

**To the Mayor and Members of the City Council****August 6, 2024**

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SUBJECT: FORT WORTH SPINKS MASTER PLAN UPDATE

The purpose of the report is to provide Mayor and City Council with an update regarding the master planning efforts for Spinks Airport.

Airport Master Plan Goal

The primary goal of an Airport Master Plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

It is intended to provide a true vision for how the airport is developed, guidance for future development, and justification for projects for which the airport may receive funding through an updated capital improvement program (CIP) to demonstrate the future investment required by the City of Fort Worth, as well as Texas Department of Transportation – Aviation Division and the Federal Aviation Administration (FAA).

Ultimately, the plan will aid in supporting decisions for directing limited and valuable City resources for future airport development. Continued investments in the airport will allow the City of Fort Worth to reap the economic benefits generated by historical investments.

Master Plan Process

The FAA recommends that airports update their long-term planning documents every 7 to 10 years, or as necessary, to address local changes at the airport. The last master plan update for FWS was completed in 2004. In September 2022, the City of Fort Worth received a grant from the Texas Department of Transportation– Aviation Division in the amount of \$360,000.00 to update the Spinks Airport Master Plan (M&C 22-0588). Combined with the City's match obligation of \$40,000.00, the total cost of project is \$400,000.00. Through a competitive process, KSA was selected as the consultant for this effort, having best demonstrated the ability to provide the necessary resources to collect, analyze, develop, and produce the required documentation.

A Planning Advisory Committee (PAC) was established to act in an advisory capacity to ensure key stakeholder involvement in the process. Members of the PAC included airport tenants, businesses, users, representatives from TxDOT Aviation, FAA, NTCOG, City of Burleson and representatives from the City's Transportation and Public Works, Planning and Data Analytics, and Economic Development departments. The input provided by the PAC did not supplant the important role of the City's Aviation Advisory Board, which provided their input, recommendations, and endorsement. PAC members met four times at designated points during the study to review study materials and provide comments to help ensure that a realistic, viable plan was developed.

Minimum Requirements

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SUBJECT: FORT WORTH SPINKS MASTER PLAN UPDATE**Public Outreach**

A considerable amount of public input was received throughout the process. Two public meetings were held to gain input and feedback. One of the meetings were held on airport, while the one other meeting was at the Burleson Recreation Center. With PAC and community input, the Master Plan was presented to the Aviation Advisory Board for their review and discussion. The AAB endorsed the Master Plan at their April 18, 2024 meeting. On May 14, 2024, an update of the Master Plan was presented to the Mobility; Innovation and Transportation Committee.

Key deliverables of the Master Plan that are requirements by the FAA are an updated *Airport Layout Plan*, and the *Airport Forecast summary*. Additional deliverables include:

- Recommended Development Concepts
- Updated Part 77 map (potential objects affecting navigable airspace)
- Short, intermediate and long-term capital improvement recommendations

For more information and to review all elements of the master plan in detail visit:

www.FWSmasterplan.com

Next Steps

A resolution to City Council will be forthcoming and if approved, the master plan will be reviewed and approved by the FAA and TxDOT Aviation.

If you have any questions or need additional information, please contact Roger Venables, Aviation System Director at 817-392-5402.

David Cooke
City Manager

D. EXECUTIVE SUMMARY

D.1. BACKGROUND

Fort Worth Spinks Airport (FWS) is located on the south side of Fort Worth and serves the Dallas-Fort Worth Metroplex. Spinks is owned and operated by the City of Fort Worth and falls within the system of the Fort Worth Aviation Systems which also comprises Perot Field Fort Worth Alliance Airport and Meacham International Airport. The airport was originally named Oak Grove Airport however after the city's adoption of the airport in 1989 the airport's name officially changed to Fort Worth Spinks Airport. Today, the airport is classified as a Regional Reliever according to the National Integrated Airport Systems (NPIAS), meaning it serves large populations and economies and since it is a reliever airport it takes congestion away from large and medium hub airports in the region. Spinks is an integral element of the DFW metroplex aviation system and offers numerous amenities including an air traffic control tower, full-service fixed based operator (FBO), flight schools, and more. The total economic impact of the airport results in 388 jobs, \$13.4 million in payroll, and **\$39.1 million** in total output. The City of Fort Worth knows of the importance the airport brings to the community, and its economy, which is demonstrated in the Airport Master Plan (AMP). With a 20-year plan in place, Spinks will be able to develop its current position and become even more indispensable to the National Airspace System (NAS).

D.2. WHAT IS AN AIRPORT MASTER PLAN?

An Airport Master Plan is a comprehensive study of the Airport's operation and facilities, with regulating agencies, airport users, and the public. The final document focuses on development plans over the next 20 years to meet future aviation demand. During the study, existing conditions are assessed alongside future trends to see what long-term facilities and land use are necessary to reach development goals. The Plan is a flexible living document that addresses the anticipated demand and accommodates necessary improvements to preserve the vitality of air transportation for the community for years to come.

D.3. CORE ELEMENTS

- **INVENTORY:** "What existing facilities does the airport have?"
- **AVIATION OPEATIONAL FORECASTS:** "How much demand does the airport anticipate or expect?"
- **FACILITY REQUIREMENTS:** "Are the airport's existing facilities sufficient to meet future demand?"
- **AIRPORT ALTERNATIVES AND ENVIRONMENTAL CONSIDERATIONS:** "What new, expanded, or improved facilities are required to meet the forecast demand?"
- **FINANCIAL FEASIBILITY AND IMPLEMENTATION PLAN:** "How will the Airport and Airport Sponsor pay for improvements?"
- **AIRPORT LAYOUT PLAN:** "Graphical depiction of the preferred improvements identified in the Plan."



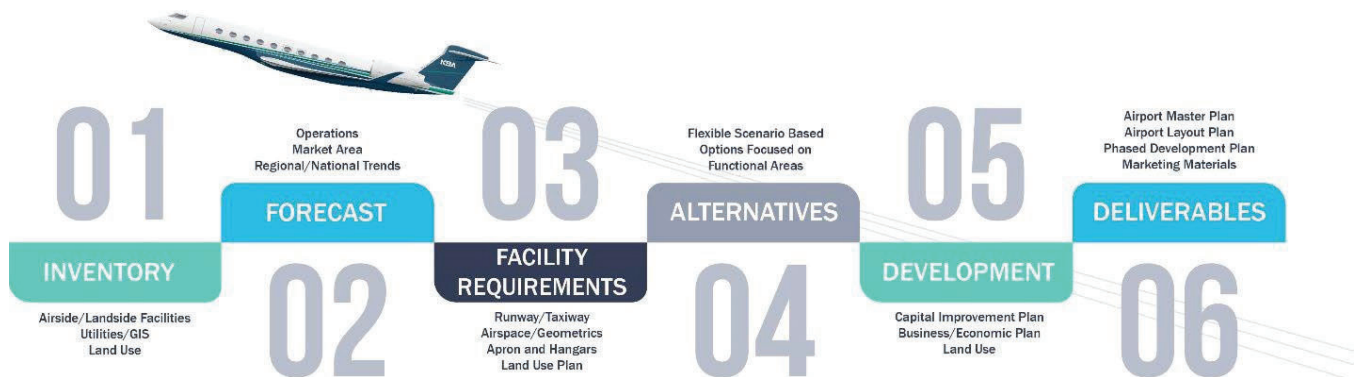
D.4. COMMUNITY ENGAGEMENT

Inviting the public and other interested stakeholders into the study addresses questions and concerns early on. These meetings allow for concerned and interested citizens to voice their opinions and/or concerns regarding the airfield. Public involvement included:

- FWS Planning Advisory Committee (PAC) consisting of airport stakeholders, community, and City leaders from the City of Burleson and the City of Fort Worth.
- Public Information/Outreach meetings
- Social Media

Notice of meeting times and locations were advertised through media outlets, flyers, and the study-specific website: FWSmasterplan.com. This website also provided the public with draft working papers, meeting notices, reports, and other materials to ensure they were informed on the status of the project. A SWOT analysis was also conducted to identify the Strengths, Weaknesses, Opportunities, and Threats associated with the Plan to better accommodate any critical considerations. The SWOT is provided in **Table D.1**.

Four PAC meetings were held at the Fort Worth Spinks Administration Conference Room – February 23, 2023, May 25, 2023, September 28, 2023, and February 19, 2024. The two public involvement meetings coincided with the May 25th, 2023, PAC meeting, and the September 28th, 2023, PAC meeting one was held at the Administration Conference Room at Spinks, and the other was held at the Burleson Recreation Center. An example of the informational flyer presented to the public will be provided below. Three presentations were made to the City of Fort Worth Aviation Advisory Board as well.





SPINKS
AIRPORT

CLEARED
TO CLIMB

HELP SHAPE THE SPINKS AIRPORT MASTER PLAN

Open House, Thursday, May 25

Fort Worth Spinks is initiating a new 20-year master plan based on economic and demand forecasts for general aviation (not commercial air service).

The comprehensive study will include cutting-edge technologies such as solar energy, electric aircraft, and Unmanned Aerial Systems (UAS).



WHERE:

Spinks Airport Administration Bldg.,
450 Alsbury Ct., Fort Worth, TX 76028

WHEN:

Thursday, May 25, 6–8 p.m.

Can't attend the public meeting? Email FWSmasterplan@KSAEng.com for questions and feedback. Learn more at FWSmasterplan.com.



TABLE D.1: SWOT MATRIX

Strengths	Weaknesses
Location (Metroplex, Transportation)	East Side Access during North Flow
Workforce	Road Access to East Side Facilities
Expansion Potential (Land, Highway Access)	Drainage Locations
Under Class Bravo Airspace	No DME on ILS Approach
Facilities (ATCT, Fire Station 42)	Lighting
Lack of Obstructions	I35 Traffic Congestion
ILS/RNAV (Approach Minimums)	Funding Amounts
Dual Runways (Paved & Turf)	Existing Hangar Space
Local/Surrounding Community Support	Regional Classification
Economic and Population Growth	No Designated Rotorcraft Area
Self-sustaining	Apron Space
Hotels, Food, Hospital (Near Airport)	
Local Innovation (Bell, Lockheed Martin)	
Aircraft Maintenance (Avionics, Airframe)	
Taxiway Access to Runway	
Available Runway Length	
Volume of Goods Moved in Region	
FBO (Harrison Aviation)	
Tax Incentive Policies	
Opportunities	Threats
Investment in Private Development	Light pollution
Transition to National Classification	Advanced Air Mobility Acceptance
Local ISD Aviation Programs	Noise (Specifically East Side)
Education Outreach Programs	Land Use - Nursing Home (North)
Burleson Partnership Programs	Land Use – Apartments (South)
Available Land for Development	Urban Air Mobility Facility Prep
Urban Air Mobility (UAM)	Federal/State/Local Legislation
Advanced Air Mobility (AAM)	Integration with Local/Regional Plans
Electric Vertical Takeoff & Landing (EVTOL)	Complacency
Special Events (2026 World Cup)	Artificial Intelligence & Cyber Security
Federal Funding (On & Off Airport)	Drone Incursions
Innovative Funding	
Research & Development Facility (R&D)	



D.4. OUTLOOK FOR THE FUTURE

Forecasting aviation activity at an airport is a critical component of a Master Plan Study and aids in evaluating and anticipating future demand and use. As reflected in **Table D.2**, the 20-year planning horizon reflects growth in all categories for both operations and based aircraft. Utilizing 2022 as the historical baseline year, operations are anticipated to increase from 61,325 to 91,053 by 2043 while based aircraft are expected to increase from its current level of 236 to 350 within this same timeframe. These figures postulate an Average Annual Growth (AAG) rate assumption of 1.9 percent which is based on national trends.

National trends expect piston aircraft to decrease over time, however, this is not expected at Spinks due to the high level of flight training operations. It is expected that based jet aircraft will continue to increase during the planning period as well due to the proximity to the metroplex.

TABLE D.2: Summary of Operations by Aircraft Type, 2022-2043

Operations	2022	2028	2033	2038	2043
Air Taxi	1,226	1,372	1,506	1,652	1,816
Single-Engine Piston	33,729	35,702	39,225	41,438	45,527
Multi-Engine Piston	9,199	9,612	10,560	9,945	9,105
Turboprop (SE)	4,906	6,179	6,789	8,288	10,016
Turboprop (ME)	4,293	5,493	6,035	7,459	8,650
Business Jet	4,906	6,179	6,789	8,288	9,561
Helicopter	3,036	4,085	4,488	5,760	6,328
Military	30	35	40	45	50
Total Operations	61,325	68,657	75,432	82,875	91,053
Local Operations	36,795	41,194	45,259	49,725	54,632
Itinerant Operations	24,530	27,463	30,173	33,150	36,421
Based Aircraft					
Single-Engine	179	195	213	220	232
Multi-Engine	18	21	22	24	26
Turboprop (SE)	2	5	6	11	14
Turboprop (ME)	3	5	6	13	18
Jet	12	14	17	22	28
Helicopter	22	24	26	29	32
Total	236	264	290	319	350

Source: KSA



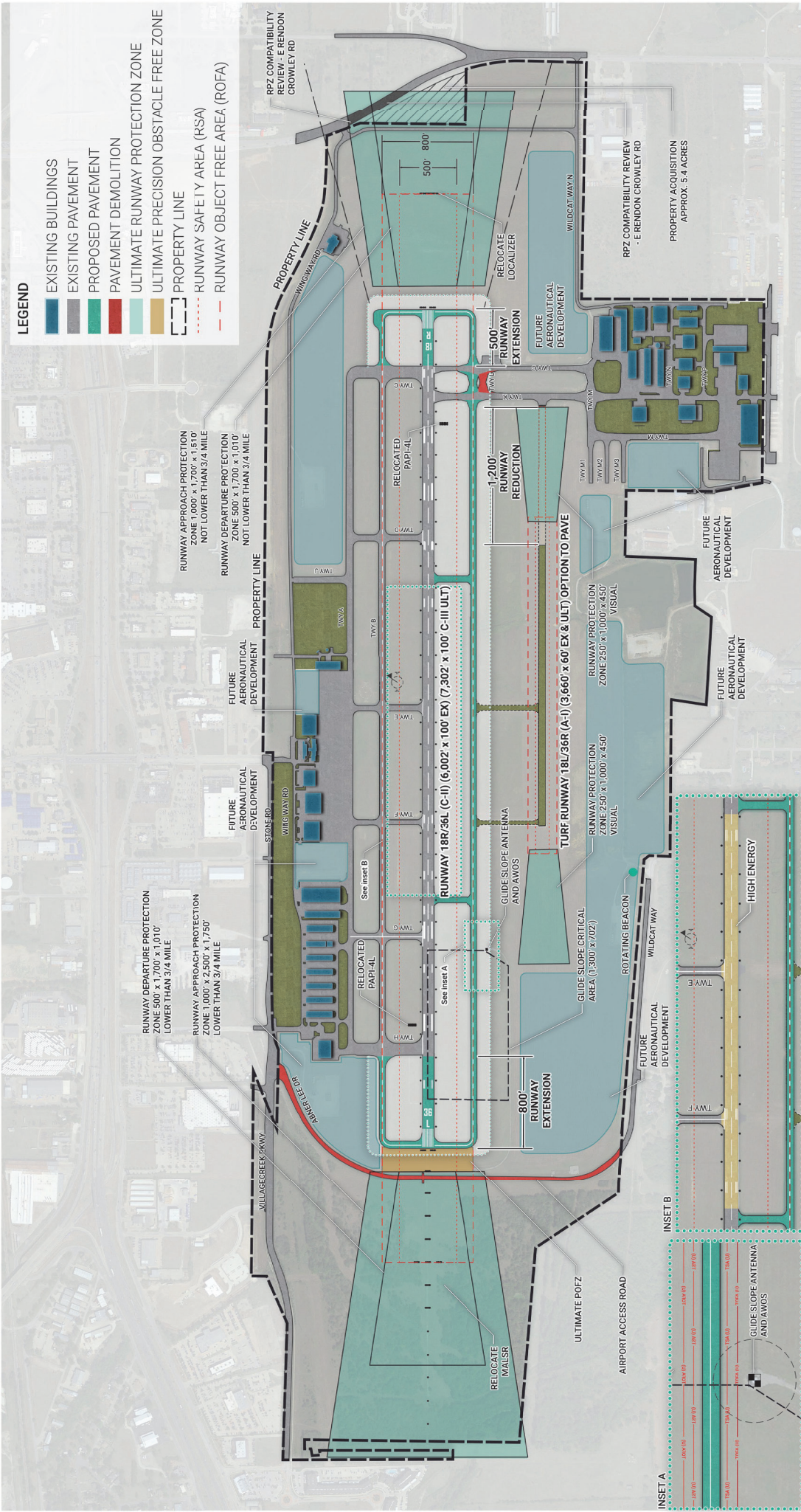
D.5. FACILITY REQUIREMENTS AND ALTERNATIVES DEVELOPMENT

The Facility Requirements determine the Airport’s capacity and ability to support the projected aviation forecast demand. Facility Requirements identify development, replacement, or modification of airport facilities needed to accommodate the existing 20-year anticipated demand and are a critical element of the Master planning process, providing justification for improvements that will allow FWS to continue to serve the aviation needs of the region. It also serves to identify the Critical Design Aircraft, which is the most demanding type or group of aircraft that operates at least 500 annual operations - an operation being either a take-off or landing. The current critical aircraft of Runway 18R/36L is a combination of a Challenger 300/350 and the future critical aircraft is the Gulfstream V and the forecasted, and current, critical aircraft of Runway 18L/36R is a Cessna 172.

As part of the Alternatives Analysis, seven (7) airside, four (4) landside, and one (1) electrification/UAM integration options were provided for the PAC for discussion and consideration. These options identified various elements for consideration in terms of runway length, taxiway layout, aircraft parking aprons, and aviation hangar development areas. The following exhibits, **Exhibit D.1**, **Exhibit D.2**, and **Exhibit D.3**, demonstrate the Recommended Plan for the Airside and Landside consideration and the selected 20-year planning horizon footprint for the airfield. Highlights include:

- Extend Runway 18R-36L 500’ North and 800’ South
- Relocate Taxiways “F” and “E” to satisfy FAA design standards for direct access to 18R-36L.
- Construct full-length parallel taxiway and connectors east of the primary runway (18R-36L).
- Shorten turf runway (18L-36R) by 1,200’
- Expand the primary general aviation apron.
- Aviation development of various storage hangars within the east and west sides of the airfield





LEGEND

- EXISTING BUILDINGS
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PAVEMENT DEMOLITION
- ULTIMATE RUNWAY PROTECTION ZONE
- ULTIMATE PRECISION OBSTACLE FREE ZONE
- PROPERTY LINE
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBJECT FREE AREA (ROFA)

RUNWAY APPROACH PROTECTION ZONE 1,000' x 1,700' x 1,510' NOT LOWER THAN 3/4 MILE

RUNWAY DEPARTURE PROTECTION ZONE 500' x 1,700' x 1,010' NOT LOWER THAN 3/4 MILE

RUNWAY DEPARTURE PROTECTION ZONE 1,000' x 1,700' x 1,010' LOWER THAN 3/4 MILE

RUNWAY APPROACH PROTECTION ZONE 1,000' x 2,500' x 1,750' LOWER THAN 3/4 MILE

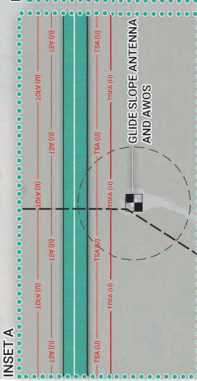
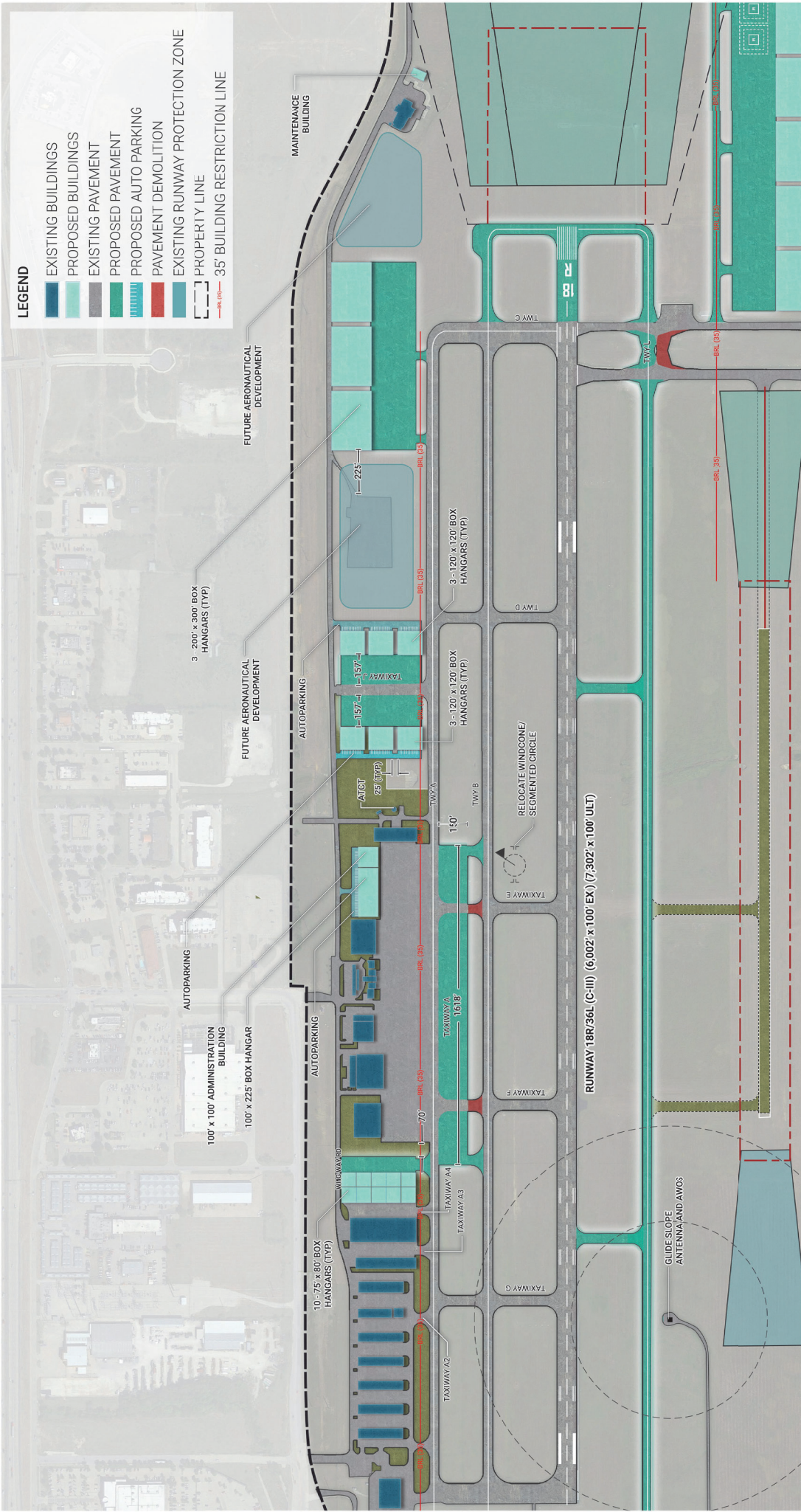


EXHIBIT D.1 - RECOMMENDED PLAN (AIRSIDE)



- LEGEND**
- EXISTING BUILDINGS
 - PROPOSED BUILDINGS
 - EXISTING PAVEMENT
 - PROPOSED PAVEMENT
 - PROPOSED AUTO PARKING
 - PAVEMENT DEMOLITION
 - EXISTING RUNWAY PROTECTION ZONE
 - PROPERTY LINE
 - 35' BUILDING RESTRICTION LINE

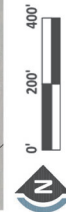
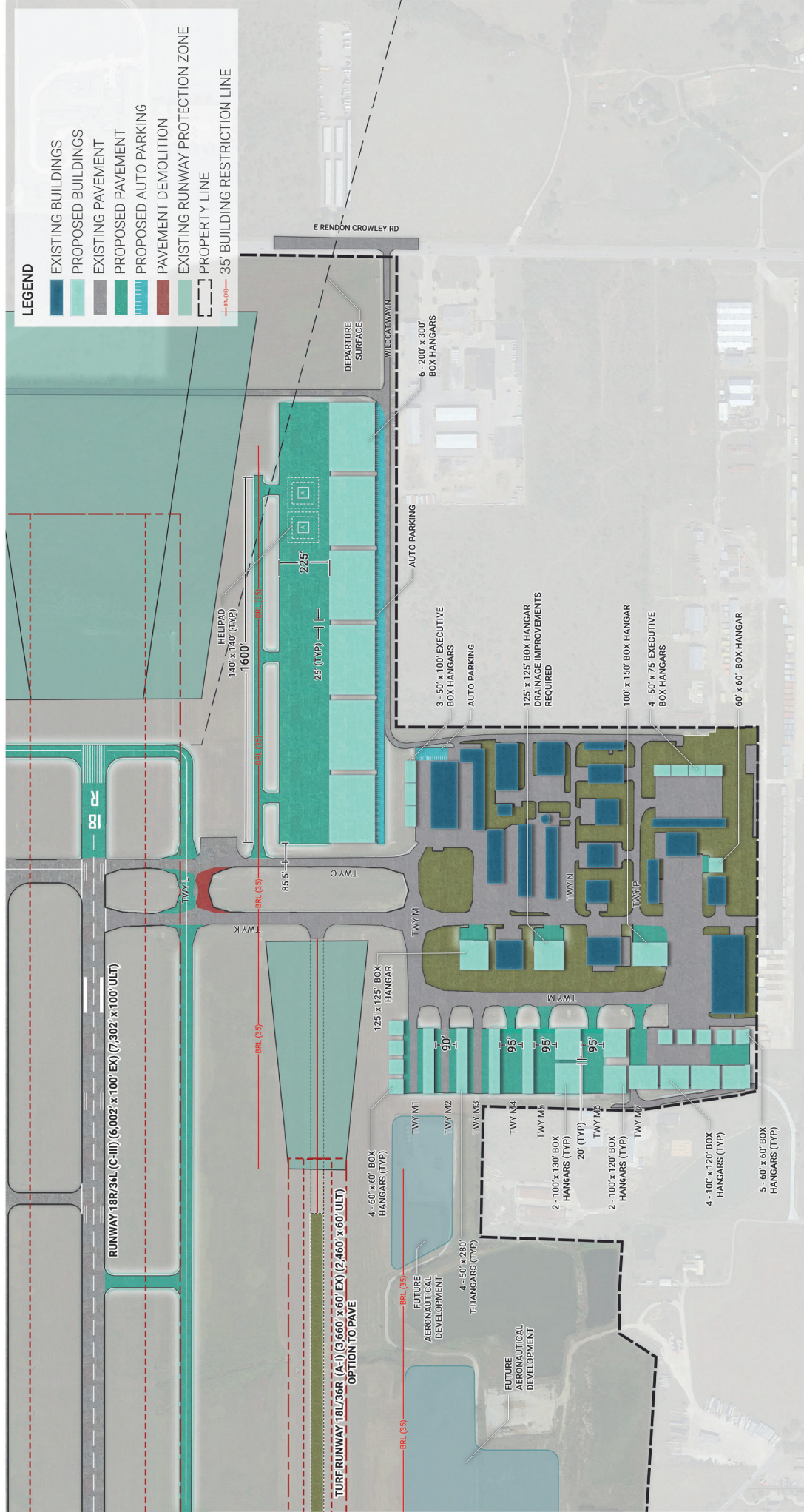


EXHIBIT D.2 - RECOMMENDED PLAN (LANDSIDE - WEST)



- LEGEND**
- EXISTING BUILDINGS
 - PROPOSED BUILDINGS
 - EXISTING PAVEMENT
 - PROPOSED PAVEMENT
 - PROPOSED AUTO PARKING
 - PAVEMENT DEMOLITION
 - EXISTING RUNWAY PROTECTION ZONE
 - PROPERTY LINE
 - 35' BUILDING RESTRICTION LINE

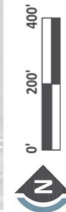


EXHIBIT D.3 - RECOMMENDED PLAN (LANDSIDE - EAST)

D.6. CAPITAL IMPROVEMENT AND IMPLEMENTATION PLAN

The Capital Improvement Program (CIP) provides FWS with a systematic approach to implementation and identifies funding for the improvements required to accommodate the forecast demand. The CIP provides a chronological order for development, dividing the projects into three specific “Phases” – Short-term (0-5 years), Intermediate-term (6-10 years), and Long-term (11-20 years). A summary of the overall project costs is provided below in **Table D.3**. This element will also expound on potential funding sources and matching requirements as part of Grant Assurances. The CIP estimates total project costs during the planning period to total approximately, \$93.6 million, with an estimated \$69.3 million funding from federal sources \$24.3 from the sponsor or private developers.

While the projects are not listed in their entirety in this summary there are 15 projects identified in the Short-term, 21 in the Intermediate-term, and 18 in the Long-term, making a total of 54 overall projects included in the CIP. As mentioned previously projects associated with the Plan are not guaranteed to be proceeded with, much of these projects are dependent on funding, justification, and demand driven. However, the Short-term phase is easier to predict due to the brevity of the timeframe.

TABLE D.3: Development Funding Summary

PLANNING PHASE PERIODS (2025 – 2044)	Total Estimated Cost	Estimated Federal Funds (TxDOT)	BIL Funds	Estimated Local Funds (CFW)
SHORT-TERM (0-5 YEARS) 2025-2029 TOTALS	\$18,903,516	\$8,790,300	\$847,364	\$9,265,852
INTERMEDIATE-TERM (6-10 YEARS) 2030-2034 TOTALS	\$32,575,730	\$21,786,900	--	\$10,788,830
LONG-TERM (11-20 YEARS) 2035-2044 TOTALS	\$42,199,818	\$37,898,330	--	\$4,301,489
2025 – 2044 GRAND TOTAL	\$93,679,064	\$68,475,530	\$874,364	\$24,356,171

Source: KSA





D.7. SUMMARY

Currently, the Fort Worth Spinks Airport safely and efficiently serves the needs of its community and surrounding communities. A complete inventory of existing facilities provided the baseline information necessary to establish the most accurate possible forecasts of airport characteristics such as operations and based aircraft. This analysis confirmed that FWS is well-positioned to take advantage of the economic growth of the region and the exciting expansion of the aviation industry both in the Metroplex and the state.

This Plan determined which additional facilities and infrastructure improvements will be necessary for the Airport to maximize its potential over the next 20 years and beyond. The Planning Advisory Committee and the public gave input on several alternatives, leading to the selection of a Recommended Development Plan. This is a depiction of how the Airport can grow to harness its potential while conforming to the guidelines set forth by the Federal Aviation Administration (FAA). The Capital Improvement Program (CIP) provides the Airport with guidance on how and when to fund the **54 individual projects** totaling **\$93.6 million of planned improvements**.

With this Master Plan in hand, the Airport is well-equipped to maximize its potential and achieve its vision in an efficient, effective, and realistic process.

