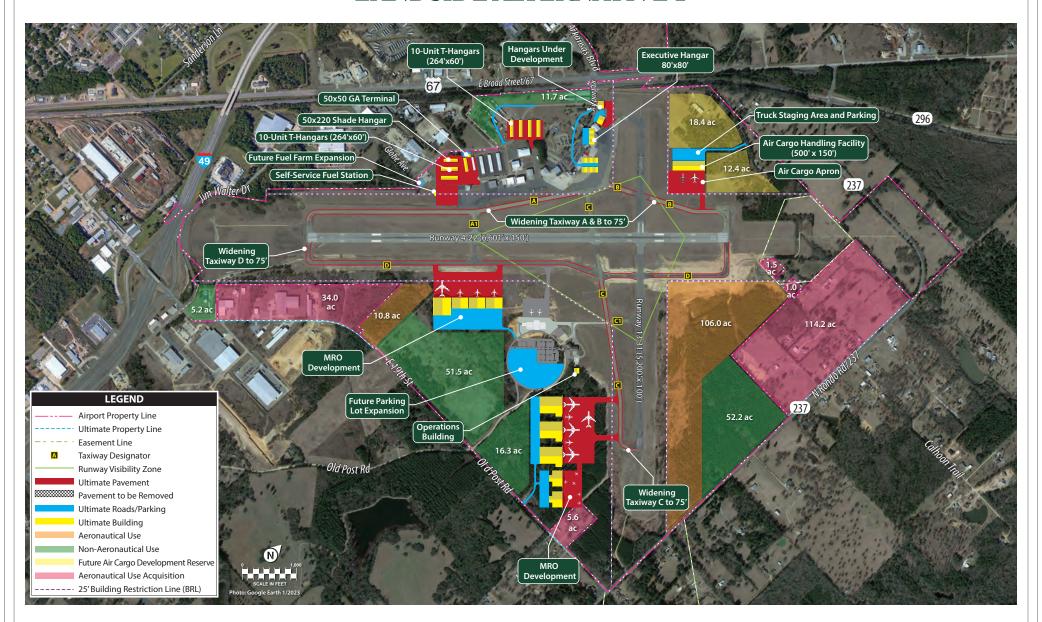








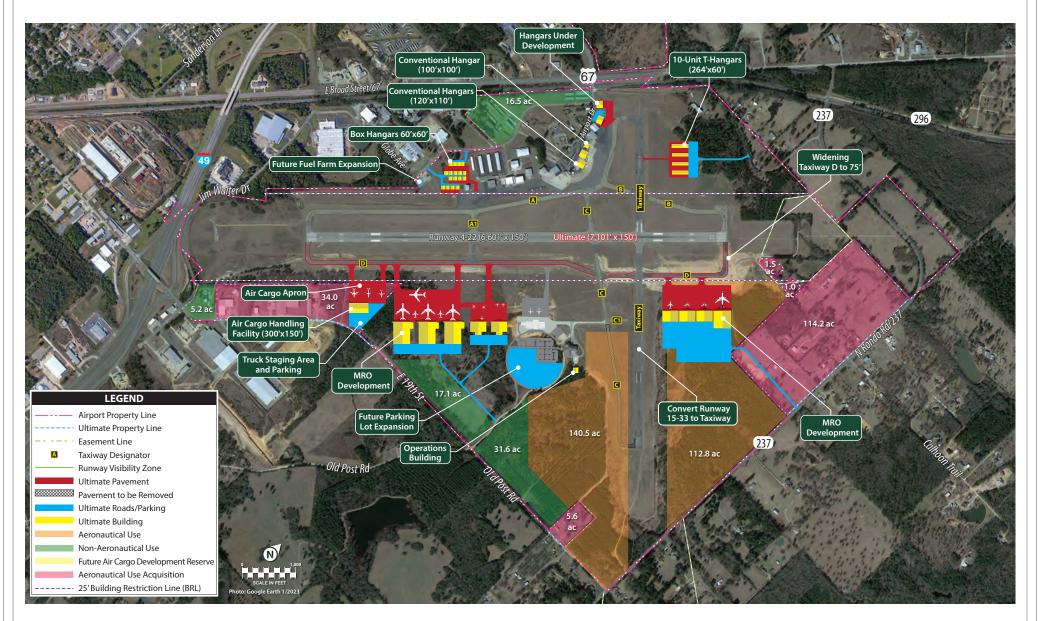
LANDSIDE ALTERNATIVE 1







LANDSIDE ALTERNATIVE 2







LANDSIDE ALTERNATIVE 3

