

RECOMMENDED MASTER PLAN CONCEPT



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The planning process for Cox Field Airport has included several analytical efforts in the previous chapters intended to project potential aviation demand, establish airside and landside facility needs, and evaluate options for improving the airport to meet those facility needs. The planning process, thus far, has included the presentation of two draft phase reports, representing the first four chapters of the Master Plan, to the Planning Advisory Committee (PAC) and one public information workshop. A plan for the use of Cox Field Airport has evolved considering input from the PAC, City of Paris, Texas Department of Transportation - Aviation Division (TxDOT), Cox Field Airport Board, airport tenants, airport users, and

the general public. The purpose of this chapter is to describe, in narrative and graphic form, the plan for the future use and development of the airport.

RECOMMENDED MASTER PLAN CONCEPT

The recommended Master Plan Concept represents the development direction for Cox Field Airport through the 20-year planning period and beyond. It is the consolidation and refinement of the airside and landside planning alternatives, presented in Chapter Four, into a single development concept.

The resultant plan represents the point-in-time conceptual plan for the airport's future. As always, the best



laid plans can change due to changing environments. As such, it is important to note that this plan does not preclude future changes and/or refinements. Moreover, the City of Paris and/or TxDOT are not bound to completing this plan. As has been outlined in previous chapters, this planning effort calls for development according to a demand driven schedule. Future demand factors will serve to justify capital expenditures for both airside and landside facilities. Ultimately, if the demand does not materialize, those funds will not need to be expended.

AIRSIDE DEVELOPMENT PLAN

Airside components include the runways, parallel and connecting taxiways, lighting and marking aids, navigational aids, and imaginary surfaces which help provide a safe operating environment for aircraft as well as persons and property on the ground. The major airside issues addressed in the Master Plan Concept include the following:

- Upgrade Runway 17-35 to Airport Reference Code (ARC) C/D-II design standards;
- Adhere to appropriate safety design standards on Runway 17-35;
- Ultimate closure and removal (if necessary and/or prudent) of crosswind Runway 3-21;
- Relocate the Runway 14 threshold 280 feet southeast in order to pro-

vide appropriate safety measures associated with holdlines;

- Construct additional taxiways and realign existing taxiways associated with Runways 17-35 and 14-32;
- Improve instrument approach procedures on all runway ends;
- Acquire land for approach protection;
- Decrease the width of Runways 17-35 and 14-32 to 100 feet and 75 feet, respectively;
- Upgrade runway lighting and visual approach aids;
- Strengthen Runway 17-35 to 60,000 pounds single wheel loading (SWL) and Runway 14-32 to 30,000 pounds SWL.

Airfield Design Standards

As a federally obligated airport (the result of accepting federal grant funding), Cox Field Airport must comply with Federal Aviation Administration (FAA) design and safety standards. As discussed previously in Chapters Three and Four, FAA design criterion, categorized by ARC, is a function of the critical design aircraft's approach speed, wingspan, and/or tail height, and in some cases, the runway approach visibility minimums. The critical design aircraft is defined as the most demanding aircraft or "family" of aircraft which regularly uses the air-

port. TxDOT defines regular use as at least 250 annual operations.

Cox Field Airport is used by a wide range of aircraft. These aircraft include, at a minimum, single and multi-engine piston aircraft within ARCs A-I and B-I, turboprop aircraft within ARCs B-I and B-II, and business jet aircraft within ARCs B-I through D-III.

As detailed in Chapter Three, a large majority of aircraft that utilize the airport fall within ARCs A-I, B-I, and B-II. Aircraft in ARCs C-I through D-III are the most demanding aircraft to utilize the airport in terms of approach speed and wingspan; however, these aircraft groupings currently do not conduct at least 250 annual operations at the airport for them to be considered the critical aircraft according to TxDOT standards. As a result, it has been determined that the current critical aircraft falls in ARC B-II and airfield design standards should be met accordingly.

The Master Plan anticipates that Cox Field Airport will transition to ARC C/D-II during the course of the planning period as the future based aircraft and transient aircraft fleet mix is expected to include larger and more sophisticated aircraft. Analysis in previous chapters indicated that the runways at Cox Field Airport are expected to serve different types of aircraft; therefore, an ARC has been assigned separately for each runway and used in the development and ultimate Master Plan Concept. As the primary runway at the airport, Runway 17-35 will serve the needs of all aircraft ex-

pected to utilize the airport. For this reason, it is planned for the most demanding ARC C/D-II standards. It was determined that crosswind Runways 14-32 and 3-21 need only to conform to ARC B-II design standards.

Upgrading to ARC C/D-II design standards will allow the airport to accommodate a large range of jet aircraft on the market today while ensuring the safety of these operations. Moreover, meeting these design requirements will ensure that the airport is well positioned to remain competitive for aviation-related development and those businesses which have aviation needs.

The following sections summarize airside development recommendations as depicted on **Exhibit 5A**. It is important to note that the recommended concept provides for anticipated facility needs over the next 20 years, as well as establishing a vision and direction for meeting facility needs beyond the planning period of this Master Plan.

- **Upgrade Runway 17-35 to ARC C/D-II design standards**

Forecast operations at Cox Field Airport include an increase in turboprop and jet aircraft utilizing the airport. Several local corporations currently utilize the airport via large jet aircraft such as the Gulfstream V. Some of the larger jet aircraft that are forecast to utilize the airport on a more frequent basis have higher approach speeds than the current critical aircraft operating at the airport. The higher approach speeds of these air-

craft are expected to have the potential of changing the critical aircraft designation for the airport.

Should aircraft in ARC C/D-II begin to utilize the airport on a frequent basis, Runway 17-35 will need to conform to ARC C/D-II design standards. This will require meeting FAA design standards which call for a larger runway safety area (RSA) and object free area (OFA). The airport is in good position for this transition from the standpoint that the ultimate RSA and OFA are located entirely on airport property; however, the ultimate RSA and OFA adjacent to the south end of Runway 17-35 is currently obstructed by trees and the Little Sandy Creek. On the north side of Runway 17-35, the ultimate OFA is obstructed by trees and fencing. Further discussion regarding these obstructions will be addressed in the next section.

- **Adhere to appropriate safety design standards on Runway 17-35**

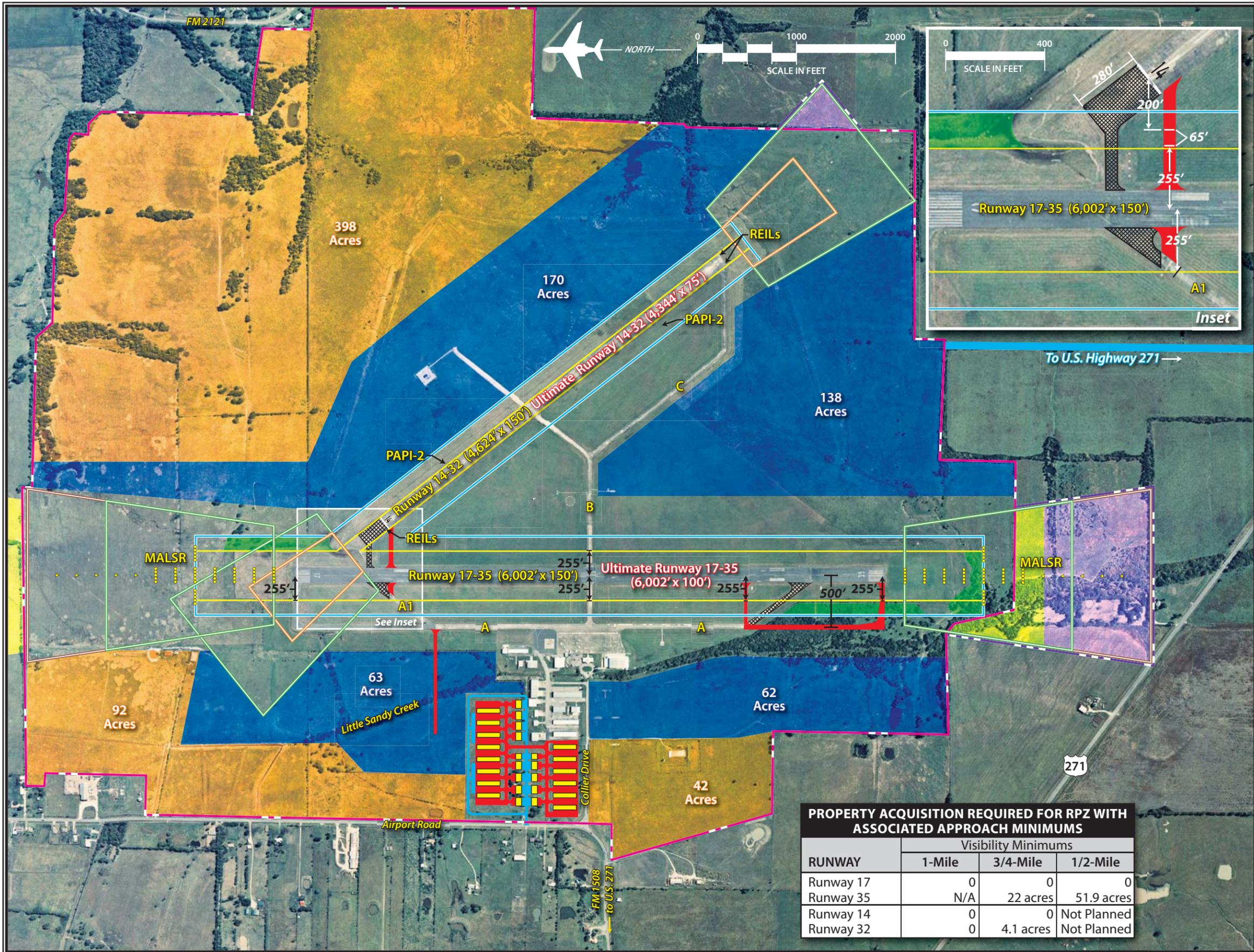
The Master Plan Concept considers the RSA and OFA deficiencies adjacent to the north and south sides of Runway 17-35. As previously discussed, the FAA requires the RSA to be cleared and graded; drained by grading, culverts, or piping; capable of accommodating the design aircraft and fire and rescue vehicles; and free of obstacles not fixed by navigational purpose. The OFA must provide clearance of all ground-based objects protruding above the RSA edge elevation, unless the object is fixed by function serving air or ground navigation.

Runway 17-35 currently serves aircraft in ARC B-II with a not lower than $\frac{3}{4}$ -mile visibility minimum approach. Based on these factors, the existing RSA and OFA conform to design standards as the requisite areas are free of obstructions.

As the airport transitions to ARC C/D-II, the RSA will widen to 250 feet each side of the runway centerline and extend 1,000 feet beyond each runway end. Furthermore, the OFA will widen to 400 feet each side of the runway centerline and also extend 1,000 feet beyond each runway end. When this occurs, improvements will be needed for areas adjacent to the north and south sides of Runway 17-35 as highlighted on **Exhibit 5A**. On the south and southwest sides of the runway, improvements to the RSA would include tree clearing and grading. Removal of trees within certain portions of the OFA would also be needed in this area. Adjacent to the north side of Runway 17-35, fencing and brush/trees would need to be removed from within the expanded OFA.

- **Ultimate closure and removal of Runway 3-21**

As previously discussed, Cox Field Airport is served by three runways. Due to operational and capital costs of maintaining airfield pavements, the FAA and TxDOT will only participate in grant funding assistance for improvements deemed justifiable and/or necessary. Three runways at the airport are not needed to meet safety requirements or to satisfy airfield capacity.



PROPERTY ACQUISITION REQUIRED FOR RPZ WITH ASSOCIATED APPROACH MINIMUMS

RUNWAY	Visibility Minimums		
	1-Mile	3/4-Mile	1/2-Mile
Runway 17	0	0	0
Runway 35	N/A	22 acres	51.9 acres
Runway 14	0	0	Not Planned
Runway 32	0	4.1 acres	Not Planned

LEGEND

LAND USE

- Existing Avigation Easement
- Acquire Property Interests
- Aviation Reserve / Open
- Industrial, Commercial, or Release
- Improvements to Safety Areas

DESIGN

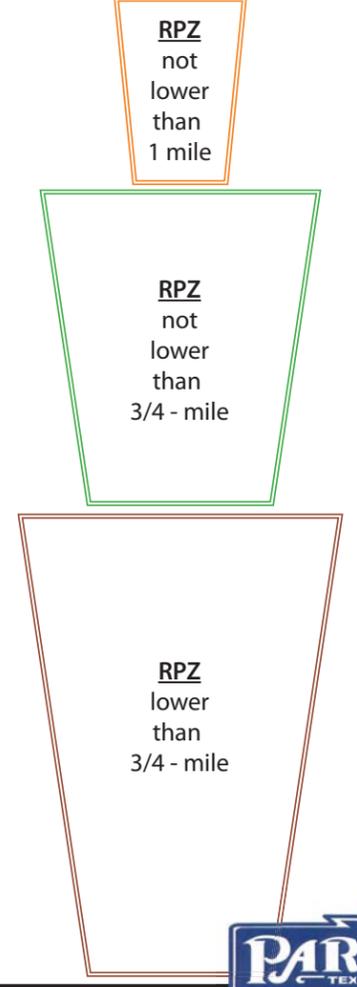
- Existing Airport Property Line
- Ultimate Airport Property Line
- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Ultimate Airport Road
- Ultimate Airport Pavement
- Ultimate Airport Building
- Pavement to be Removed

RPZ Runway Protection Zone

MALSR Medium Intensity Approach Lighting System w/ Runway Alignment Indicator Lights

PAPI Precision Approach Path Indicator

REIL Runway End Identification Light



Analysis in Chapter Three indicated that primary Runway 17-35 falls short of meeting the 95 percent crosswind coverage that the FAA generally requires for a single runway system. As a result, at least one crosswind runway could be eligible for federal and/or state funding assistance.

Exhibit 5A depicts the ultimate closure and removal of Runway 3-21 at Cox Field Airport. In doing so, crosswind Runway 14-32 would be maintained as the only crosswind runway at the airport. When combined with primary Runway 17-35, these two runways provide at least 98 percent coverage for all crosswind components, which exceeds the FAA requirement. Furthermore, the closure of Runway 3-21 would allow a large area of vacant land on the southeast side of the airport that could be utilized for landside development.

It should be noted that although the Master Plan is calling for the ultimate closure of Runway 3-21, it does not propose that this will occur in the near future. This runway could remain operational until its useful life, safety of operations, or limited financial resources dictate closure. As illustrated on the Master Plan Concept, the removal of all pavement associated with Runway 3-21 is ultimately considered so as to minimize airfield confusion and maximize the potential for landside development in this area. Moreover, airports have successfully re-used closed pavement sections as base materials for new pavement improvements. The extent to which pavement would be physically removed could depend on funding assistance and the

magnitude of landside development on the southeast side of the airport. Removal of the pavement is not required and many airports have the remains of long closed runway pavements. The plan proposes the pavement removal; however, it is fully understood that the execution of such may not occur due to funding limitations.

- **Relocate the Runway 14 threshold 280 feet southeast in order to provide appropriate safety measures associated with holdlines and safety areas**

Analysis in the previous chapter outlined the required distances for holdline placement on Runways 17-35 and 14-32. ARC B-II runway design requires holdlines to be placed 200 feet perpendicular to the runway centerline. This standard currently applies to all runways at Cox Field Airport. All holdlines located on taxiways west of Runway 17-35 and on Taxiway B east of the runway are set 250 feet from the runway centerline. This exceeds the current standard and meets the standard for ARC C-II. In order to meet ARC D-II standards, the holdlines would need to be located an additional five feet from the runway centerline, as ultimately depicted on **Exhibit 5A**, extending to 255 feet from the runway centerline.

The access taxiways leading east from Runway 17-35 to the Runways 3 and 14 thresholds, however, are set 175 feet from the Runway 17-35 centerline. The holdlines are placed so as to provide 200 feet separation from each crosswind runway threshold, which

meets standard. In doing so, however, they are located too near Runway 17-35, which would result in aircraft holding on the access taxiways to be located within the ultimate Runway 17-35 RSA. This scenario would likely deny any improved instrument approach procedures to the primary runway and could even serve as a detriment to existing approaches.

As a result, the Master Plan Concept calls for relocating the Runway 14 threshold 280 feet southeast in order to provide adequate space for holdlines associated with Runways 17-35 and 14-32 while also providing adequate space for aircraft to hold between both holdlines. In doing so, the overall length of Runway 14-32 would be shortened to 4,344 feet, which still could adequately serve aircraft operations associated with the crosswind runway. It should be noted that a similar scenario would apply to the Runway 3 threshold on the south side of the airport. In this case, the Runway 3 threshold would need to be relocated 300 feet northeast in order to satisfy holdline requirements; however, due to the development plan calling for the ultimate closure of Runway 3-21, this concept is not depicted.

- **Construct additional taxiways and realign existing taxiways associated with Runways 17-35 and 14-32**

In order to support a relocated threshold on Runway 14, the Master Plan Concept calls for removing the existing taxiway that traverses east of Runway 17-35 connecting to the Runway 14

end and constructing a new taxiway approximately 200 feet south. In doing so, a portion of the acute angled Taxiway A1 on the west side of Runway 17-35 will need to be reconfigured as proposed.

The extension of parallel Taxiway A approximately 1,400 feet to the south is also called for in the development plan so as to provide a full-length parallel taxiway serving Runway 17-35. Extending the taxiway south to the Runway 35 threshold will improve airfield efficiency and safety and is required in order for the runway to be served by a precision approach with lower than $\frac{3}{4}$ -mile visibility minimums. In fact, FAA standards call for a parallel taxiway prior to providing approach minimums below one mile. Obviously, the FAA did not penalize the existing approach to Runway 35; however, the FAA will not likely approve any lower approach minimums without this improvement. Prior to constructing this taxiway, improvements would be needed in this area involving removing trees, drainage improvements, and grading associated terrain.

Additional taxiway improvements as depicted on **Exhibit 5A** include the removal of the existing acute angled taxiway currently located 800 feet north of the Runway 35 threshold. The plan calls for realigning this taxiway perpendicular to Runway 17-35 and relocating the taxiway exit to a distance of 1,400 feet from the Runway 35 threshold. This alignment better serves the existing four-box visual approach slope indicators (VASI-4s) serving Runway 35. This project

would not be prudent and/or feasible until Runway 3-21 is closed.

- **Improve instrument approach procedures on all runway ends**

There are currently three published instrument approach procedures serving Cox Field Airport, with one serving Runway 17 and two serving Runway 35. Where possible, approach minimums should be as low as practical considering safety and financial constraints. Lower approach minimums and/or straight-in instrument approach procedures could prevent aircraft from having to divert to another airport when visibility and cloud ceilings are lower than currently provided, which can cause financial hardship for the operator, on-airport businesses, and the City.

The Master Plan Concept calls for additional straight-in instrument approaches to Runway 17-35 at the airport that would allow for visibility minimums as low as ½-mile and cloud ceilings as low as 200 feet above ground level (AGL). The installation of a medium intensity approach lighting system with runway alignment indicator lights (MALSR) is required to achieve these visibility minimums and cloud ceiling requirements. Further engineering analysis would be needed to determine the location of a MALSR on either runway end.

While the proposed plan considers implementing these approaches and a MALSR on both ends of Runway 17-35, it is unlikely that both ends will

receive funding for MALSR improvements unless demand dictates. However, given the large aircraft that currently use and are forecast to increasingly use the airport, prudent planning should outline this potential. Without planning, the projects would not be eligible for funding assistance in the future.

Straight-in instrument approaches serving each end of Runway 14-32 are also called for on the development plan. In the event that Runway 17-35 were to be closed for emergency and/or maintenance reasons, Runway 14-32 would be the only available means for aircraft to access the airport. Thus, it is important that this runway be accessible at all times. The plan proposes each end of Runway 14-32 support an instrument approach with visibility minimums not lower than ¾-mile.

As discussed in previous chapters, a large majority of new instrument approach procedures are being developed with global positioning system (GPS) technologies. With the development of the Wide Area Augmentation System (WAAS), a GPS WAAS approach provides for both course and vertical navigation, similar to a traditional instrument landing system (ILS) precision approach. As WAAS continues to be upgraded and the Local Area Augmentation System (LAAS) is implemented, precision approaches similar to an ILS should become available for Cox Field Airport via GPS. The LAAS enhancement serves to further improve the GPS data, making it more precise and in-line with current ILS standards.

Currently, a localizer performance with vertical guidance (LPV) approach, which can only be flown with WAAS capability, is offered at Cox Field Airport and provides for visibility minimums not lower than ¾-mile on Runway 35. Planning considers all straight-in instrument approaches at the airport to utilize GPS WAAS and LAAS capabilities. Future analysis completed by the FAA separate from this study will determine the types of instrument approach procedures and corresponding minimums that could serve the airport.

Generally, an approach providing not lower than ¾-mile visibility minimums has required the installation of an abbreviated approach lighting system such as a medium intensity approach lighting system (MALS). The FAA has, however, been approving more of these approaches without the installation of an approach lighting system. This plan does not include the installation of an approach lighting system for the crosswind runway as funding assistance would not be likely. As a result, the minimums proposed would only be attained if the FAA approves.

- **Acquire land for approach protection**

With the onset of improved instrument approach procedures to Runways 17-35 and 14-32, the proposed runway protection zones (RPZs) will further expand to include areas outside existing airport property. As depicted on **Exhibit 5A**, 51.9 acres is planned for fee simple property acquisition on the

south side of the airport extending to U.S. Highway 271. This acquisition would secure not only the land within the ultimate RPZ, but also the land necessary to install the MALSR. Current land use in this area is dedicated for agricultural purposes in the form of farmland. Other areas are vacant and associated with Little Sandy Creek. It should be noted that an aviation easement currently exists over 11.9 acres of this area which allows control of designated airspace rights. While this type of land control can be effective, fee simple acquisition is the preferred alternative by the FAA and TxDOT.

The ultimate RPZ associated with a ¾-mile visibility instrument approach procedure on Runway 32 also extends outside existing airport property and encompasses approximately 4.1 acres of agricultural-related farmland. The development plan calls for the airport to acquire control of this property by means of fee simple property acquisition. This proposed acquisition, however, would only be needed if Runway 32 were served by an approach having ¾-mile visibility minimums.

- **Decrease the width of Runways 17-35 and 14-32 to 100 feet and 75 feet, respectively**

The critical design aircraft and approach visibility minimums determine runway width requirements as set forth by the FAA. The existing critical design aircraft for Runway 17-35 falls within ARC B-II and the lowest visibility minimum provided is ¾-mile associated with the GPS LPV instru-

ment approach procedure. The minimum runway width standard for these conditions is 75 feet. Future planning considers an ARC C/D-II runway served by ½-mile visibility approach minimums, in which a width of 100 feet is required. The current width of Runway 17-35 is 150 feet, which exceeds the existing and ultimate requirements set forth by the FAA. As such, the development plan supports an ultimate width of 100 feet on Runway 17-35. In fact, the width of Runway 17-35 will be narrowed to 100 feet in a project currently under design for execution in 2011.

Both of the crosswind runways at Cox Field Airport are also currently 150 feet wide. The FAA calls for a runway width of 75 feet to meet ARC B-II standards for visual runways and runways served by an instrument approach procedure with not lower than ¾-mile visibility minimums. As a result, the Master Plan Concept presents the ultimate crosswind Runway 14-32 as 75 feet wide.

- **Upgrade runway lighting and visual approach aids**

Currently, Runway 14-32 is not equipped with medium intensity runway lighting (MIRL), which limits its use to daytime operations only. MIRL would provide pilots with positive identification of the runway and its alignment during nighttime and/or poor visibility conditions. Furthermore, during these times if Runway 17-35 would be closed for maintenance or emergencies, MIRL serving Runway 14-32 would allow the airport to re-

main open. As a result, MIRL has been planned for Runway 14-32 during the long term planning period of this study.

The Master Plan Concept includes the installation of runway end identification lights (REILs) on each end of Runway 14-32. This will provide pilots with the improved ability to distinguish the runway ends during nighttime conditions. REILs should be considered for all lighted runway ends not planned for a more sophisticated approach lighting system. As a result, REILs are recommended on Runway 14-32 in the event that MIRL is implemented. Given that the development plan depicts the installation of a MALSR on each end of Runway 17-35, REILs are not planned for these runway ends. It should be noted that REILs are low priority projects in TxDOT's funding mechanism, and funding for these units may not be forthcoming. Moreover, the design of a REIL to Runway 14 would require the use of shielding so as to not impair a pilot's visual acuity while approaching and landing on Runway 17.

Runway 17-35 is currently served with visual approach aids in the form of a four-box precision approach path indicator (PAPI-4) on Runway 17 and a VASI-4 on Runway 35. Two-box PAPIs should be installed on each end of Runway 14-32 to further enhance airfield operational efficiency and safety.

- **Strengthen Runway 17-35 to 60,000 pounds SWL and Runway 14-32 to 30,000 pounds SWL**

The current strength rating on Runways 17-35 and 14-32 are 30,000 pounds SWL and 26,000 SWL, respectively. The recommended development plan includes improving pavements on Runway 17-35 to obtain an ultimate SWL of 60,000 pounds and Runway 14-32 to obtain an ultimate SWL of 30,000 pounds. This will meet the demands of future critical design aircraft within ARC C/D-II on Runway 17-35 and ARC B-II on Runway 14-32.

LANDSIDE DEVELOPMENT PLAN

Landside components include aircraft storage hangars, aircraft parking aprons, hangar and apron access taxiways and taxilanes, fuel storage facilities, terminal areas, and vehicle parking lots which help provide the interface between air and ground transportation modes. Also, Cox Field Airport's expansive property bounds offer the opportunity for non-aviation related development which would enhance the airport's financial position. The primary goal of landside facility planning is to provide adequate aircraft storage space to meet the forecast need, while also maximizing operational efficiencies and land uses. Achieving this goal yields a development scheme which segregates aircraft users (large vs. small aircraft).

The landside plan for Cox Field Airport has been devised to efficiently accommodate potential aviation demand and provide revenue enhancement

possibilities by designating the use of certain portions of airport property for aviation and non-aviation development. Future construction of landside facilities is anticipated to be done through a combination of private and public investments.

The development of landside facilities will be demand-based. In this manner, the facilities will only be constructed if required by verifiable demand. For example, aircraft storage hangars will be constructed only if new based aircraft owners desire enclosed aircraft storage. The landside plan is based on projected needs that can change over time. The landside plan is developed with flexibility in mind to ensure the orderly development of the airport should this demand materialize.

The following list includes the major considerations for landside improvements at Cox Field Airport throughout the planning period. **Exhibit 5A** depicts the recommended landside development plan for the airport.

- Construct additional aircraft storage hangars;
- Extend aircraft access at the airport farther west, providing for additional aviation development should demand dictate;
- Expand aviation support facilities in the form of additional fuel storage capacity;

- Designate non-aviation development areas on the airport in the form of industrial and/or commercial land uses to further enhance potential revenues;
- Identify existing airport property on the east side of Runway 17-35 for future development.

Hangars and Aviation Development Areas

The Master Plan Concept shows the location for potential hangar development at the airport. **Table 5A** presents the existing and ultimate aircraft storage hangar area as determined previously in Chapter Three.

TABLE 5A Hangar Space Planned Cox Field Airport				
	Current Supply Estimate	20-Year Supply Forecast	Total 20-Year Needed	Provided In Master Plan
Based Aircraft	56	83	27	
Hangar Area Requirements				
Total Hangar Storage/Maintenance Area (square feet)	117,250	147,025	29,775	172,400
Source: Coffman Associates analysis				

As can be seen from the table, the Master Plan Concept provides approximately 172,400 square feet of additional hangar storage space. The need over the next 20 years is estimated at 29,775 square feet should demand for based aircraft and annual aircraft operations grow according to the forecasts presented in Chapter Two. It should be noted that this includes space for aircraft storage and maintenance activities. Therefore, the hangar layout presented represents a vision for the airport that extends beyond the scope of this Master Plan. The reason for this is to provide airport decision-makers with dedicated areas on the airport that should be reserved for certain hangar types.

In order for the hangar development to occur as illustrated on the Master

Plan Concept, the existing taxiway extending west from the main aircraft parking apron must be extended farther west to provide aircraft access to these development areas. As proposed, five separate executive-style hangars intended for private aircraft owners and/or aviation businesses and six storage hangars that could provide aircraft storage space similar to a T-hangar or box hangar are located immediately adjacent to the taxiway extension. The plan also proposes a taxiway extending north from this area to provide access to a new hangar development area. The taxiway would allow access to additional executive-style hangars and T-hangar or box hangars. The hangars would each be provided their own apron area and access taxilane leading to the main taxiway.

As already mentioned, the proposed development called for on the Master Plan Concept would be provided access to the airfield from the same taxiway currently connecting to the main aircraft parking apron. The primary reason for the singular taxiway access is that Little Sandy Creek traverses north to south through this area and, in essence, serves as a physical barrier between the existing terminal area and hangar development to the west. Given the significant environmental and construction costs that would be associated with extending a new taxiway over the creek, the development plan maximizes vacant space to the west of Little Sandy Creek in order to provide the airport with a more cost-effective layout to meet future aviation demand, and in doing so, utilizes the existing taxiway that crosses the creek.

With this being said, however, the construction of a new taxiway farther north that would connect Taxiway A to potential development west of Little Sandy Creek is proposed, as presented on **Exhibit 5A**. Significant aviation demand at the airport would have to occur in order to warrant justification for this taxiway, which most likely would occur well beyond the 20-year planning period of this study. Nonetheless, it does provide the City of Paris with a vision for the continued development of aviation-related facilities on the west side of the airport.

In order to better segregate aircraft and vehicle activities, the Master Plan Concept calls for separate roadway access leading to proposed aviation development. An access road extend-

ing east from Airport Road would provide dedicated vehicle access to the hangar areas.

Also included on the development plan are two large areas dedicated for aviation-related development on the west side of the airport. North of the current terminal area are approximately 63 acres of airport property that could accommodate a variety of aviation activities. Moving farther south, across from Collier Drive, are an additional 62 acres of existing property designed for aviation development. Significant improvements will be needed for the utilization of these areas to include site preparations, taxiway and roadway access, and utility extensions. Careful consideration should be given regarding the implementation of staging projects in these areas, which most likely will occur beyond the long term planning period of this Master Plan. While the recommended development plan designates the use of these areas for aviation-related activities, actual demand will dictate the timeline for future development.

Aviation Support Facilities

Currently, there is one fuel farm at the airport that consists of two underground storage tanks: one dedicated for Avgas and one for Jet A fuel. Both storage tanks have a capacity of 10,000 gallons. Future aircraft operational levels could warrant the need for additional fuel storage capacity during peak periods, especially in the form of Jet A fuel. As a result, the expansion of the existing fuel farm to include the addition of 10,000 gallons of

additional capacity for Jet A fuel storage is planned.

West-side Non-Aviation Development Parcels

The Master Plan Concept also reserves land on the west side of the airport for non-aviation uses that could support commercial and/or industrial development. These types of land use would be compatible with aviation activities conducted at the airport. Two separate areas are depicted on the development plan, one comprising 42 acres and the other 92 acres. Located adjacent to Airport Road/FM Road 1508, these areas are provided direct access to desirable roadway infrastructure capable of handling large-scale commercial/industrial uses. Improved automobile access and utility infrastructure within these areas would be needed in order to accommodate non-aviation land uses which could further enhance airport revenue support.

East Landside Plan

Given the significant amount of property at Cox Field Airport, there is a large area of vacant land east of the existing runway system. Agricultural-related activities are currently being conducted over portions of these areas. As previously discussed, the development plan depicts the closure and removal of Runway 3-21, which would ultimately create even more developa-

ble property on the east side of the airport. While forecast aviation demand is expected to be met on the west side of the airport through the planning period of this study, the Master Plan Concept designates over 700 acres of property for future aviation and non-aviation related development on the east side of the airport.

Extensive utility infrastructure, taxiway construction, and vehicle access would be needed to prepare the east side of the airport for any type of development. As depicted on **Exhibit 5A**, a roadway extending north from U.S. Highway 271 could provide access to the southern portion of this development area. Due to the location of crosswind Runway 14-32, access to the aviation and non-aviation development areas comprising the northeast portion of Cox Field Airport could be obtained via FM Road 2121.

SUMMARY

The recommended Master Plan Concept is designed to assist in making decisions on the future growth and development of Cox Field Airport. Flexibility will be very important to future development at the airport, as activity may not occur as predicted. The recommended plan provides the airport stakeholders with a general guide that, if followed, can maintain the airport's long term viability and allow the airport to continue to provide air transportation service to the region.