

Fort Worth Spinks Airport

Master Plan



Prepared for:
TxDOT
and
The City of Fort Worth, Texas
by:



May 2004

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HNTB Corporation

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EXECUTIVE SUMMARY

MASTER PLAN OBSERVATIONS

The Fort Worth Spinks Airport (FWS) is one of the key general aviation reliever airports to Dallas-Fort Worth International Airport. The airport is poised to become even more important in the future as a primary transportation facility serving the southwestern portion of the Metroplex.

Master plans provide a guide for development. However, there is a sense of urgency associated with this master plan since the next update likely will find the airport totally surrounded by development. Already the City Aviation Staff have witnessed a number of quality proposals for first-rate corporate facility expansions and a major T-hangar development is currently being constructed. The forecasts, although relatively recent, have already been outpaced by the number of aircraft based at the airport.

The following list presents the primary findings of the master plan document:

- With Federal Aviation Administration approval, FWS can plan for a future southbound instrument landing system in the future, greatly increasing the attractiveness of the facility to corporate users and enhancing its roles as a regional reliever airport.
- A future runway length of 7,000-feet is planned with a runway extension of 1,000 added to the north end of the main runway. It is possible to construct an ultimate runway extension of 1,000 feet to the south, making the runway length 8,000-feet, if ever warranted.
- Land will need to be purchased north of F.M. 1187 in order to secure the land to provide for the runway protection zone (RPZ) for the improved approach. This is a high priority project for Spinks to gain control of land that is increasingly coming under commercial development pressure.
- A new airport zoning ordinance has been drafted for future consideration by City Council. This ordinance will go a long way toward ensuring land use compatibility in the environment of the airport.

The following text provides an overview of each of the master plan chapters and program highlights.

INVENTORY

FWS is owned and operated by the City of Fort Worth, Texas. Spinks is situated in a fast growing area of south Tarrant County on the Tarrant and Johnson County line with significant potential for future growth. It is an 822-acre facility that is only 12 miles south of downtown Fort Worth, and south of Rendon-Crowley Road (F.M. 1187 and Future Loop 9) with access from Interstate 35W via Alsbury Court. The Airport's primary market area includes the cities of Burleson and Crowley on the west and Everman, Forest Hill, Kennedale, Arlington, and Mansfield to the north and east.

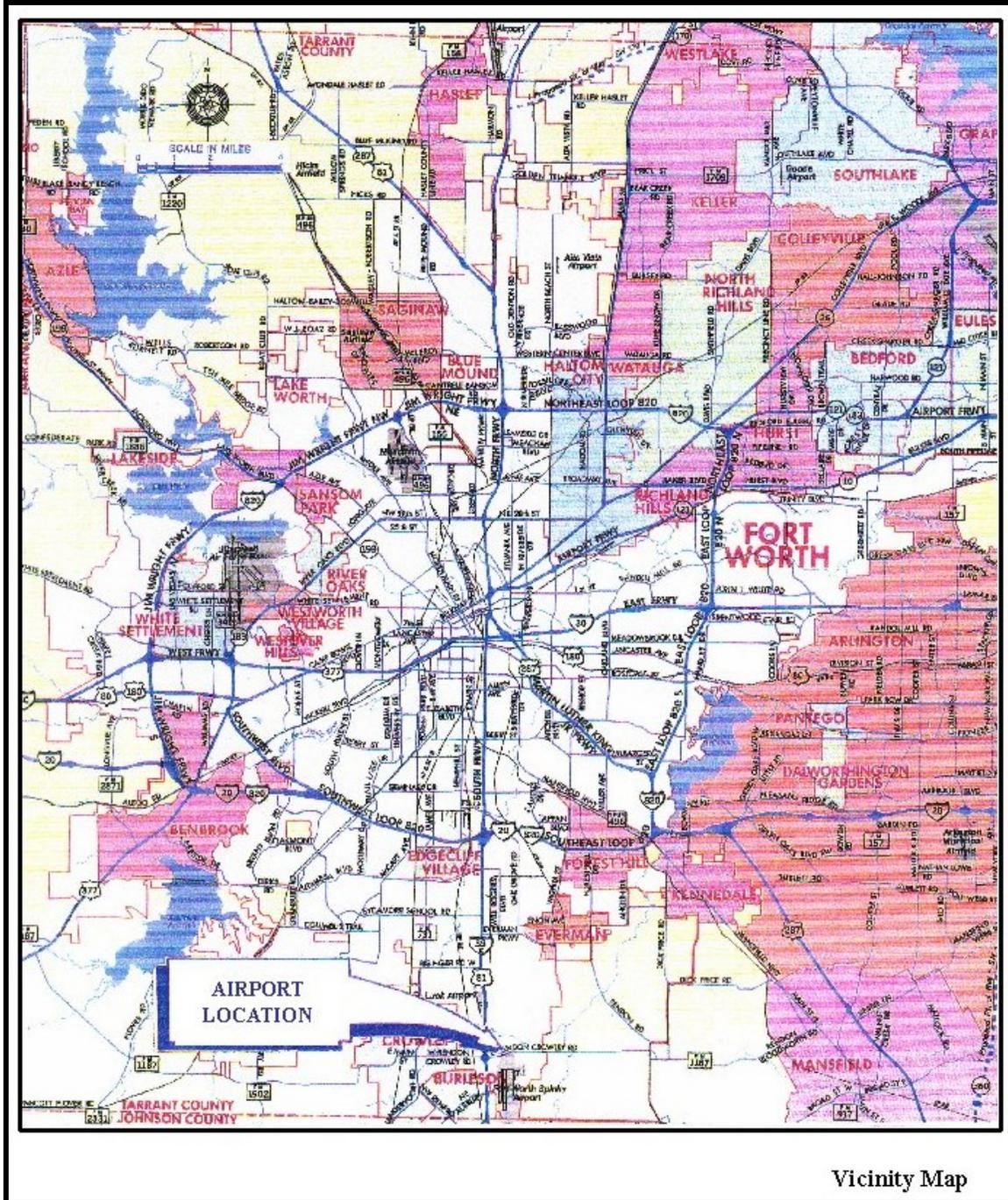
In 1981, the City of Fort Worth chose a site for a new airport along I-35W, south of I-20, and began development in 1982. The City secured funds from the FAA in 1987 and construction began. FWS opened in south Tarrant County in 1988 and serves as a public general aviation airport. Please see the **Vicinity Map** on page ii.

The Airport was named after aviation pioneer Maurice Hunter "Pappy" Spinks. The renowned aerobatic competitor and aviation manufacturer built nearby Oak Grove Airport, portions of which have been encompassed by Spinks Airport. During his life, the devoted airman lived in a house on the Oak Grove Airport property.

FWS has two parallel runways, Runway 17R/35L and Runway 17L/35R. Runway 17R/35L is a 6,000-foot by 100-foot asphalt runway. Runway 17L/35R is a 4,000-foot by 60-foot turf strip, located 1,000 feet east of Runway 17R/35L. This 1,000-foot separation is the recommended spacing for secondary runways serving simultaneous operations during visual conditions.

Initial master planning work surveyed all aircraft owners as well as a large sample of registered pilots in the Tarrant and Johnson County areas. This survey resulted in the identification of a large market area for FWS, as shown on the **Market Area Map** illustration on page iii. The number of aircraft represented by the FWS market area is 365. As it stands, the market area serves southwestern Tarrant County south of I-30 and west of Route 287 plus the northern half of Johnson County. Surveys of aircraft owners who base their aircraft at Spinks indicate that the market area also extends north and east of this area into Arlington, Bedford and Colleyville and even as far northeast as Plano. Aircraft owners in proximity to Meacham International, Arlington Municipal, and Cleburne Municipal are considered to be in the secondary market area for Spinks.

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Vicinity Map

Forecast Summary Table				
	2002*	2007	2012	2022
Based Aircraft	163	260	295	369
Aircraft in Market Area	323	352	381	439
Annual Operations	65,600	104,000	118,000	147,000

COMPATIBLE LAND USE

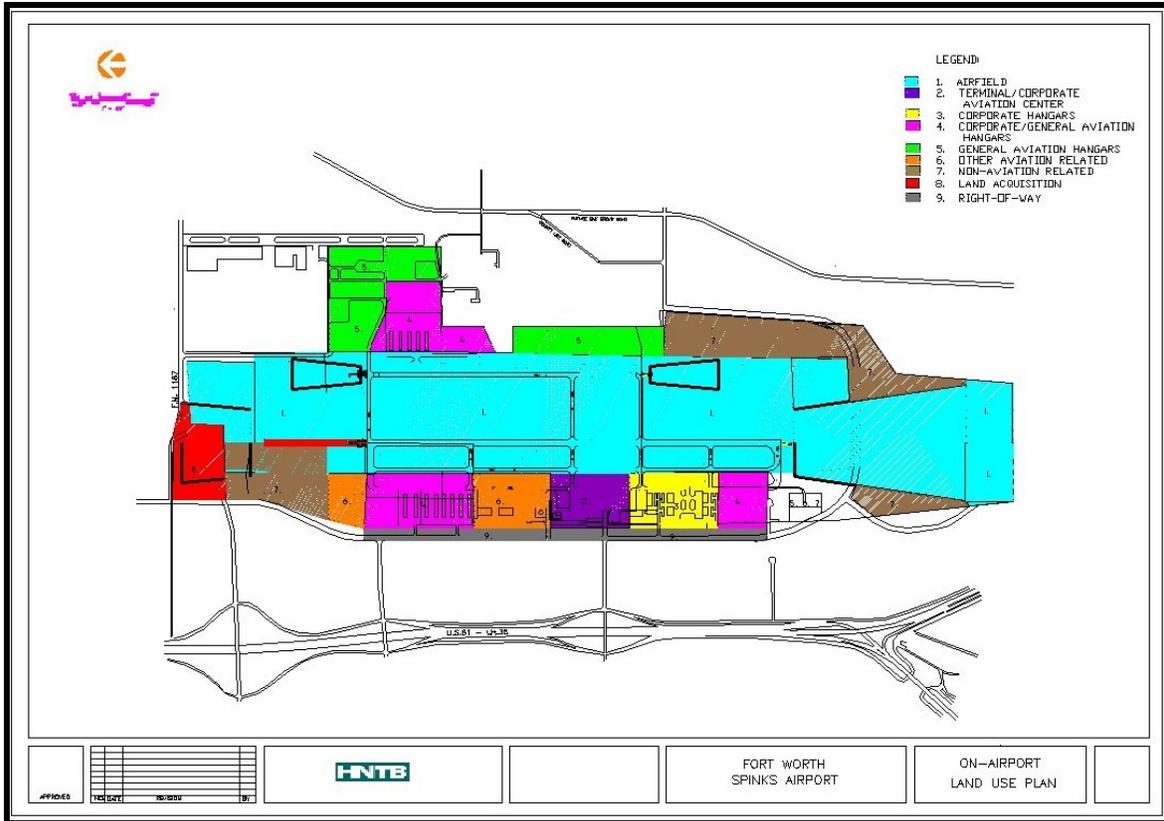
The City of Fort Worth has experienced a 1.8-percent annual population growth from 1990 to 2001. The City’s Planning Department expects job growth will increase by 1.9 annually through 2022. The Fort Worth economy is diversified in many industry sectors such as trade, services, manufacturing, transportation, communication and construction, and is no longer as reliant on the defense industry. Consequently, a strong economy, particularly in the technology industry has encouraged relocations to the area.

The location of Spinks Airport is at the interchange of Interstate-35 and the future Loop 9 (F.M. 1187) places the Airport at one of the most highly accessible locations for Fort Worth in the future. Currently, the Airport vicinity is primarily industrial development and, with the development of the outer loop, it is anticipated that the improved roadway access will generate additional commercial and industrial development in the area. Already, significant growth in commercial activity is being realized west of I-35 and in the City of Burleson.

Discussions with the local real estate development community during the Master Plan concluded that the Spinks area market demand was growing strongly, particularly in terms of local residential development with significant commercial growth continuing along the I-35 corridor in the City of Burleson. It was noted that the commercial development market is not saturated and that there is an increasing demand for logistics-oriented businesses and other light industrial uses, a goal of the City’s Comprehensive Plan.

Future transportation improvements of F.M. 1187 and the potential extension of Stone Road on the west side of the Airport will further improve access both on and off-airport. Please refer to the **Land Use Plan** on page v.

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A joint zoning commission was established by the Cities of Fort Worth, Burleson, and Crowley, as well as the counties of Tarrant and Johnson, to oversee the development around Spinks Airport in 1989. The *Fort Worth Spinks Airport Hazard Zoning Ordinance Number 01* was approved in November 1988 by the Zoning Commission but was never implemented nor was the Zoning Commission that would have been the governing body for the ordinance. The purpose of the commission would have been to ensure that airport height zone regulations were compatible with the established land use within the defined airport development zone. The airport development zone was defined as that area encompassed by the 65 DNL noise contour at the time the ordinance was adopted in 1988. The term “65 DNL” refers to a level of noise generated by aircraft in the airport vicinity as modeled by the Federal Aviation Administration’s (FAA) noise estimation program, Integrated Noise Model (INM). The INM noise level of 65 DNL denotes “significant” noises. Greater noise levels have higher associated numbers whereas less level are denoted by smaller numbers.

Since the ordinance was never officially adopted by affected jurisdictions, this master plan process included preparation of a revised ordinance by a new committee. The Spinks land use committee investigated the original ordinance and suggested modifications with the goal of facilitating the adoption of height and hazard zoning in the vicinity of the Spinks Airport by all five jurisdictions. A draft has been prepared and is being finalized for consideration by all five jurisdictions.

ECONOMIC IMPACT

In June 2003, “The Economic Impact of General Aviation” was prepared for the Texas Department of Transportation (TxDOT). With permission from TxDOT, the City of Fort Worth incorporates excerpts from that study to use as the economic impact analysis for Spinks. The economic factors used for measuring impacts are employment, payroll, and output.

The statewide economic model also included three impact categories to assess the economic benefits associated with on-airport tenants and general aviation visitors, which are direct impacts, secondary impacts, and total impacts.

Several data collection methods were used to acquire information pertaining to economic activities occurring at Texas airports. The data collected was used as input in the economic model to identify the total economic impact of the Texas system of airports. Direct or first-round impact, data was collected throughout the system by surveying and/or interviewing two groups of people, on-airport tenants and general aviation visitors.

The study found that aviation-related tenants at Spinks Airport support approximately 75 full-time jobs, with an estimated direct payroll of \$2.3 million. The direct output attributable to the Airport is estimated at approximately \$8.5 million. Additionally, more than 9,000 general aviation visitors arrive at the airport each year, supporting roughly 60 visitor-related jobs and \$1.2 million in payroll. General aviation visitors are also responsible for \$1.9 million in direct output. Generally speaking, each full-time job at the airport represents approximately \$250,000 in total output impacts to the community.

When combined, the general aviation tenants and visitors at Spinks Airport are responsible for \$18.2 million in total economic output, 213 full-time jobs, and \$5.6 million in payroll. Please refer to the **Output Impacts** table, below.

Output Impacts			
	Direct Output	Secondary Output	Total Output
Tenant Output	\$ 8,483,400	\$ 6,395,000	\$ 14,878,400
Visitor Output	\$ 1,934,800	\$ 1,395,000	\$ 3,329,800
Total Output	\$ 10,418,200	\$ 7,790,000	\$ 18,208,200

FACILITIES REQUIREMENTS

The facilities requirements chapter sets the stage for identifying project needs for the Airport over the next 20 years based upon:

- Facility improvements required to maintain current airport standards, as established by the FAA;
- Facility improvements required to meet FAA standards, if any;
- Long term facility needs to accommodate forecast demand; and,

- Airport capacity limitations, where they may exist.

The three components of an airport are: airfield, terminal, and landside. Each component has a capacity, i.e., a maximum amount of traffic where the airport can function without unreasonable delay. All three components must be in balance for the airport to function efficiently. At FWS, there are no existing or future capacity constraints.

The Master Plan’s identification of facilities requirements centers on accommodating the Airport’s future demand and its upgraded role. Spinks Airport has two parallel runways, 17R/35L and 17L/35R. The role of secondary Runway 17L/35R is a visual runway serving slower approaching general aviation aircraft and does not change over the course of the Master Plan, although it may be paved. The **Airport Facility Requirements Summary** table below provides a list of existing facilities and proposed improvements over the next 20 years. For some key airport facilities, ultimate facilities, or anticipated improvements beyond 20 years are identified. The most notable recommended future improvement is the extension of Runway 17R/35L.

Airport Facility Requirements Summary		
Facility	Currently Available	20-Year Development (Ultimate Development)
RUNWAYS		
Runway 17R/35L		
Length	6,002'	7,000' (8,000')
Strength	70,000 DW	70,000 DW (90,000)
Lighting	MIRL	MIRL
Markings	Precision	Precision
Approach	Visual/Precision	Precision/Precision
RPZ's		
17R end	1,000' x 1,000' x 1,200'	1,000' x 2,500' x 1,750'
35L end	1,000' x 2,500' x 1,750'	1,000' x 2,500' x 1,750'
Runway 17L/35R		
Length	4,000'	4,000' (5,000')
Strength	N/A	12,500 SW
Lighting	N/A	MIRL
Markings	N/A	Visual
RSA	N/A	300' x 150'
TAXIWAYS		
Taxiway A		
Dimensions	6,002' x 50'	Decommission
Taxiway B		
Dimensions	6,002' x 50'	7,000' x 50' (8,000' x 50')
Lights	N/A	MITL
Taxiways C		
Dimensions	2,400' x 50'	2,600' x 50' (Dual Parallel)
Lights	N/A	MITL
Taxiways F, G		
Dimensions	600' x 50'	1,600' x 50'
Lights	N/A	MITL
Taxiway H		

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Dimensions	775' x 30'	775' x 35'
Lights	N/A	MITL
APRON AND HANGAR FACILITIES		
Based Aircraft	163	369
Based Aircraft Tie-Downs ¹	10	20
Itinerant Apron	30,000 SY	51,200 SY
Tie-down Positions	10	67
Corporate-West		
Apron	N/A	13,300 SY
Hangars	N/A	37
East - General Aviation		
Apron	30,800 SY	96,400 SY
Hangars	6	398
Tie-down Positions	8	20
TERMINAL FACILITIES		
Terminal Building	N/A	6,400 sf
Office Space	N/A	6,400 sf
Maintenance Hangar		
Hangar	N/A	47,200 sf
Office Space	N/A	9,400 sf
Airport Traffic Control Tower	Cab Only	Tower Structure with Cab
Helipad	N/A	60' x 60'
LAND		
Airport Property	826 acres ²	870 acres
NAVAIDS		
ILS (Glide Slope and Localizer)	Runway end 35L	Runway ends 17R/35L
DME	N/A	Runway 35L, Back Course 17R
GPS	N/A	Runway 17R/35L
LIGHTS		
Pavement Edge Lighting		
Runway 17L/35R	N/A	MIRL
PAPI	Runway 17R/35L	Runway 17R/35L and 17L/35R
REIL	Runway end 17R	Relocate w/ Runway Ext.
Approach Lighting		
MALSR	Runway end 35L	Relocate w/ Runway Ext.
MALSR	N/A	Runway end 17R
FENCING		
Perimeter Fencing - South End	N/A	Additional 10,500 lf
Relocate Terminal Fence	N/A	Additional 700 lf
PERIMETER ROADS		
North Perimeter Road	N/A	5,775 lf
South Perimeter Road	N/A	(7,763 lf)
East Perimeter Road	N/A	6,465 lf

ALTERNATIVES

Airport alternatives for Spinks are framed by developing a plan that accommodates future FBO or other high end tenants, as well as provides for ultimate airfield opportunities.

Extension of Runway 17R/35L to 7,000 feet would be a significant improvement for attracting and serving corporate activity. Already the number of annual operations by corporate aircraft is approximately 1,000 by aircraft weighing greater than 12,500 pounds. The key indicator will be when there are 500 total annual operations, 250 landings and takeoffs, by aircraft greater than 30,000 pounds.

The design aircraft for Spinks is a Gulfstream V (G-V), which has a wingspan of 93.5 feet and a length of 96.5 feet. This aircraft has a maximum range of 5,800 nautical miles, allowing it to fly non-stop from Spinks to both coasts easily, as well as to destinations in Western Europe and Japan. The G-V requires a runway approaching 7,000 feet on the warmest days, needing about 6,600 feet when operating fully loaded (90 percent useful load) at the mean maximum temperature of Fort Worth, i.e., 96-degrees, wet pavement notwithstanding. The mean maximum temperature is one of the key parameters for designing runway length along with the design aircraft's characteristics, runway elevation and runway gradient. At 100-degrees and considering wet pavement, which ranges as much as a 15 percent addition to runway length (or penalty in the case of the runway not being long enough); the requirement would exceed 8,000 feet. This is more validation for the ultimate runway length.

Consequently, the need for an extension to 7,000 feet at Spinks is rapidly approaching, and advance planning should commence. A series of items were identified in consideration of which runway end to lengthen, i.e., Runway 17R or 35L. These include provision of runway safety areas, ownership of the RPZ in fee simple as well as provision of an instrument land approach. Part of the input process concerning instrument landing approaches was the effort to enact a height and hazard ordinance, or zoning ordinance, for Spinks. In conjunction with the potential long-term development scenarios described for Spinks in the Vision process at the onset of the planning process, the Land Use Committee deemed it prudent to protect the ultimate approaches of the airport now. This resulted in planning for precision instrument approaches for both runway ends in the zoning ordinance, pending FAA concurrence.

As part of providing a precision instrument approach for both runway ends, the ultimate runway envelope was also discussed, which included a long-term provision for an 8,000-foot runway. A preliminary engineering investigation was performed for the south end of the runway system to determine what future length was reasonable before it became prohibitively expensive due to terrain considerations. There is a deep drainage area south of Spinks that is 25 or more feet lower than the south runway end. That work concluded that it was possible to extend the runway as long as 1,500 feet on the south end with the final 500 feet becoming an expense that would need to be looked at in terms of cost/benefit. However with the possibility for a 1,000 foot runway extension for the north end of the runway, the ultimate runway envelope could be best achieved from a cost perspective by extending 1,000 feet on each runway end (see table below).

However, protecting ultimate approach slopes carries with it some additional considerations. For both runway ends, a 1,000 foot runway extension requires land acquisition so that the RPZ can be controlled in fee simple. For the north end, the amount of land required is 45.6 acres; for the south end, it is 10.9 acres. The Master Plan recommends that the land for both future RPZ's be purchased as soon as practical, again pending approval of a future southbound precision approach to Spinks by the FAA.

If Runway 17R is extended by 1,000 feet with a precision instrument approach, there is an additional consideration of constructing the runway such that there can be 17-foot clearance over future expanded Rendon-Crowley Road (F.M. 1187) as Loop 9. Airport planning considerations relative to this roadway considers that the 17-foot clearance requirement begins with the closest edge of the road’s right-of-way to the runway system, i.e. the Loop 9 south frontage road. This is an important issue since the design elevation of that roadway is being preliminarily designed today by TxDOT-Fort Worth Highway District. As a result, it is possible that Runway 17R and the extension of Taxiway B will need to be built up over the existing ground elevation to achieve the necessary runway end elevation which would enable a future 50:1 precision instrument approach and have that approach clear future Loop 9 by 17-feet. The following is a table comparing the estimated costs associated with extending runway 17R or Runway 35L.

Estimated Costs Associated with Runway Extensions		
Construction Item	Runway 17R - 1,000' Extension North	Runway 35L - 1,000' Extension South
Runway Extension	\$ 1,160,000	\$ 2,580,000
Taxiway B Extension	\$ 420,000	\$ 1,590,000
Land Acquisition for Precision RPZ	\$ 600,000	\$ 100,000
ILS Equipment	\$ 1,180,000	\$ 840,000
Potential Earthwork to Elevate Runway End to Achieve 17' Height-Over-Roadway	\$ 2,310,000	\$ -
Relocation of Abner Lee Road, Extension of Stone Road South, and Extension of Wildcat Way Road South (Airport Property Only)	\$ -	\$ 2,330,000
TOTAL	\$ 5,670,000	\$ 7,440,000

The other major alternatives discussion relates to the alternative futures of either paving Runway 17R/35L or not. If it is not paved, the amount of land on the east side of the airport available for future development is maximized. Like the primary runway extension, there are a number of significant subparts, which are:

- Whether to pave the current turf runway or not;
- The runway length;
- Whether to build the runway at 1,000 feet separation from Runway 17R/35L or 700 feet; or,
- Construct an east side full parallel taxiway to Runway 17R/35L in lieu of a second runway.

Given the excellent potential for future economic development at Spinks, resolution of these issues will have a significant impact upon Spinks’ future role and ultimate airport build-out. Construction of the secondary runway would provide additional airport

capacity and relief to the primary runway to better handle future aircraft operations. Construction of a secondary runway would position the ultimate role of the airport as a key corporate facility with a primary emphasis as a general aviation pilot training facility for the Metroplex.

On the other hand, by maximizing the amount of land available on the east side of the airport, Spinks could accommodate a large tenant, i.e., one requiring many acres, 25, 50, 100 or more, providing considerable job creation opportunities. At this time, there are few airport opportunities in the Metroplex or in Texas that has as much potential as Spinks. Maximizing land availability would position the airport for an ultimate role as a key corporate facility and industrial airpark. In this scenario, a parallel runway to accommodate large numbers of operations by smaller aircraft would not be needed since the land would be used differently and based aircraft in those numbers would not materialize.

In summary, use of land east of Runway 17R/35L has been the main tradeoff considered in this airport master plan. With incremental development, there is greater potential for the general aviation pilot training role for Spinks to occur for the east side of the airport to accommodate larger number of based aircraft in T-Hangars. In the long-term as the airport matures and as land uses in the area become fully urbanized like north Fort Worth and north Dallas, the airport could slowly redevelop on the east side as a corporate facility since the west side would be built out. These alternative futures are not necessarily mutually exclusive; the master plan has been developed to accommodate either scenario.

ENVIRONMENTAL OVERVIEW

The purpose of the Environmental Overview is to gain understanding of whether the potential development of future facilities at Spinks could significantly affect the quality of the environment. If so, the capital improvements program would need to be adjusted for both potential costs associated with mitigation, if possible, or adjustments to the construction timing of project implementation as a result of conducting prerequisite environmental documentation and obtaining approvals.

Likely, the key environmental issues that future major projects might face at Spinks are wetlands and air quality.

Typically, noise is one of the most important issues faced by airports. However, the estimated aircraft noise generated by the mix of aircraft forecast to operate at Spinks in the future does not appear to pose a problem for its environment for two reasons:

- Noise estimated to be significant, i.e., DNL 65 or greater, does not exceed the airport boundary for the 2022 “with project” scenario (i.e. north extension of Runway 17R/35L) and was based upon the original assumption of a 1,500 foot extension, which makes the contour conservative; and,

- The proposed Height and Hazard Ordinance addresses compatible land use for areas encompassing DNL 60, as well as areas north of the Airport to Deer Creek.

Air quality could be an issue relative to construction activities since Tarrant County is listed as one of the 25 counties most impacted counties in the United States for ozone emissions. Accordingly, construction activities associated with the runway extension would need to be evaluated during environmental documentations. However, it would not be expected that even with the more stringent air quality standards going into effect in the Metroplex in the next couple of years that this will not adversely impact the runway extensions' viability.

Water quality, wetland and floodplains could be an issue, although preliminary coordination with the USACE indicates that this may not be of great concern. It is quite likely that the runway extension project, if it is a north extension, may not require an NPDES permit. However, it should be noted that any development that would fill in the detention ponds between the runways is an issue that warrants further investigation.

Should a runway extension project include the approximately 43 acres to be acquired for the larger PI RPZ, the environmental document will need to describe the impacts caused from relocation of three dwellings. Projects involving land acquisitions must address the issue of replacement housing and investigate for purposes of due diligence the potential for risk from hazardous substances. There are no apparent difficulties in locating suitable replacement housing. Also, it is anticipated that a simple site evaluation procedure, such as the Transaction Screen Process in accordance with the American Society for Testing and Materials (ASTM) E-1528, is all that will be necessary for assessing hazardous substance risk.

In conclusion, it would be anticipated that future environmental actions not directly involving impacts to the Airport's major detention ponds likely will result in a FONSI, qualifiers noted.

RECOMMENDED PLAN

The key guideline that was kept in mind while the alternatives were being developed was to build flexibility into the planning process to accommodate a variety of future options which might occur. As anticipated, maintaining flexibility to be able to respond to alternative futures often involves tradeoffs.

Prior to beginning the evaluation of alternatives and identification of a recommended plan, the four primary objectives identified at the beginning of the planning process will be reiterated as a framework for evaluating the alternatives. These were:

- Provision of an orderly plan for future facilities expansion;
- Development of a comprehensive plan for future development of airport property to maximize revenue potential, including non aviation-oriented uses, if applicable;

- Provision of a flexible plan that can accommodate dynamic new trends yet remain true to long-term development goals; and,
- Identification of a program to protect the long-term viability of airfield from incompatible land uses.

There are two major milestones for Spinks identified in the Master Plan, and these are the basis for the recommended plan:

1. Extension of Runway 17R/35L. The threshold for deciding to extend the runway will be reached within the next several years. The City should proceed with preliminary engineering studies, such as an obstruction survey to determine any airspace obstacles to future north extension, land acquisition of needed acreage north of F.M. 1187 for the future upgraded approach and south of the Airport for an ultimate approach, and the environmental assessment.

2. Major East Side Land Development or Paving Runway 17L/35R. Timing for the second milestone is less apparent. The location of Spinks makes it ripe for development. It is not clear whether the City will be approached with a major development opportunity that might require dedication of large acreage at the Airport. If this occurs, the entire role of the Airport would be affected as it would certainly become more industrial airpark oriented. The City should retain this option for as long as reasonable. Construction of a paved Runway 17L/35R would reduce available land for development significantly. This is a “wait and see” issue that is better addressed by future updates. This master plan retains the option for either eventuality.

The Recommended Plan for FWS is identified by Phase in the **Recommended 20-Year Capital Improvements Program** table below.

Recommended 20-Year Capital Improvements Program			
Recommended Improvement	Short-term (0-5)	Medium-term (6-10)	Long-term (11-20)
Runway/Taxiway System			
Runway 17R Extension, 1,000' North	625,000	5,057,000	0
Runway 35L Extension, 1,000' South - Precision Approach(ultimate)	100,000		
Pave Runway 17L/35R			1,894,000
Extend Twy C and Construct Parallel to Twy C		58,000	391,000
Taxiway Maintenance and Overlay		2,143,000	894,000
Other Navigational Aids	1,000,000	110,000	
Terminal Area	1,339,000	807,000	1,727,000
Other Facilities	893,500	270,000	250,000
Interior Roadways	230,000	513,000	466,000
Estimated Costs Per Planning Phase	4,187,500	8,958,000	5,622,000

The financial analysis for the recommended plan suggests that the master plan projects, using the recommended phasing, would be financially feasible if additional funding can be found in the Medium Term. There are several critical factors that would affect the above analysis:

1. A critical determinant of project feasibility is the year-by-year phasing of construction expenditures. In general, delaying a project provides more time to accumulate funding and also allows the Airport to exploit the greater revenue generating capacity in future years. Project costs also tend to increase with delays, and delaying expansion may constrain an airport from generating the revenues it needs to finance the expansion. Phasing decisions can, therefore, either positively or negatively affect financial feasibility.
2. The financial analysis used the medium-range aviation forecast. If the High aviation activity forecast were used instead, available net revenues would all be higher, and the Airport's ability to fund the recommended projects would be improved. Conversely, use of the low-range forecast would reduce the City's ability to fund the recommended projects without additional capital.
3. This analysis assumed no AIP discretionary funds of the FAA or other federal monies would be available. If these funds could be obtained, the feasibility of the plan would be greatly enhanced.
4. The assumed inflation rate is 1.5 percent per year. A lower inflation rate would slightly reduce the nominal costs of capital projects, especially in the Medium Term and allow more of them to be funded with the available funds.