AIRPORT DEVELOPMENT ALTERNATIVES

This section identifies and evaluates various airside development factors at ODO to meet the requirements set forth in the previous section. Airside facilities are, by nature, the focal point of an airport complex. Because of their primary role and the fact that they physically dominate airport land use, airfield facility needs are often the most critical factor in the determination of viable development options. Each functional area interrelates and affects the development potential of the others. Therefore, all areas are examined individually, and then coordinated as a whole, to ensure the final plan is functional, efficient, and cost-effective. The total impact of all these factors on the airport must be evaluated to determine if the investment in ODO will meet the aviation needs of Ector County and the region, both during and beyond the 20-year planning period.

The alternatives to follow will examine airside improvement opportunities to meet design standards and/or capacity constraints. The primary airside planning issues to be considered in this alternatives analysis are:

- Continuation of the three-runway system or potential closure of one runway, based upon best runway alignments as determined by wind coverage and surrounding land uses
- Meet ultimate RDC C-III-2400 design standards on the primary runway and B-II-5000 design standards on the crosswind and/or 'additional' runway
- Runway extension options to better accommodate turboprop and business jet operations
- Obstruction mitigation in existing/ultimate safety areas (RSA and ROFA) and incompatibility analysis in existing/ultimate RPZs
- Property acquisition (in fee or avigation easement) to maintain control of safety areas (in all forms) for the existing/ultimate condition
- Corrective measures for non-standard taxiway geometry (direct access, high-energy crossings, acute-angled intersections, non-standard holding bays, non-standard taxiway fillets)
- Added/upgraded airfield navigation and lighting equipment
- New and/or improved instrument approach capability

RUNWAY SYSTEM

A primary consideration of this study is an evaluation of the continued need for the existing three-runway system. As outlined in previous sections, the current three-runway system at ODO is being evaluated to determine if three runways are necessary/justified or if a two-runway system is a more appropriate layout. The FAA will not support two crosswind runways, nor will they support a third (additional) runway unless there is enough operational demand to justify it. TxDOT/FAA currently consider only Runways 11-29 and 16-34 eligible for grant funding, while Ector County funds maintenance and improvements to Runway 2-20 (not currently eligible for grant funding).

Exhibit 26, included previously, depicted wind coverage provided by each runway pair during all-weather and IFR conditions. At ODO, a crosswind runway is justified per FAA design standards as no singular runway alignment affords adequate wind coverage (i.e., greater than 95 percent crosswind component); however, a third runway is not justified for federal/state grant funding support. When considering a two-runway system, the best overall wind coverage is provided by the combination of Runway 11-29 and Runway 2-20, which provides 96.37 percent coverage in 10.5-knot conditions and greater than 99.02 percent coverage in 13-knot and above conditions. The next best pairing is Runway 16-34 and Runway 2-20, which provides for 95.25 percent coverage in 10.5-knot conditions and more than 97.85 percent in 13-knot and greater conditions. The combination of Runway 11-29 and Runway 16-34 provides just 91.83 percent coverage in 10.5-knot conditions, which does not meet the 95 percent coverage requirement for 10.5 knots. Thus, this pairing would not be eligible to be selected for federal/state funding since a third runway would still be needed, and two other two-runway pairing options can meet the standard.

The alternatives to follow will include dual runway scenarios that maintain Runways 11-29 and 2-20 and Runways 16-34 and 2-20, as well as the current three-runway system with the understanding that Ector County could continue funding maintenance for the additional runway. A dual runway system maintaining Runway 11-29 and Runway 16-34 is not being considered as this runway pair does not provide the minimum 95 percent wind coverage required by the FAA.

PRIMARY RUNWAY

No singular runway offers significantly better wind coverage than the others at ODO. Historically, two runways have served in the role as the “primary” runway, with Runway 11-29 currently in the role. Selection of the primary runway is important as it will generally have greater funding support and better instrument approach capabilities. As noted, Runway 11-29 is considered the primary runway. It offers the longest and widest operational surface, the lowest approach minimums, and has the most sophisticated visual and navigational aids (i.e., PAPI-4s and MALS on each runway end). However, as shown on **Exhibits 4 and 26**, Runway 11-29 also has the least favorable alignment of the three available, providing only 77.51 percent wind coverage for 10.5-knot crosswind components and 87.44 percent for 13-knot components. Conversely, Runway 16-34 offers 86.87 percent coverage (10.5-knot conditions) and 92.30 percent coverage (13-knot conditions), while Runway 2-20 provides for 87.00 percent coverage (10.5-knot conditions) and 93.43 percent coverage (13-knot conditions).

Based on wind coverage alone, Runway 11-29 is not best oriented to serve as the primary runway. However, other factors must also be considered, including safety area implications, previous investments in the runway, future investments that would be necessary should Runway 16-34 or Runway 2-20 be designated as primary instead, surrounding land uses, and future development opportunities (i.e., extension potential and improved instrument approach capability).

As discussed previously, the primary runway at ODO should be designed to meet C-III-2400 standards in the ultimate condition. Runway 11-29 currently meets these design standards for width (100 feet wide) and safety areas (RSA and ROFA), with the exception of a very small portion of the ROFA that extends beyond airport property to the east and is obstructed by the perimeter fence. There are also incompatible land uses located within the Runway 11 and Runway 29 RPZs (refer to **Exhibit 25**).

Runways 16-34 and 2-20 are both 75 feet wide, not meeting the 100-foot width requirement for an ultimate C-III-2400 runway. In terms of safety area requirements, neither Runway 16-34 nor Runway 2-20 can meet the ultimate C-III RSA/ROFA requirements without significant impacts to surrounding land uses including residential/business, Yukon Road, and Andrews Highway. None of these land uses are allowable within the RSA or ROFA and would need to be removed or declared distances implemented in order to maintain full safety areas. Declared distances function to identify the runway length which is available while meeting the full safety areas for certain operations and will be discussed in more detail later.

Runway 11-29 has also had significant historical investments in the form of pavement, lighting, and navaids. Decommissioning this runway or reclassifying it as the crosswind could negate many of these benefits and could potentially conflict with grant assurances that the airport sponsor agreed to when federal/state funds were accepted for improvements to the runway.

Finally, the development potential of each runway must also be considered. Runways 11 and 20 offer the best opportunities for extension when factoring surrounding constraining factors. Similarly, the potential for improved instrument approach capability is best on Runways 29 and 20 when considering surrounding land uses.

AIRFIELD DESIGN STANDARDS

ODO is classified as a Regional GA airport in the NPIAS, which means it has a high level of activity, including activity by turboprops and business jets. Thus, the airfield should be designed to accommodate the most demanding regular users of these types of aircraft. As mentioned, the primary runway should meet C-III-2400 design standards, which is reflective of the type of aircraft expected to use the airport most frequently as well as the instrument approach capability. Alternatives to follow will consider safety area impacts as they relate to these standards with the addition of a non-precision GPS approach with ½-mile visibility minimums. For the secondary and/or additional runway, B-II-5000 standards will be depicted on each of the alternatives.

RUNWAY LENGTH

The runway length analysis conducted in the facility requirements section concluded that 100 percent of small aircraft in the national fleet can comfortably operate at maximum takeoff weight (MTOW) during the hottest periods of the summer. However, ODO also regularly serves turboprop and jet traffic, which could require longer runway lengths. To accommodate 75 percent of the business jet fleet at 60 percent useful load, a runway length of 5,800 is recommended, while a length of 7,600 feet is recommended to accommodate 100 percent of the fleet at 60 percent useful load. The projected ultimate critical aircraft, the Gulfstream V, has been calculated to need 6,280 feet of pavement to take off at 70 percent useful load and 6,960 feet to take off at 80 percent useful load during the hottest times of the year at ODO.

A runway extension must also consider impacts to the runway's associated safety areas and RPZs. FAA design standards state that the RSA must be cleared and graded, and the ROFA must be cleared of obstructions. The RPZ off each runway end should also be free of incompatible land uses. The alternatives will present various extension options as well as mitigative actions to eliminate any obstructions or incompatibilities introduced by any proposed runway extension project.

INSTRUMENT APPROACH CAPABILITY

Another issue to be examined is the ultimate instrument approach capability serving the runway system. This is an important consideration that directly impacts the utility of the airport, with lower visibility minimums increasing the functionality of an airport during instrument meteorological conditions (IMC). Although achieving the lowest instrument approach visibility minimums is advantageous for airport operations, there are multiple safety area requirements tied to the level of instrument approach available. As a result, impacts to the airport environment imposed by the ultimate instrument approach visibility minimums need to be weighed carefully.

Currently, ODO offers published instrument approaches to Runway ends 11, 29, and 20. The lowest visibility minimums are provided on each end of Runway 11-29 via the GPS LPV approaches that offer not lower than ¾-mile minimums. Runway 20 provides a GPS LNAV approach with visibility minimums not lower than 1-mile. The airport sponsor and pilots who use ODO have indicated a strong desire for improved instrument approach capability, including the addition of instrument approach procedures to runways not currently offering an approach. As such, each of the alternatives will illustrate new and/or improved instrument approach capabilities, along with associated increases to safety areas (including RPZs) and any mitigative actions necessary to keep these areas in conformance with FAA design standards.

LAND USE

Airport property currently encompasses approximately 790 acres with existing landside facilities concentrated on the west and northwest sides of the field. A significant portion of airport property is undeveloped, with most of this area located on the north, east, and south sides. If the airport sponsor elects to decommission one of the runways, additional property will become available for development opportunities.

Each of the alternatives to follow will depict land use reserve areas that are focused on separating activity levels and maximizing revenue potential from both aeronautical and non-aeronautical land uses. Aeronautical-related uses are typically reserved for property with direct access to the airfield. For property that is segregated from the airfield, an airport should consider non-aeronautical related development. The FAA typically requires airports to receive approval through a land-use release to lease airport-owned land for non-aviation related purposes. The FAA stipulates that all land with reasonable airside access should be used or reserved for aviation purposes. Currently, there are two non-aeronautical enterprises operating on airport property which should be considered for release, and each of the alternatives will reflect this.

In the next section, Recommended Development Concept, specific layouts for hangar development, aircraft parking apron areas, marked aircraft parking, and other landside facilities will be depicted.

AIRPORT ALTERNATIVE 1

Depicted on **Exhibit 31**, Airport Alternative 1 considers a dual runway system that maintains Runway 11-29 as the primary runway, with Runway 2-20 serving as the crosswind runway. Runway 16-34 is proposed to be closed under this alternative. The alternative also includes a 600-foot northwesterly extension to Runway 11-29, reconfiguration of taxiway geometry, and proposed modifications to bring safety areas into compliance with FAA design standards based on the ultimate runway design code (RDC) for each runway. Primary actions associated with this alternative include:

- **Decommission Runway 16-34** — In all weather conditions, the combined wind coverage for Runway 11-29 and Runway 2-20 is 96.37 percent for 10.5-knot crosswind components and greater than 99.02 percent for 13-knot and greater crosswind components[23], thus meeting the FAA's minimum of 95 percent coverage. With the runway pair of 11-29 and 2-20 providing greater than 95 percent wind coverage, Runway 16-34 would be considered an additional runway by the FAA and thus would not be eligible for federal funding assistance. As mentioned previously, the airport sponsor (Ector County) currently provides funding for the maintenance of Runway 2-20. Under this alternative, Runway 2-20 would become eligible for grant funding assistance as the crosswind runway, while Runway 11-29 would continue to be eligible for funding as the primary runway.

- **Extend Runway 11-29 by 600 feet to the northwest** — To better accommodate the larger jet traffic anticipated to occur at ODO in the future, Airport Alternative 1 proposes a 600-foot extension to Runway 11, bringing the total runway pavement length to 6,800 feet. This is the maximum extension that can be accomplished on this runway while keeping the majority of the RSA and ROFA on existing airport property and without impacting the surrounding road network or implementing declared distances to maintain standard RSA/ROFA (to be discussed). A 0.3-acre portion of the ROFA is proposed to be acquired in fee, as shown on the exhibit.

  As stated previously, justification in the form of 500 annual itinerant operations must be present before grant funding assistance will be provided for a runway extension project. While that need may not exist today, planning for the potential is still important so local land use planning measures can be implemented to allow for the extension should demand materialize.

  Additional projects related to the proposed extension of Runway 11-29 include an extension of Taxiway G to the Runway 11 threshold, as well as relocation of the MALS and PAPI-4 currently serving Runway 11.

- **Increase pavement strength on Runways 11-29 and Runway 2-20** — The Facility Requirements identified a potential need to increase the pavement strength on the airport's primary and crosswind and/or additional runways in anticipation of larger, heavier aircraft operating more frequently at the airport in the future. This alternative considers a pavement strength increase to 100,000 pounds DWL on Runway 11-29 and 30,000 pounds DWL on Runway 2-20.

[23] Refer to Exhibit 26.

- **Mitigate non-standard conditions in the ultimate ROFAs** — As detailed in the Facility Requirements section, when Runway 11-29 transitions to ultimate RDC C-III-2400, the RSA and ROFA dimensions will increase. A small portion of the ultimate ROFA at the Runway 29 end (approximately 0.05 acres) extends beyond airport property and is proposed to be acquired in fee. The expanded ROFA will also encompass the airport's perimeter fencing, which is a non-standard condition. As such, this alternative plans for the fencing to be relocated in this area. Additionally, the wind cones adjacent to Runway 2-20 are located within that runway's ROFA. This alternative proposes relocating the wind cones outside of the Runway 2-20 ROFA.

- **Improve instrument approach capability** — Currently, Runway 11-29 offers the airport's lowest visibility minimums, with ¾-mile GPS LPV approaches to both ends of the runway. Runway 20 also provides an LNAV approach with 1-mile visibility minimums. Airport Alternative 1 proposes lower visibility minimums to Runway 29 through the implementation of a non-precision LPV approach with minimums not lower than ½-mile. To achieve this, the existing medium intensity approach light system (MALS) equipment on Runway 29 would need to be upgraded to a MALSR, which is a MALS with runway alignment indicator lights. The alternative also includes implementation of a GPS approach with 1-mile visibility minimums to Runway 2. The existing instrument approach procedures to Runways 11 and 20 are planned to remain at ¾-mile and 1-mile, respectively.

- **Upgrade visual approach aids** — Runway 11-29 is currently equipped with a PAPI-4 on both ends, while Runway 2-20 has a VASI system at each end of the runway. This alternative plans for the PAPI-4s on Runway 11-29 to remain and for the VASIs on Runway 2-20 to be upgraded to a PAPI-2 system. Neither Runway 11-29 or 2-20 are equipped with REILS; however, as Runway 11 is equipped with a MALS and Runway 29 is planned to be equipped with a MALSR, REILs are not necessary for this runway. Runway 2-20 does not have an approach light system, so this alternative plans for the installation of REILS on both ends of this runway.

- **Reconfigure taxiways** — As detailed in the Facility Requirements, there are several instances of non-standard geometry on the existing taxiway system, including direct access, acute-angle intersections, and high energy crossings. The proposed closure of Runway 16-34 and its associated taxiways, as depicted on **Exhibit 31**, will alleviate some of these issues. The remaining non-standard conditions are proposed to be mitigated through the construction of new taxiway pavement and the inclusion of a no-taxi island at the entrance to Taxiway E.

  Airport Alternative 1 proposes construction of a full-length parallel Taxiway G serving Runway 11-29, with new right-angle connectors to serve as runway exits. The existing portions of Taxiway G that connect to each end of Runway 16-34 are planned to be closed. The portion of Taxiway F that extends beyond the Runway 34 threshold and connects to Runway 29 is also planned to be closed.

  The airport currently has holding bays at each end of Runways 11-29 and 2-20. These are a traditional design featuring wide, unmarked pavement. The FAA's preferred design for hold bays includes clearly marked entrance/exits with independent parking areas that are either separated by islands or are clearly marked with centerlines to allow aircraft to safely bypass each other. Airport Alternative 1 includes the construction of standard hold bays at each end of Runway 11-29 and the removal of non-standard hold bay pavement on the airport.

Runway 11-29 RDC: C-III-2400
Runway 2-20 RDC: B-II-5000

Commercial/ Industrial
Residential
E Hillmont Rd
3/4-Mile RPZ
Relocate MALS
24.3 ac
0.3 ac
600' Extension
Relocated Wind Cone
1-Mile RPZ
Maintain PAPI-4
Install REILs
RPZ Incompatibilities
PAPI-2
Increase Pavement Strength (30,000 lbs DWL)
385
Andrews Hwy
500'
Runway 2-20 (5,703' x 75')
Ultimate Runway 11-29 (6,800' x 100')
Add Precision Markings
Increase Pavement Strength (100,000 lbs DWL)
Relocated Wind Cone
PAPI-2
Maintain PAPI-4
Acquire 0.05 Acres & Relocate Perimeter Fence
Residential
Install REILs
8.3 ac
1-Mile RPZ
Commercial/ Industrial
E Yukon Rd
MALSR
54.4 ac
Commercial/Industrial
Residential
RPZ Incompatibilities
1/2-Mile RPZ

AIRPORT LAND USE LEGEND

- Small Aircraft Facilities Reserve
- T-Hangar Development Reserve
- Executive Hangar Development Reserve
- Non-Aeronautical Development Reserve/Release
- Aeronautical Development Reserve
- Large Scale SASO/MRO Development Reserve

E Hillmont Rd
Standard Hold Bay
77.9 ac
Andrews Hwy
22.9 ac
385
500'
400'
Runway 2-20 (5,703' x 75')
75.5 ac
94.3 ac
11.4 ac
18.5 ac
Ultimate Runway 11-29 (6,800' x 100')
No-Taxi Island
3.0 ac
3.4 ac
74.6 ac
Standard Hold Bay
22.8 ac
3.1 ac
1.4 ac
6.7 ac
21.7 ac
E Yukon Rd

LEGEND

- Airport Property Line
- Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Visibility Zone (RVZ)
- 35' Building Restriction Line (BRL)
- ASOS Critical Area
- Runway Protection Zone (RPZ)
- Uncontrolled Safety Areas
- High Energy Area
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed
- Avigation Easement

Note: Acreages are approximations and are intended for planning purposes only.

N
0 1,200
SCALE IN FEET
Photo: Google Earth 1/2022

Runway 11-29 Declared Distances

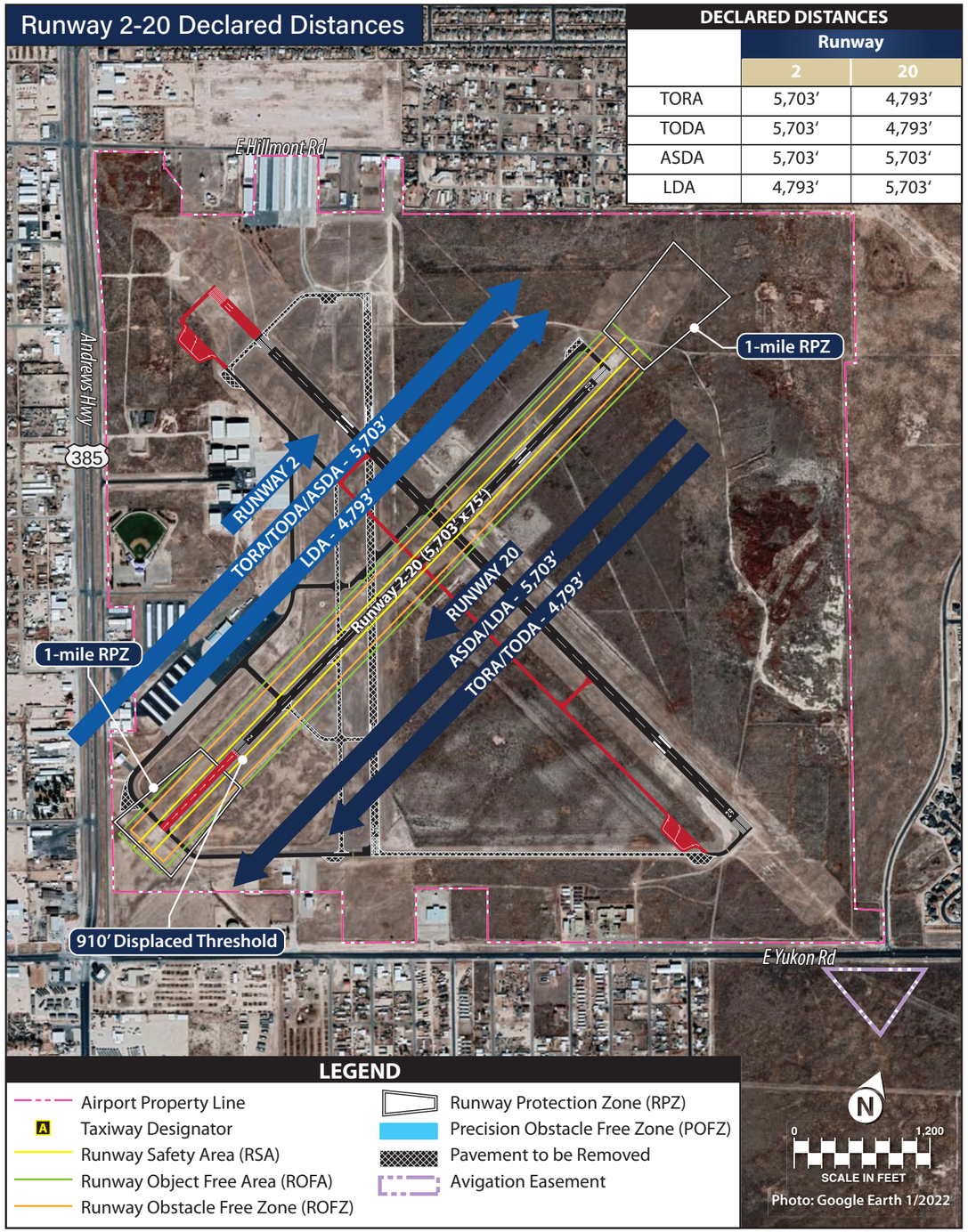
DECLARED DISTANCES

	Runway	
	11	29
TORA	5,691′	5,839′
TODA	5,691′	5,839′
ASDA	6,800′	6,800′
LDA	5,650′	4,505′

KEY

TORA - Take Off Run Available
ASDA - Accelerate Stop Distance Available
TODA - Take Off Distance Available
LDA - Landing Distance Available

Runway 2-20 Declared Distances



DECLARED DISTANCES

	Runway	
	2	20
TORA	5,703′	4,793′
TODA	5,703′	4,793′
ASDA	5,703′	5,703′
LDA	4,793′	5,703′

LEGEND

- Airport Property Line
- A Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed
- Avigation Easement

N

0 1,200

SCALE IN FEET

Photo: Google Earth 1/2022

- **Installation/upgrade of airfield lighting and marking** — Both Runways 11-29 and 2-20 are equipped with MIRL. This alternative plans for this level of runway lighting to be maintained, with additional MIRL on the extended portion of Runway 11-29. There is currently no taxiway lighting at ODO; as such, Airport Alternative 1 plans for the addition of MITL on all taxiways. In accordance with the proposed ½-mile LPV approach to Runway 29, precision markings are proposed on Runway 29. While the approach is considered a non-precision approach (i.e., not an ILS approach), precision markings are required for any runway with visibility minimums below ¾-mile. The additional markings for Runway 29 include touchdown zone and edge markings. The existing non-precision markings on Runway 2-20 are planned to remain.

- **Reserve portions of airport land use for future aeronautical/non-aeronautical development** — The right side of **Exhibit 31** illustrates proposed land uses within the existing airport property. A variety of aviation uses are planned along the flight lines of Runway 11-29 and Runway 2-20, with specific development types concentrated on the west and south sides of the airport where current infrastructure is located. These include parcels earmarked for large scale SASO/MRO development, executive hangar development, T-hangar development, and small aircraft facilities (shade hangars, uncovered parking aprons). This alternative also plans for future reserve areas, primarily on the undeveloped north and east portions of airport property. Areas along the flight lines are reserved for future aeronautical development, while a portion of property adjacent to Dawn Avenue is proposed for non-aeronautical development. As mentioned, specific hangar and apron layouts will be depicted in the next section, Recommended Development Concept.

As previously discussed, the RPZs associated with Runways 11, 29, and 2 extend beyond airport property and encompass incompatible land uses in both the existing and ultimate conditions. Unless there is a significant change to the runway environment, the FAA may allow certain land uses to remain, but as a general rule, any uses that attract people to remain for periods of time should be mitigated. As Runway 11-29 is planned for a significant change (i.e., extension, change in RDC, lower approach minimums), the airport sponsor is expected to take actions to mitigate incompatible uses within the RPZs.

The reverse side of **Exhibit 31** depicts a secondary option (Airport Alternative 1B) to mitigate RPZ incompatibilities for both runways. This option considers the displacement of the runway thresholds for Runways 11, 29, and 2 to remove incompatible land uses within these runways' RPZs. This would be achieved by the application of declared distances. The Runway 11 RPZ can be shifted off potentially incompatible land uses (Andrews Highway, Hillmont Rd., and commercial/industrial land uses) by displacing the Runway 11 threshold by 1,150 feet. Similarly, the Runway 29 and Runway 2 thresholds could be displaced by 2,295 feet and 910 feet, respectively, to bring those RPZs onto airport property and mitigate any potential incompatibilities. While the impact to the airfield in terms of earthwork and construction would be minimal as compared to other alternatives to be presented, the usable length of the runway would be lessened for some operations due to the implementation of declared distances.

Declared distances are used to define the effective runway length for landing and takeoff when a standard safety area cannot be achieved. The declared distances are defined by the FAA as:

- **Takeoff run available (TORA)** — The runway length declared available and suitable for the ground run of an aircraft taking off (factors in the positioning of the departure RPZ)

- **Takeoff distance available (TODA)** — The TORA plus the length of any remaining runway or clearway beyond the far end of the TORA; the full length of the TODA may need to be reduced because of obstacles in the departure area
- **Accelerate-stop distance available (ASDA)** — The runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff (factors in the length of RSA/ROFA beyond the runway end)
- **Landing distance available (LDA)** — The runway length declared available and suitable for landing an aircraft (factors in the length of RSA/ROFA beyond the runway end and the positioning of the approach RPZ)

Table 35 and the reverse side of **Exhibit 31** details the runway length available during takeoff and landing operations with these declared distances in place. Note that TODA may be reduced further following FAA airspace analysis.

TABLE 35 | Declared Distances for Alternative 1B

	Runway 11	Runway 29	Runway 2	Runway 20
Takeoff Run Available (TORA)[1]	5,691’	5,839’	5,703’	4,793’
Takeoff Distance Available (TODA)[2]	5,691’	5,839’	5,703’	4,793’
Accelerate Stop Distance Available (ASDA)[3]	6,800’	6,800'	5,703’	5,703’
Landing Distance Available (LDA)[3]	5,650’	4,505’	4,793’	5,703’

[1] Departure RPZ begins 200 feet from the end of the TORA.
[2] TORA cannot be longer than TODA. Departure surface is set on TODA. TODA can be shortened to mitigate departure surface penetrations; if so, TORA is shortened, too.
[3] Available runway length plus RSA. Approach RPZ begins 200 feet from the landing threshold.

Source: FAA AC 150/5300-13B, Airport Design; Coffman Associates analysis

With declared distances in effect, RPZs for both Runways 11-29 and Runway 2-20 would be fully contained on airport property and would not encompass any incompatible land uses. However, there would be negative impacts to takeoff and landing operations for both runways. For aircraft taking off on Runway 11, pilots would have 5,691 feet of available runway, and 5,650 feet for pilots landing on Runway 11. Takeoff length would be reduced for pilots departing via Runway 29, with 5,839 feet of available runway length. For aircraft operating on Runway 2-20, pilots taking off from Runway 2 would have the full runway length available but landing operations would be reduced to 4,793 feet. Pilots departing from Runway 20 would have 4,793 feet of available runway, while the full runway length of 5,703 feet would be available for landing operations on Runway 20. Alternative 1B fully meets FAA design standards pertaining to RPZ incompatibilities, but the drawback to this is a reduction in usable runway length, making it more restrictive to intended users, such as business jets.

Another option to bring RPZs into compliance without having to implement declared distances is to purchase property within the RPZ and remove incompatible land uses (i.e., public roads and structures). If it is not practicable to take these steps, the airport sponsor is expected to complete and submit an Alternatives Evaluation to the FAA ADO to demonstrate that mitigative measures have been analyzed.

AIRPORT ALTERNATIVE 2

Airport Alternative 2, depicted on **Exhibit 32**, illustrates a second option for a dual runway system. Under this alternative, Runways 2-20 and 16-34 are proposed to be maintained and Runway 11-29 is proposed to be decommissioned. Primary actions associated with this alternative include:

Runway 2-20 RDC: C-III-2400
Runway 16-34 RDC: B-II-5000

Residential
Commercial/ Industrial
E Hillmont Rd
1/2-Mile RPZ
RPZ Incompatibilities
1-Mile RPZ
61.4 ac
7.1 ac
4.7 ac
Install MALSR
Relocated Wind Cone
Install REILs
Relocated Wind Cone
1,300' Extension/ Widen to 100'
Increase Pavement Strength (100,000 lbs DWL)
Add Precision Markings
Andrews Hwy
385
500'
Runway 2-20 (7,003' x 100')
Ultimate Runway 2-20
Runway 16-34 (5,003' x 75')
Install PAPI-4
Relocated Wind Cone
361' Displaced Threshold (See Table 36 for Declared Distances)
Increase Pavement Strength (30,000 lbs DWL)
Residential
Install PAPI-4
Install REILs
Commercial/ Industrial
34.4 ac
E Yukon Rd
5.8 ac
3/4-Mile RPZ
1-Mile RPZ
RPZ Incompatibilities
Commercial/Industrial
Residential

AIRPORT LAND USE LEGEND

- T-Hangar Development Reserve
- Executive Hangar Development Reserve
- Aeronautical Development Reserve
- Non-Aeronautical Development Reserve/Release
- Large Scale SASO/MRO Development Reserve

E Hillmont Rd
Standard Hold Bay
29.6 ac
Relocated Segmented Circle/Wind Cone
42.2 ac
30.8 ac
300'
400'
27.9 ac
500'
Andrews Hwy
385
No-Taxi Island
19.2 ac
10.0 ac
Runway 16-34 (5,003' x 75')
Ultimate Runway 2-20 (7,003' x 100')
No-Taxi Island
235.2 ac
133.7 ac
1.5 ac
E Yukon Rd

N
0
1,200
SCALE IN FEET
Photo: Google Earth 1/2022

LEGEND

- Airport Property Line
- Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Visibility Zone (RVZ)
- 35' Building Restriction Line (BRL)
- ASOS Critical Area
- Runway Protection Zone (RPZ)
- Uncontrolled Safety Areas
- High Energy Area
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed

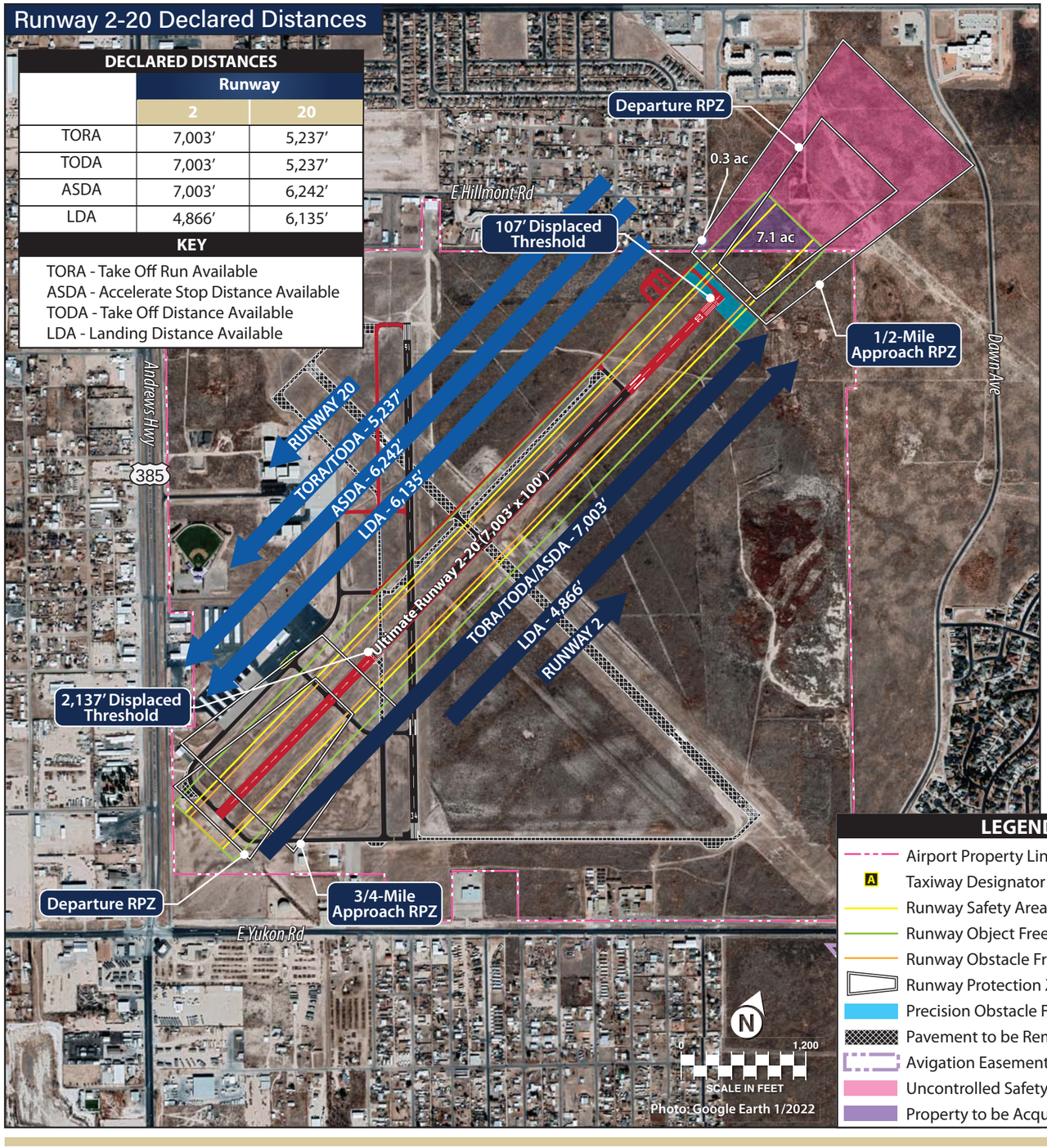
Note: Acreages are approximations and are intended for planning purposes only.

Runway 2-20 Declared Distances

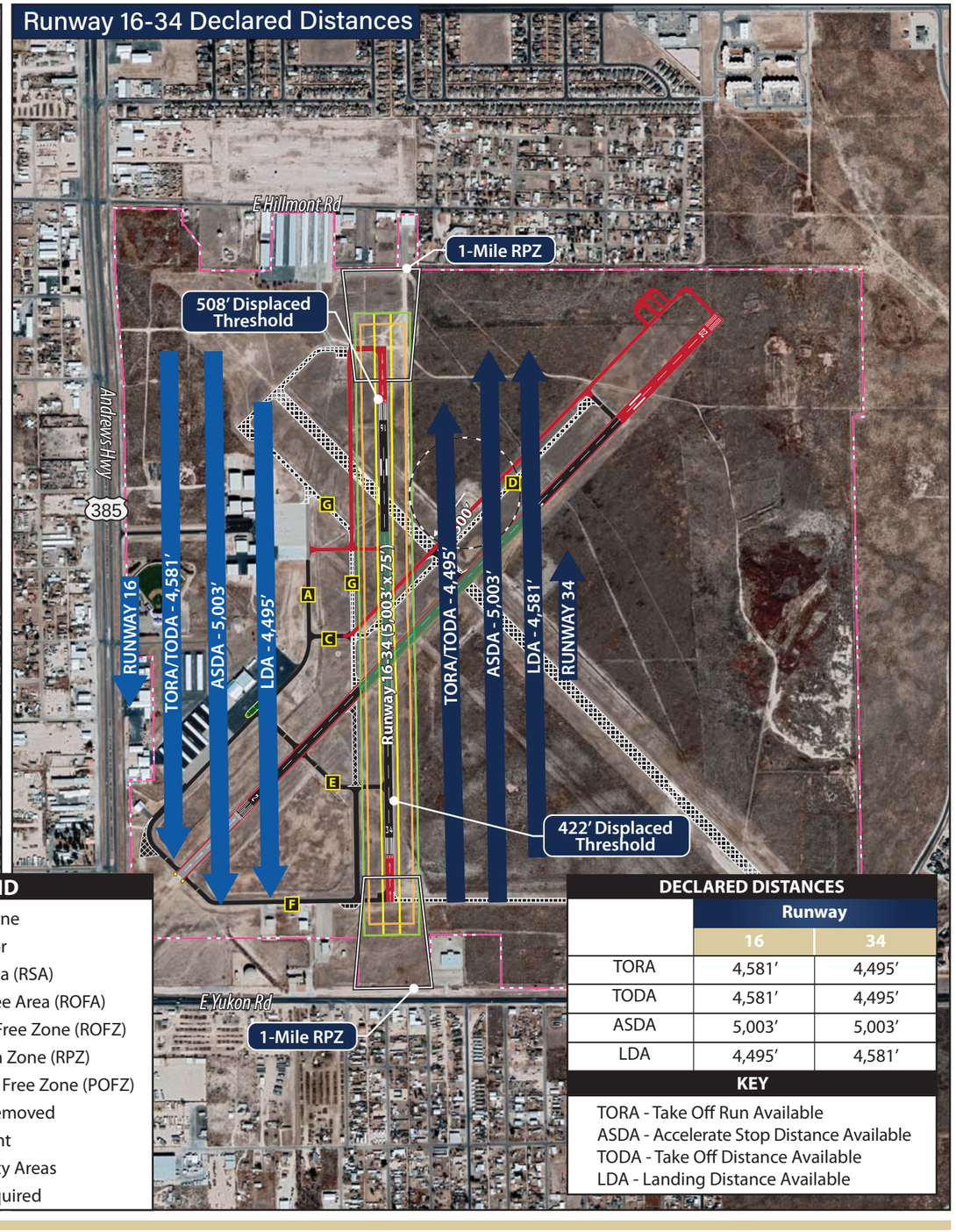
DECLARED DISTANCES	Runway	
	2	20
TORA	7,003′	5,237′
TODA	7,003′	5,237′
ASDA	7,003′	6,242′
LDA	4,866′	6,135′

KEY

TORA - Take Off Run Available
ASDA - Accelerate Stop Distance Available
TODA - Take Off Distance Available
LDA - Landing Distance Available



Runway 16-34 Declared Distances



LEGEND

- Airport Property Line
- A — Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed
- Avigation Easement
- Uncontrolled Safety Areas
- Property to be Acquired

DECLARED DISTANCES	Runway	
	16	34
TORA	4,581′	4,495′
TODA	4,581′	4,495′
ASDA	5,003′	5,003′
LDA	4,495′	4,581′

KEY

TORA - Take Off Run Available
ASDA - Accelerate Stop Distance Available
TODA - Take Off Distance Available
LDA - Landing Distance Available

- **Decommission Runway 11-29** — In all weather conditions, the combined wind coverage for Runway 2-20 and Runway 16-34 is 95.25 percent for 10.5-knot crosswind components and greater than 97.85 percent for 13-knot and greater components[24], thus meeting the FAA's minimum of 95 percent coverage. As with Airport Alternative 1, a third runway would be considered an 'additional' runway by the FAA and would not be eligible for federal funding assistance. Under this alternative, both Runway 2-20 and Runway 16-34 would be eligible for federal funding assistance.

  As Runway 11-29 is currently the longest and widest runway with the best instrument approach capability, as well as approach lighting systems on both ends, significant modifications would be necessary to bring another of ODO's runways up to the same level of service currently provided by Runway 11-29. Runway 2-20 offers the best potential for this as it is less constrained than Runway 16-34. Therefore, Airport Alternative 2 will consider Runway 2-20 as the primary runway meeting RDC C-III-2400 standards, with Runway 16-34 serving as the crosswind and meeting B-II-5000 design standards.

- **Extend Runway 2-20 1,300 feet to the north and increase width** — Airport Alternative 2 proposes a 1,300-foot extension to Runway 20, bringing the total runway length to 7,003 feet. In order to meet ultimate RDC C-III-2400 design standards for runway width, the alternative also includes a plan to widen the runway to 100 feet. At these dimensions, Runway 2-20 will be capable of safely accommodating all piston aircraft and many of the turboprop and business jet aircraft that currently, and are anticipated to, use the airport.

- **Increase pavement strength on Runways 2-20 and Runway 16-34** — Like the previous alternative, Airport Alternative 2 plans for pavement strength increases for both the primary and crosswind runways. As such, this alternative considers a pavement strength increase to 100,000 pounds DWL on Runway 2-20 and 30,000 pounds DWL on Runway 16-34.

- **Mitigate non-standard conditions in the ultimate RSA/ROFA** — With Runway 2-20 being proposed as the primary runway and meeting ultimate RDC C-III-2400, the RSA and ROFA dimensions will increase. At the Runway 20 end, the RSA and ROFA extend beyond the airport's existing property line, with approximately 7.1 acres uncontrolled. This alternative proposes fee simple acquisition of this property, which is undeveloped, as the FAA requires the airport sponsor to maintain ownership and control over the RSA and ROFA.

  At the Runway 2 end, a similar issue exists, with the RSA and ROFA extending beyond airport boundaries and encompassing adjacent roadways (Andrews Highway and Yukon Road) and businesses. An alternate option to owning this property outright and relocating roads and structures is to displace the threshold and implement declared distances in order to provide the full RSA and ROFA. Airport Alternative 2A on the front side of **Exhibit 32** proposes to displace the Runway 2 threshold by 361 feet and implement the declared distances outlined in **Table 36** to bring these safety areas onto airport property:

[24] Refer to Exhibit 26.

TABLE 36 | Declared Distances for Alternative 2A

	Runway 2	Runway 20
TORA	7,003’	7,003’
TODA	7,003’	7,003’
ASDA	7,003’	6,242’
LDA	6,642’	6,242’

Source: FAA AC 150/5300-13B, Airport Design; Coffman Associates analysis

With a 361-foot displaced threshold on Runway 2, pilots taking off from Runway 2 would have the full 7,003 feet of runway pavement available, while landing operations on Runway 2 would be reduced to 6,642 feet. Pilots taking off from Runway 20 would also have the full runway length available, except during a rejected takeoff, where the ASDA is shortened to 6,242 feet. Landing operations on Runway 2 are also reduced to 6,242 feet of available pavement. **Exhibit 33** illustrates these declared distances in graphic form.

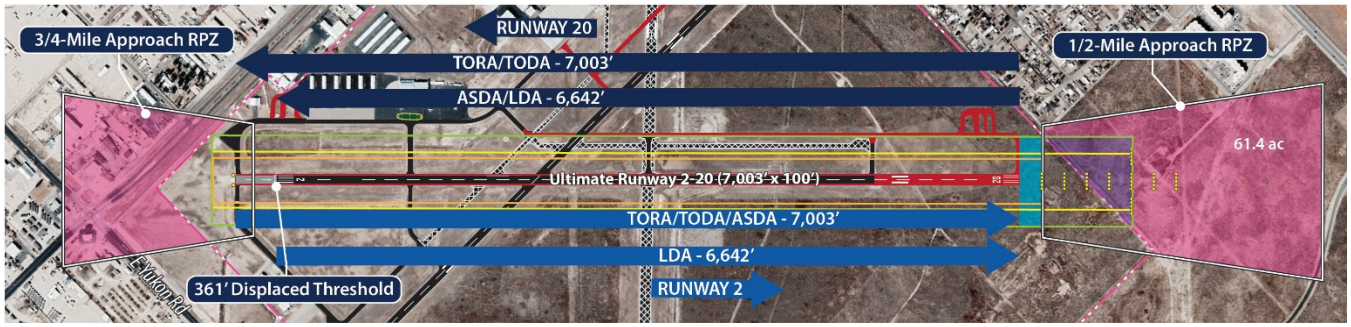


Exhibit 33 – Runway 2-20 Declared Distances (Alternative 2A)

It should be noted that this displacement does not allow for the Runway 2 RPZ to be contained on airport property. If this property cannot be purchased fee simple and incompatible land uses removed, additional displacement may be necessary (to be discussed as Alternative 2B at the end of this section).

Airport Alternative 2 also proposes the relocation of additional obstructions, including the wind cones at the ends of Runways 2-20 and 16-34, as well as the perimeter fencing at the extended Runway 20 end.

- **Improve instrument approach capability** — Currently, this runway pair offers just one instrument approach, with Runway 20 providing an LNAV approach with 1-mile visibility minimums. Runways 2 and 16-34 are visual runways. Airport Alternative 2 proposes lower visibility minimums to Runway 20 through the implementation of an LPV GPS approach which could provide minimums down to ½-mile. As with the previous alternative, installation of a MALSR on Runway 20 is planned in order to achieve this approach, along with precision markings. Runway 2 is planned for a GPS approach with visibility minimums down to ¾-mile. GPS approaches with 1-mile visibility minimums are proposed for both ends of Runway 16-34. No additional ground-based equipment is needed for the proposed instrument approaches to Runway 16-34.

- **Upgrade visual approach aids** — Runway 2-20 is currently equipped with a VASI system on each end, while Runway 16-34 is equipped with PAPI-2. This alternative proposes PAPI-4s to replace the VASIs on Runway 2-20 and the existing PAPI-2 system on Runway 16-34 to remain. Neither runway is equipped with REILS. As such, REILs are proposed for runways not being planned for a more sophisticated approach lighting system (i.e., the MALSR planned for Runway 20), as indicated on **Exhibit 32**.

- **Reconfigure taxiways** — Like the previous alternative, Airport Alternative 2 plans for modification to the taxiway system to correct instances of non-standard taxiway geometry. The proposed closure of Runway 11-29 under this alternative alleviates some of these issues; however, additional changes are proposed to provide for more efficient aircraft movements while meeting FAA design standards.

  With Runway 2-20 functioning as ODO's primary runway, the existing 300-foot runway-taxiway separation between 2-20 and Taxiway D does not meet ultimate RDC C-III-2400 design standards. The standard for this RDC is 400 feet, so this alternative proposes construction of new taxiway pavement to serve much of Runway 2-20, with a standard hold bay planned at the Runway 20 end. The segmented circle and lighted wind cone located near the juncture of Runways 2-20 and 11-29 is proposed to be relocated to the west to accommodate the relocated parallel taxiway. A new partial-parallel taxiway is also planned for Runway 16-34, with a new connector planned to provide access to the terminal apron. Two no-taxi islands are planned at the entrance to this proposed connector and at the entrance to Taxiway E to eliminate the direct access presented by these alignments.

- **Installation/upgrade of airfield lighting and marking** — Both Runways 2-20 and 16-34 are equipped with MIRL. This alternative plans for this level of runway lighting to be maintained, with additional MIRL on the extended portion of Runway 2-20. There is currently no taxiway lighting at ODO, so this alternative plans for the addition of MITL on all taxiways. In accordance with the proposed ½-mile LPV approach to Runway 29, precision markings are proposed on Runway 20. These markings include the addition of touchdown zone and edge markings. The existing non-precision markings on Runway 16-34 are planned to remain.

- **Reserve portions of airport land use for future aeronautical/non-aeronautical development** — Similar to Airport Alternative 1, the right side of **Exhibit 32** illustrates proposed land uses within the existing airport property. On the east side of the airport, approximately 235.2 acres of property along the Runway 2-20 and 16-34 flight line is proposed for aeronautical development reserve, along with more than 130 acres earmarked for non-aeronautical reserve. On the west side of the airport, a variety of aviation uses are planned, again with specific development types concentrated near current infrastructure.

Airport Alternative 2B on the reverse side of **Exhibit 32** shows a secondary option for mitigating potential RPZ incompatibilities associated with Runways 2-20 and 16-34. As Runway 2-20 is proposed to undergo a significant change under this alternative (i.e., extension, width increase, RDC transition to C-III-2400, and lower visibility minimums that increase the size of the RPZs), the airport sponsor is required to

demonstrate an effort to control land within the RPZ and mitigate incompatible uses. This option illustrates a greater displacement of Runway 2 (2,137 feet) to bring the RPZ onto airport property, along with a 107-foot displaced threshold on Runway 20 to shift the RPZ off of Dawn Avenue. As shown on the exhibit, a portion of the Runway 20 RPZ remains off airport property and should be controlled through fee simple acquisition or avigation easement. The 0.3-acre portion of the Runway 20 RPZ that encompasses a residential land use is proposed to be acquired in fee. **Table 37** details the declared distances that would be implemented to maintain standard RPZs on Runways 2-20 and 16-34.

TABLE 37 | Declared Distances for Alternative 2B

	Runway 2	Runway 20	Runway 16	Runway 34
TORA	7,003’	5,237’	4,581’	4,495’
TODA	7,003’	5,237’	4,581’	4,495’
ASDA	7,003’	6,242’	5,003’	5,003’
LDA	4,866’	6,135’	4,495’	4,581’

Source: FAA AC 150/5300-13B, Airport Design; Coffman Associates analysis

AIRPORT ALTERNATIVE 3

Airport Alternative 3, presented on **Exhibit 34**, illustrates a scenario in which all three runways are maintained. Under this alternative, Runway 11-29 is planned to meet ultimate RDC C-III-2400 standards and is considered the primary runway. Runway 2-20 would serve as the crosswind runway, meeting B-II-5000 design standards. Both runways would be eligible for federal funding assistance. Runway 16-34 is also proposed to meet B-II-5000 standards but would function as an ‘additional’ runway and would therefore be the responsibility of Ector County to maintain. Primary actions associated with this alternative include:

- **Extend Runway 11-29 600 feet to the northwest and 200 feet to the southeast** — Airport Alternative 3 proposes extensions to both ends of Runway 11-29 – a 600-foot extension to Runway 11 and a 200-foot extension to Runway 29, bringing the total runway length to 7,000 feet. Like Airport Alternative 1, the 600-foot extension to Runway 11 maintains the majority of the RSA and ROFA on existing airport property (except for a 0.3-acre portion), eliminating the need to modify the surrounding road network or implement declared distances to maintain control over these safety areas. However, the 200-foot extension to the Runway 29 end would require either a realignment of Yukon Road outside of these safety areas or the implementation of declared distances meet RSA/ROFA design standards (to be discussed). Other actions connected to the Runway 11-29 extension include new taxiway pavement and relocation of the approach lights and PAPI-4s serving both runway ends.

- **Extend Runway 2-20 300 feet to the north** — A 300-foot extension is also proposed to Runway 20, bringing the total runway length to 6,003 feet. As the crosswind runway, Runway 2-20 should be capable of safely accommodating most of aircraft that currently, and are anticipated to, use the airport, including more demanding turboprop and jet aircraft. As has been stated, runway extension projects must be justified before the FAA/TxDOT will participate in funding assistance. While justification to extend this runway may not currently exist, it is important to plan for this potential to ensure that appropriate land use measures are put into place to allow for the extension in the future if specific demand can be identified.

Runway 11-29 RDC: C-III-2400
Runway 2-20 RDC: B-II-5000
Runway 16-34 RDC: B-II-5000

Commercial/ Industrial
Residential
E Hillmont Rd
Andrews Hwy
E Yukon Rd
385
3/4-Mile RPZ
RPZ Incompatibilities
24.3 ac
0.3 ac
4.7 ac
1-Mile RPZ
Relocated Wind Cone
Install REILs
Maintain PAPI-4
Relocate MALS
600′ Extension
Increase Pavement Strength (30,000 lbs DWL)
Maintain PAPI-2
Install PAPI-2
Install REILs
300′ Extension
500′
Runway 2-20 (6,003′ x 75′)
Runway 16-34 (5,003′ x 75′)
Ultimate Runway 11-29 (7,000′ x 100′)
Add Precision Markings
Increase Pavement Strength (100,000 lbs DWL)
Relocate Perimeter Fence
Maintain PAPI-4
RPZ Incompatibilities
Relocated Wind Cones
Install REILs
200′ Extension
8.3 ac
5.8 ac
1-Mile RPZ
RPZ Incompatibilities
Install MALSR
54.4 ac
1/2-Mile RPZ

AIRPORT LAND USE LEGEND

- Small Aircraft Facilities Reserve
- Executive Hangar Development Reserve
- Aeronautical Development Reserve
- Non-Aeronautical Development Reserve/Release
- Large Scale SASO/MRO Development Reserve

22.0 ac
Standard Hold Bay
22.6 ac
19.2 ac
11.0 ac
2.8 ac
No-Taxi Island
44.4 ac
125.0 ac
54.3 ac
Standard Hold Bay
400′
2.9 ac
1.5 ac
6.7 ac
7.5 ac

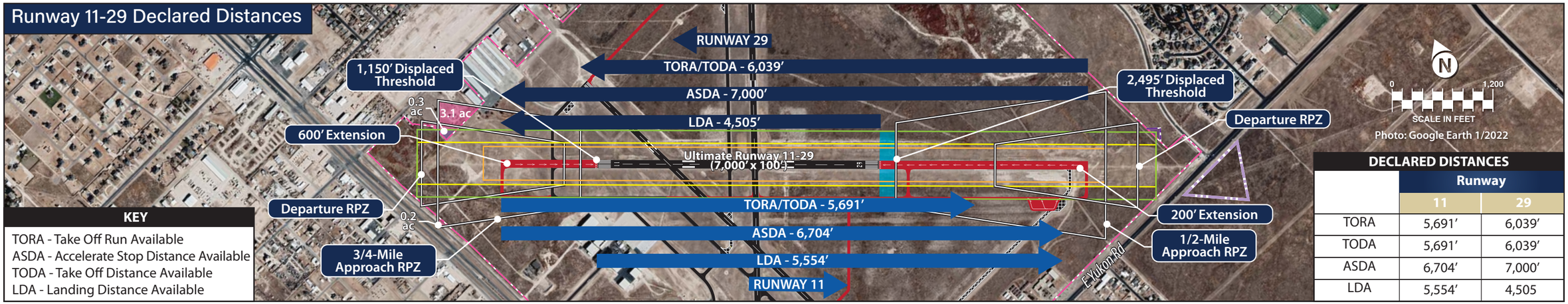
LEGEND

- Airport Property Line
- Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Visibility Zone (RVZ)
- 35′ Building Restriction Line (BRL)
- ASOS Critical Area
- Runway Protection Zone (RPZ)
- Uncontrolled Safety Areas
- High Energy Area
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed
- Avigation Easement

Note: Acreages are approximations and are intended for planning purposes only.

N
0 1,200
SCALE IN FEET
Photo: Google Earth 1/2022

Runway 11-29 Declared Distances



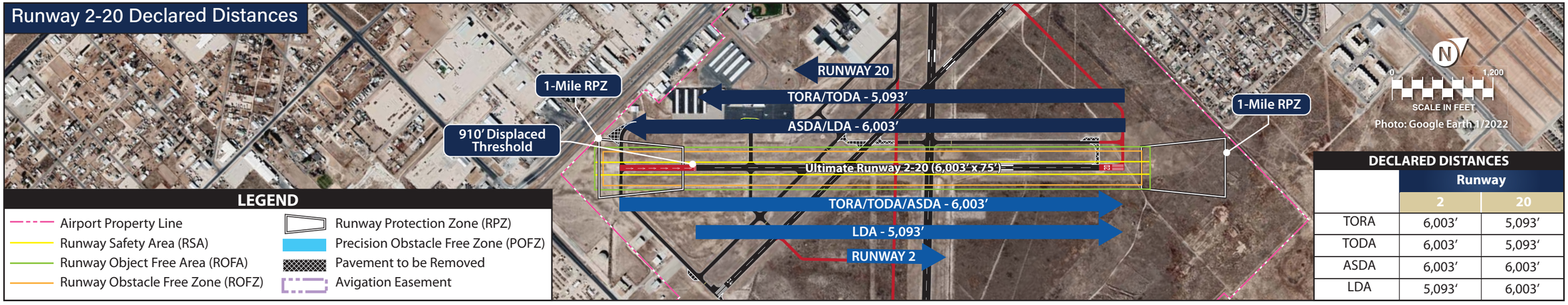
KEY

TORA - Take Off Run Available
ASDA - Accelerate Stop Distance Available
TODA - Take Off Distance Available
LDA - Landing Distance Available

DECLARED DISTANCES

	Runway 11	Runway 29
TORA	5,691'	6,039'
TODA	5,691'	6,039'
ASDA	6,704'	7,000'
LDA	5,554'	4,505

Runway 2-20 Declared Distances



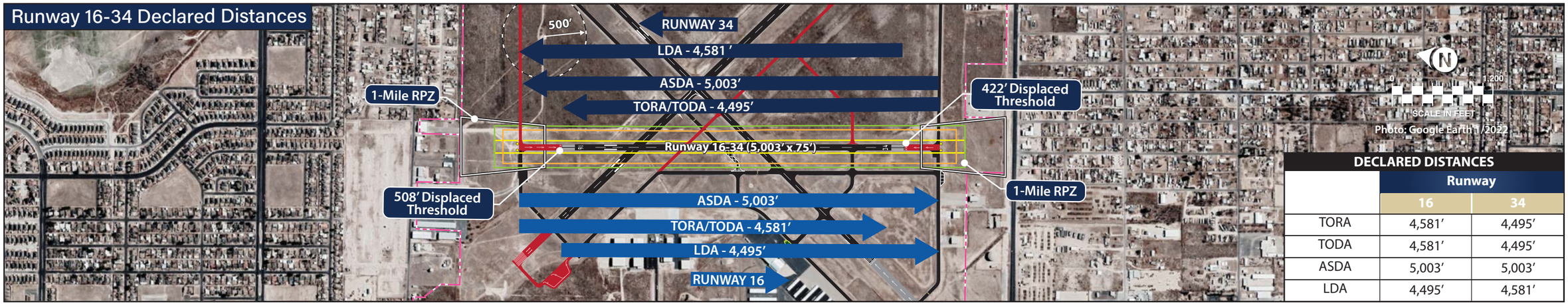
LEGEND

- Airport Property Line
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- Precision Obstacle Free Zone (POFZ)
- Pavement to be Removed
- Avigation Easement

DECLARED DISTANCES

	Runway 2	Runway 20
TORA	6,003'	5,093'
TODA	6,003'	5,093'
ASDA	6,003'	6,003'
LDA	5,093'	6,003'

Runway 16-34 Declared Distances



DECLARED DISTANCES

	Runway 16	Runway 34
TORA	4,581'	4,495'
TODA	4,581'	4,495'
ASDA	5,003'	5,003'
LDA	4,495'	4,581'

- **Increase pavement strength on all runways** — Like the previous alternatives, Airport Alternative 3 considers a pavement strength increase to 100,000 pounds DWL on the primary runway (11-29) and 30,000 pounds DWL on the crosswind runway (2-20). Runway 16-34 is also proposed to be strengthened to 30,000 pounds DWL.

- **Mitigate non-standard conditions in the ultimate RSA/ROFA** — Under this alternative, several obstructions to the RSA and/or the ROFA are present. With the 200-foot extension to Runway 29, 704 feet of RSA/ROFA past the runway end is available, which 296 feet short of meeting the standard 1,000 feet. Airport Alternative 3 proposes implementation of declared distances to provide standard RSA/ROFA without impacting Yukon Road or needing to relocate any perimeter fencing that would otherwise obstruct the ultimate RSA/ROFA. A displaced threshold on Runway 29 is not necessary as the RSA/ROFA standards allow for 600 feet prior to threshold, which is possible even with the 200-foot extension. **Table 38** details the declared distances would be in effect:

TABLE 38 | Declared Distances for Alternative 3A

	Runway 11	Runway 29
TORA	7,000’	7,000’
TODA	7,000’	7,000’
ASDA	6,704’	7,000’
LDA	6,704’	7,000’

Source: FAA AC 150/5300-13B, Airport Design; Coffman Associates analysis

With these declared distances, pilots taking off from Runway 11 would have the full 7,000 feet of runway pavement available except during a rejected takeoff where the ASDA is 6,704 feet, while landing operations would be reduced to 6,704 feet. All operations on Runway 29 would have the full runway length available. **Exhibit 35** illustrates these declared distances in graphic form.

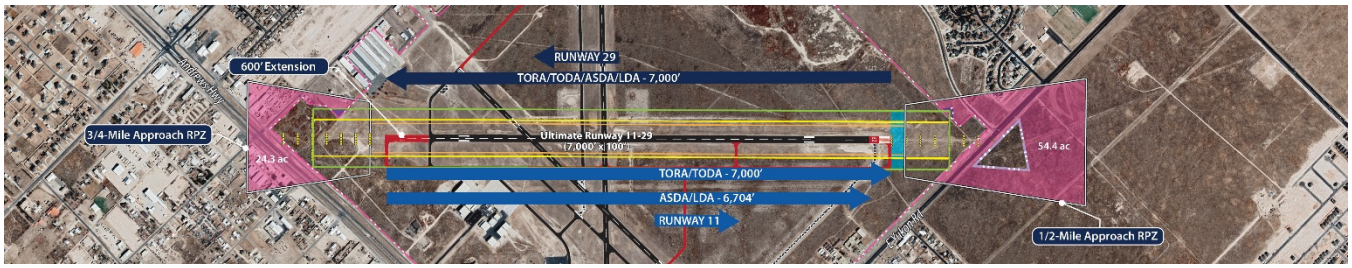


Exhibit 35 – Runway 11-29 Declared Distances (Alternative 3A)

As with previous exhibits, the reverse side of the exhibit shows greater displacement of runway thresholds where the associated RPZ extends beyond airport boundaries and encompasses incompatible land uses, which will be discussed.

Additional obstructions to these ultimate safety areas include the wind cones near the ends of Runways 2-20 and 16-34. These are planned to be relocated outside of these runways’ ROFAs.

- **Improve instrument approach capability** — Airport Alternative 3 plans for improved instrument approach capability to Runways 29, Runway 2, and Runway 16-34. Like the first alternative, Runway 29 is proposed to be equipped with a MALSR to support a ½-mile GPS LPV approach. Runways 2 and 16-34, none of which currently provide an instrument approach, are planned for GPS approaches with visibility minimums down to 1-mile. The existing ¾-mile LPV GPS approach to Runway 11 and the 1-mile LNAV GPS approach to Runway 20 would remain.

- **Upgrade visual approach aids** — As previous alternatives, an upgrade to existing visual approach aids and the installation of new visual approach aids is planned under this option. The alternative proposes to maintain the existing PAPI-4s on Runway 11-29 and the existing PAPI-2s on Runway 16-34. The VASI system on each end of Runway 2-20 is proposed to be replace with PAPI-2s. REILs are proposed at the ends of Runways 2-20 and 16-34, with the existing MALS on Runway 11 and the planned MALSR on Runway 29 negating the need for REILs on these runway ends.

- **Reconfigure taxiways** — A full-length parallel taxiway is proposed for Runway 11-29, with standard holding bays planned at each end. Taxiway F, which currently connects to Runway 29, is proposed to be closed west of Runway 34, with new taxiway pavement extending from existing Taxiway E to connect with the planned parallel to Runway 11-29. A portion of Taxiway D where it crosses Runway 16-34 is also proposed to be closed, as the new Taxiway G pavement in this area would not allow for adequate space to hold between the holding line markings. As the partial closure of Taxiway D eliminates the quickest taxi route to Runway 20, new taxiway pavement extending west from the Runway 16 threshold is planned to provide access to Runway 20. Direct access from the apron is planned to be mitigated by the construction of a no-taxi island at the entrance to Taxiway E.

- **Installation/upgrade of airfield lighting and marking** — As with previous alternatives, the existing MIRL on each runway is planned to be maintained under this alternative, with new MIRL added to extended runway pavement. The existing taxiway reflectors are proposed to be replaced with MITL on all taxiway pavement. To support the proposed ½-mile LPV approach to Runway 29, precision markings are proposed on Runway 29. These markings include the addition of touchdown zone and edge markings. The existing non-precision markings on Runways 2-20 16-34 are planned to remain

- **Reserve portions of airport land use for future aeronautical/non-aeronautical development** — The right side of **Exhibit 34** illustrates proposed land uses within the existing airport property, again depicting specific aeronautical uses near existing landside facilities and reserve property on the undeveloped west and south sides.

The reverse side of **Exhibit 34** shows a secondary option (Airport Alternative 3B) for mitigating RPZ incompatibilities associated with Runways 11, 29, 2, 16, and 34. A displacement of the Runway 20 threshold is also not necessary as the RPZ remains on airport property, even with the 300-foot extension to this runway end. To maintain the three-runway system as proposed in Alternative 3A and achieve standard RPZs without the need to acquire property or reroute roads, the following threshold displacements would be necessary:

- Runway 11 – Displace threshold 1,150 feet to bring ¾-mile approach RPZ onto airport property
- Runway 29 – Displace threshold 2,495 feet to bring ½-mile approach RPZ onto airport property

- Runway 2 – Displace threshold 910 feet to bring 1-mile approach RPZ onto airport property
- Runway 20 – No displacement necessary
- Runway 16 – Displace threshold 508 feet to bring 1-mile approach RPZ onto airport property
- Runway 34 – Displace threshold 422 feet to bring 1-mile approach RPZ onto airport property

Table 39 includes the declared distances that would be in effect for Runways 11-29, 2-20, and 16-34 if the RPZs are brought fully onto airport property.

TABLE 39 | Declared Distances for Alternative 3B

	Runway 11	Runway 29	Runway 2	Runway 20	Runway 16	Runway 34
TORA	5,691’	6,039’	6,003’	5,093’	4,581’	4,495’
TODA	5,691’	6,039’	6,003’	5,093’	4,581’	4,495’
ASDA	6,704’	7,000’	6,003’	6,003’	5,003’	5,003’
LDA	5,554’	4,505’	5,093’	6,003’	4,495’	4,581’

Source: FAA AC 150/5300-13B, Airport Design; Coffman Associates analysis

SUMMARY

The airport development alternatives have focused on several elements that include potential runway extension, mitigating safety area deficiencies, improving existing and future taxiway development on the airfield, and enhancing instrument approach capabilities to the runway system. On the landside, reserve areas have been highlighted for specific types of aeronautical development as well as aeronautical and non-aeronautical reserve areas. These alternatives will be considered by the planning advisory committee, Ector County, TxDOT, and the FAA. Following discussion and review with these entities, a preferred recommended development concept the includes specific landside layouts (hangars, apron areas, etc.) will be drafted and presented in the next section of this report.

RECOMMENDED DEVELOPMENT CONCEPT

An overall recommended development concept has been prepared. The concept, depicted on **Exhibit 36**, offers capital facility improvements to both airside and landside needs determined in analysis contained in the previous sections. The purpose of this section is to outline these proposed facilities which are needed to accommodate projected demand and meet the program requirements.

The alternatives in the previous section examined various airside and landside options, including the potential to decommission one of the runways, determination of a primary runway, runway extension options, various configurations for the taxiway system, and apron/taxilane layouts to support new landside infrastructure. Following discussion with Ector County, the Planning Advisory Committee, TxDOT, and the FAA, it was determined that maintaining the existing three-runway configuration is the preferred alternative and will establish the remainder of the recommended development concept.

A re-evaluation of the ultimate Runway Design Code (RDC) for each runway was also conducted. Previous data available suggested that potential existed for an ultimate RDC C-III design on the primary runway, with B-II design standards maintained for the crosswind and additional (third) runways. Since that time, additional data has become available, and, following discussions with and recommendations from airport stakeholders, a determination of RDC C-II for the ultimate RDC on the primary runway has been designated. The crosswind and additional runways will continue to be planned to meet RDC B-II design standards in the ultimate condition.

In the previous section, each runway was thoroughly evaluated to determine which was most suitable to serve as the primary, crosswind, and additional runway. Several factors must be considered when making these designations, including the best alignment based on wind coverage, surrounding land uses, previous investments in a particular runway, and greatest potential for future development. Runway 11-29 has historically been considered the primary runway, and investments have been made that support such a designation (i.e., longest and widest runway available, approach lighting systems on each runway end, and lowest approach minimums). However, this runway also has the least favorable alignment based on wind coverage,[25] and surrounding land uses may impede development potential. Following discussion with airport stakeholders, the preferred option is to plan for the flexibility for either Runway 11-29 OR Runway 2-20 to meet C-II design standards in the future. This planning flexibility concept is somewhat unconventional, but it is the best approach to maintain the option to choose at a later date when demand warrants and justification presents. Additionally, given the uncertainty surrounding future land use development around the airport and existing constraining factors on both runways, this flexibility ensures that Ector County can continue to meet evolving aviation demand in the region and continue to serve as a good neighbor to the community. **It should be stated very clearly that this concept does not include a plan to maintain *both* runways as RDC C-II runways but retains the potential to develop *one* of these runways, either Runway 11-29 or Runway 2-20, to meet C-II design standards at some point in the future. Until such time, Runway 11-29 will continue to serve as the primary runway designation.**

[25] Refer to Exhibit 4. In 13-knot conditions, Runway 11-29 offers 87.44 percent coverage, while Runway 2-20 provides 93.43 percent coverage and Runway 16-34 provides 92.30 percent coverage. In 16-knot conditions, which is the allowable crosswind component for C-II, each runway provides greater than 95 percent coverage.

Runway 11-29 RDC: C-II-4000*
Runway 2-20 RDC: C-II-2400*
Runway 16-34 RDC: B-II-5000

87th St.
E Hillmont Rd
E Yukon Rd
N. County Rd W
Andrews Hwy
Dawn Ave
338
385

3/4-Mile RPZ
Relocate Perimeter Fence
600' Extension/ Displaced Threshold
1-Mile RPZ
Relocate Wind Cone Outside ROFA
Modify MALS
Install REILs
Relocate PAPI-4
Install MALSR
1/2-Mile Approach RPZ
1,300' Extension Widen to 100'
Increase Pavement Strength (60,000 lbs DWL)
Install PAPI-4
No-Taxi Island
Install PAPI-4
1,298' Displaced Threshold
Install REILs
1-Mile RPZ
Relocate Wind Cones Outside ROFA
Install REILs
Standard Hold Bay
1-Mile RPZ
Increase Pavement Strength (60,000 lbs DWL)
Relocate Perimeter Fence
3/4-Mile RPZ

54.3 ac
14.2 ac
5.2 ac
0.3 ac
3.9 ac
4.7 ac
1.8 ac
1.9 ac
1.3 ac
5.8 ac
2.7 ac
17.5 ac

Runway 16-34 (5,003' x 75')
Ultimate Runway 2-20 (7,000' x 100')
Ultimate Runway 11-29 (6,800' x 100')
500'
300'
400'

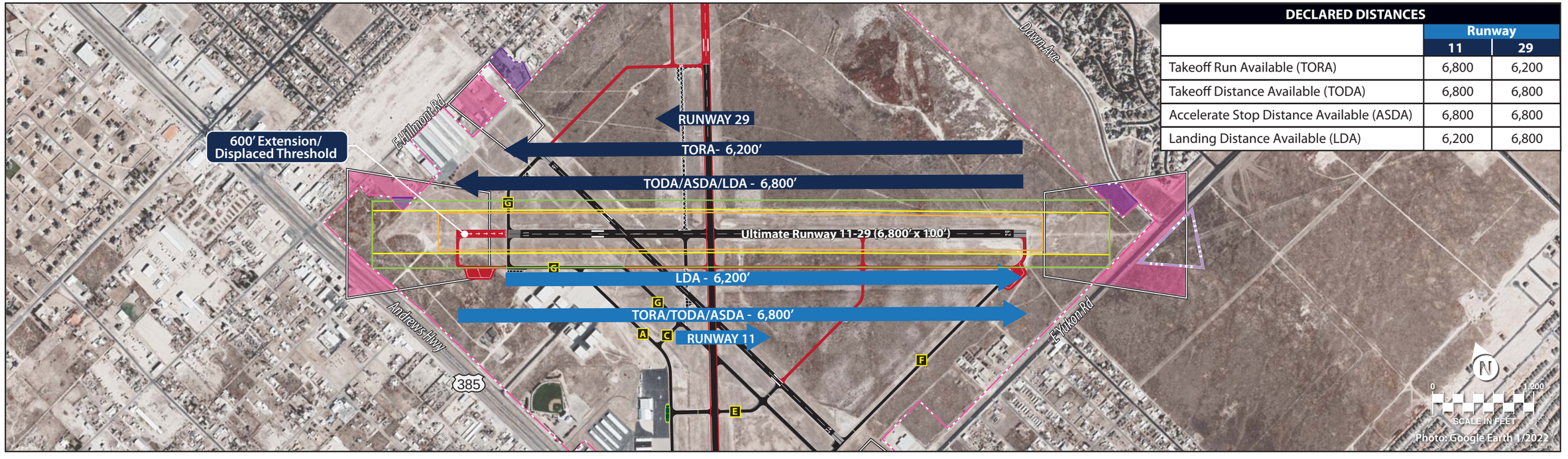
LEGEND
- Airport Property Line
- Ultimate Property Line
- Existing Avigation Easement
- Acquire/Obtain Easement
- Acquire Property
- A Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Visibility Zone (RVZ)
- ASOS Critical Area
- Runway Protection Zone (RPZ)
- Precision Obstacle Free Zone (POFZ)
- High Energy Area
- Ultimate Airfield Pavement
- Pavement/Building to be Removed

N
0 1,200
SCALE IN FEET

Photo: Google Earth 1/2022

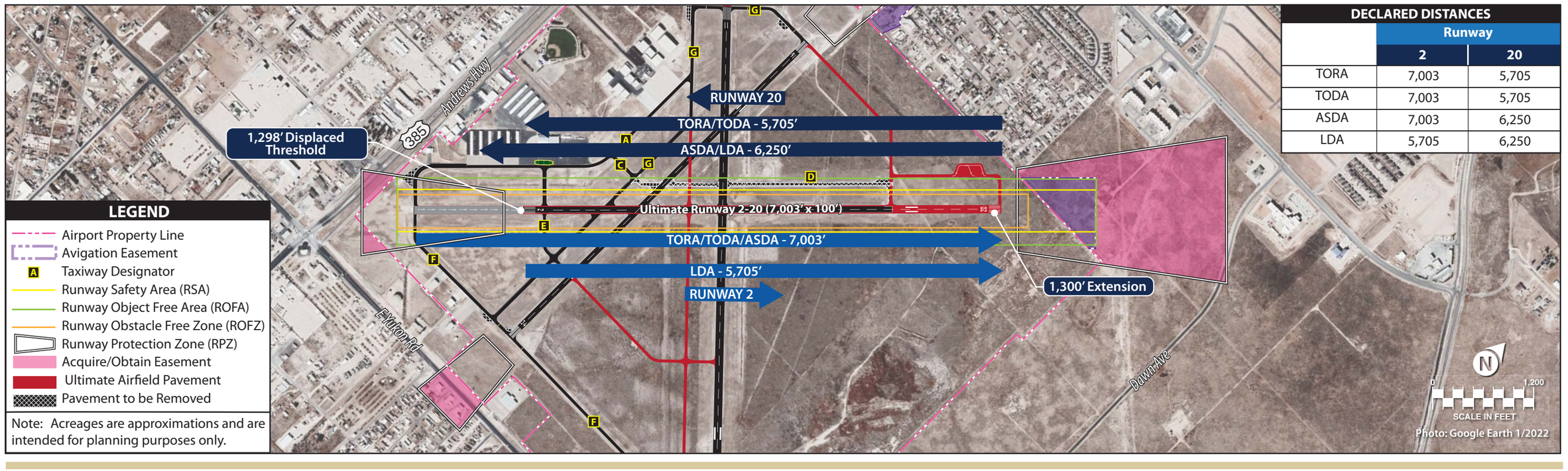
Note: Acreages are approximations and are intended for planning purposes only.

* Ultimate C-II design standards are intended ONLY for the runway that will function as the AIP-eligible primary runway. Once identified, the other (non-primary) runway will serve as the AIP-eligible crosswind runway and should be planned to meet B-III-5000 design standards.



DECLARED DISTANCES

	Runway 11	Runway 29
Takeoff Run Available (TORA)	6,800	6,200
Takeoff Distance Available (TODA)	6,800	6,800
Accelerate Stop Distance Available (ASDA)	6,800	6,800
Landing Distance Available (LDA)	6,200	6,800



DECLARED DISTANCES

	Runway 2	Runway 20
TORA	7,003	5,705
TODA	7,003	5,705
ASDA	7,003	6,250
LDA	5,705	6,250

LEGEND

- Airport Property Line
- Avigation Easement
- A Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- Acquire/Obtain Easement
- Ultimate Airfield Pavement
- Pavement to be Removed

Note: Acreages are approximations and are intended for planning purposes only.

The applicable RDC and critical design aircraft for the existing and future conditions are summarized in **Table 40**. The following sections will describe the actual physical facilities needed to accommodate projected demand and meet the program requirements.

TABLE 40 | Airfield Design Parameters

	EXISTING	ULTIMATE
Airport Reference Code (ARC)	B-II	C-II
RUNWAY 11-29[1]		
Airport Design Aircraft	King Air 200/300/350	Gulfstream 280
Runway Design Code (RDC)	B-II-4000	C-II-4000
Approach Reference Code (APRC)	D/IV/4000 D/V/4000	D/IV/4000 D/V/4000
Departure Reference Code (DPRC)	D/IV D/V	D/IV D/V
Taxiway Design Group (TDG)	2A	2A
RUNWAY 2-20[1]		
Airport Design Aircraft	King Air 200/300/350	Gulfstream 280
Runway Design Code (RDC)	B-II-5000	C-II-2400
Approach Reference Code (APRC)	B/III/4000 D/II/4000	B/IV/2400 D/V/2400
Departure Reference Code (DPRC)	B/III D/II	D/IV D/V
Taxiway Design Group (TDG)	2A	2A
RUNWAY 16-34[2]		
Airport Design Aircraft	King Air 200/300/350	King Air 200/300/350
Runway Design Code (RDC)	B-II-VIS	B-II-5000
Approach Reference Code (APRC)	B/III/4000 D/II/4000	B/III/4000 D/II/4000
Departure Reference Code (DPRC)	B/III D/II	B/III D/II
Taxiway Design Group (TDG)	2A	2A

[1] Ultimate C-II design standards are intended ONLY for the runway that will function as the AIP-eligible primary runway. Once identified, the other (non-primary) runway will serve as the AIP-eligible crosswind runway and should be planned to meet B-II-5000 design standards.
[2] Runway 16-34 is planned to be self-funded by Ector County as an 'additional' runway.

Source: FAA AC 150/5300-13B; Coffman Associates analysis

The recommended development concept, as shown on **Exhibit 36**, presents a long-term configuration for the airport, which preserves and enhances the role of the airport while meeting FAA design standards. The phased implementation of the recommended development concept will be presented in the next chapter. The following subsections describe the key details of the recommended development concept.

AIRSIDE DEVELOPMENT

DESIGN STANDARDS

Runway design standards are based upon the types of aircraft anticipated to operate at the airport in the future, as well as the instrument approach capability of the runway. As detailed above, the recommended development concept includes an option to plan either Runway 11-29 or Runway 2-20 as the

primary runway designed to meet RDC C-II standards in the ultimate conditions. If Runway 11-29 continues to remain as the primary runway, it should be planned to meet RDC C-II-4000.[26] If Runway 2-20 is ultimately selected as the primary runway, then it should be planned to meet RDC C-II-2400[27] design standards. Whichever runway is not selected as the primary runway is intended to serve as the AIP-eligible crosswind runway and should be planned to meet B-II-4000 standards. Runway 16-34 is planned to meet RDC B-II-5000[28] design standards in the ultimate condition and will serve as the Ector County-funded "additional" runway.

RUNWAY DESIGNATIONS

A runway's designation is based upon its magnetic headings, which are determined by the magnetic declination for the area. As discussed in the Facility Requirements section, Runway 11-29 should be re-designated as Runway 12-30 in approximately 8-10 years. To maintain consistency in this planning document, the runway will continue to be referred to as Runway 11-29; however, it will be noted on the ALP drawing that a redesignation is planned to occur at some point in the ultimate condition. The designations for Runways 2-20 and 16-34 should be planned to remain throughout the planning period.

RUNWAY DIMENSIONS

Runway 11-29 | Runway 11-29 is currently 6,200 feet long by 100 feet wide, meeting RDC C-II-4000 design standards for runway width. If this runway is chosen as ODO's primary runway, a 600-foot extension is planned for Runway 11, bringing the total runway length to 6,800 feet. This is the maximum extension achievable to maintain the ultimate runway safety area (RSA) and runway object free area (ROFA) on airport property, as discussed previously in the Alternatives section. A small portion of the property within the ultimate ROFA (approximately 0.3 acres) is planned to be acquired. To extend this runway and maintain the runway protection zone (RPZ) in its existing location, as requested by TxDOT Aviation and to be discussed in the Safety Areas section, the Runway 11 end is planned to be displaced by 600 feet. This extension and displacement will necessitate a modification to the MALS system at the Runway 11 end, with the threshold lights and three of the light bars planned to be inlaid on the extended runway pavement. The PAPI-4 serving the approach to Runway 11 is also planned to be relocated due to the runway extension.

It should be noted that, if Runway 11-29 is not selected as the primary runway and instead is planned to function as a B-II-4000 crosswind runway, it would exceed the runway width standard of 75 feet.

[26] RDC C-II-4000 is reflective of an instrument approach procedure with visibility minimums down to ¾-mile. Due to existing constraints at each runway end, Runway 11-29 is not planned for an approach with lower minimums, regardless of whether it serves as the primary runway or not.

[27] RDC C-II-2400 is reflective an instrument approach procedure with visibility minimums down to ½-mile (i.e., LPV GPS). Runway 2 is the only runway end at ODO that currently has the potential for this type of approach.

[28] RDC B-II-5000 is reflective an instrument approach procedure with visibility minimums down to 1-mile. Runway 16-34 is currently a visual runway with no published instrument approach procedures; however, a GPS approach with visibility minimums not lower than 1-mile is under review for Runway 16 at the time of this writing (April 2023). As such, the recommended development concept reflects this potential.

Maintenance of the additional 25 feet would likely become the responsibility of Ector County if they wished to maintain the existing 100-foot-wide surface.

Runway 2-20 | Runway 2-20 is currently 5,703 feet long by 75 feet wide. The current dimensional conditions meet the design standard for runway width for a B-II runway with instrument approach procedures down to ¾-mile. Currently, Runway 20 offers a GPS approach with visibility minimums down to 1-mile. If Runway 2-20 is selected as the primary runway to be planned to meet C-II-2400 standards, the width standard increases to 100 feet. As such, the recommended development plan depicts an option to widen Runway 2-20 to 100 feet to meet this standard.

As shown on **Exhibit 36**, the plan also includes an option to extend Runway 20 by 1,300 feet, bringing the ultimate length on Runway 2-20 to 7,003 feet. To extend this runway, consideration will need to be given to meeting the line of sight and gradient standards associated with airplane design group (ADG) C. As discussed previously in the Facility Requirements section, gradient standards become more stringent for runways designed to accommodate ADG C aircraft, with a 0.8 percent maximum gradient tolerance for the first and last quarters of the runway. Runway 20 currently exceeds the gradient standard by 0.48 percent, so any extension project must include plans to correct the existing issue and ensure that the extended portion of the runway is within the 0.8 percent tolerance for the last quarter of the runway. Other connected actions to the extension, as they relate to safety areas and Taxiway D, will be discussed in later sections.

Runway 16-34 | Runway 16-34 is currently 5,003 feet long by 75 feet wide, meeting runway width standards for B-II-5000. No changes to these runway dimensions are planned. Runway 16-34 is planned to be the additional runway which means that it will not be eligible to qualify for state and/or federal grant-in-aid funding assistance. Thus, all costs associated with its operation and maintenance will be entirely borne by Ector County.

It should be noted that runway extensions on Runway 11-29 and Runway 2-20 are included for planning purposes only and are not currently justified. An extension project would require additional aircraft operations that demonstrate the need for increased runway length before TxDOT or the FAA will offer grant funding assistance for its construction.

SAFETY AREAS

An important consideration when planning the future of an airport is to identify any adjacent property that may need to be acquired to accommodate potential growth or to protect the airport from encroachment. Fee simple acquisition is not always possible, and in such cases the airport should consider acquisition of an avigation easement or employ restrictive height and hazard zoning to protect the airspace. **Exhibit 36** depicts areas planned for fee simple acquisition (purple shading) or protection via an avigation easement (pink shading) in the ultimate conditions. The paragraphs further detail each of these areas along with plans for mitigating any existing safety area obstructions.

In the existing B-II-4000 condition, the RSA and ROFA are fully contained on airport property, while portions of both RPZs extend beyond the airport's boundary.

Runway 11-29 | The safety areas associated with Runway 11-29 in a C-II-4000 environment, as pictured on the exhibit, are larger than what currently exist in the B-II-4000 condition. If Runway 11-29 continues to be planned as the primary runway, the sponsor should acquire fee simple approximately 0.3 acres of property to the west and approximately 2.7 acres of property to the east to control/protect the ultimate C-II-4000 ROFA (both runway ends) and a portion of the Runway 29 RPZ. Additionally, approximately 9.1 acres of the Runway 11 RPZ and 17.5 acres of the Runway 29 RPZ are planned to be protected via avigation easements.

Previously, Alternatives 1A and 3A were considered that included runway extension options which would have shifted the RPZs, resulting in a greater area of unprotected property than what currently exists. Secondary alternatives that included threshold displacements to bring safety areas, including RPZs onto airport property were also evaluated. Ultimately, following discussions with the airport sponsor and TxDOT, it was determined that none of these options were desirable or feasible at this time, and preference was given to maintaining the RPZs in their current locations, regardless of existing incompatibility located within them (i.e., roads, businesses, and residential [Runway 29 RPZ]. As such, the recommended development concept depicts a plan to acquire property in fee or protect it via avigation easement, as described above, but not take significant action to mitigate existing RPZ incompatibilities. As part of this planning process, the existing height/hazard zoning ordinance will be updated to limit the height of new development, including in the RPZs.

With the 600-foot planned extension to Runway 11, which would normally result in a shifted RPZ, an option to displace the Runway 11 threshold in its current location is presented to prevent the RPZ from extending onto additional incompatible land uses. Declared distances must be implemented, as shown on the second page of **Exhibit 36** and discussed previously in the Alternatives section. With a 600-foot displacement, aircraft departing from Runway 11 would have the full 6,800 feet of runway available, but landing operations on Runway 11 would be reduced to 6,200 feet (the current runway length). The take-off run available for aircraft departing Runway 29 would also be reduced to 6,200 feet, but the TODA, ASDA, and LDA would be published as the full 6,800 feet.

The plan also includes relocation of the airport's perimeter fencing around the ultimate C-II ROFA for Runway 11-29 at each runway end.

Runway 2-20 | Similar to Runway 11-29, the safety areas associated with Runway 2-20 would become larger in size if Runway 2-20 is selected as the primary runway. Further, if the runway is extended as shown on the north end, these safety areas would extend off airport property. Currently, the existing B-II-5000 safety areas are fully contained on the airport, with the exception of the Runway 2 RPZ. To plan for the potential for Runway 2-20 to serve as a C-II-2400 runway, the plan includes the fee simple acquisition of approximately 14.2 acres of property off the Runway 20 end, with property within the RPZs protected by avigation easement (54.3 acres in the Runway 20 RPZ and 3.2 acres in the Runway 2 RPZ).

On the Runway 20 end, the acquisition of 14.2 acres of property is necessary for the airport to control land within the ultimate RSA and ROFA, as well as the property on which planned the approach lighting system (MALSR) equipment would be located (MALSR to be discussed).

On the Runway 2 end, a C-II-2400 RSA and ROFA would extend beyond the airport's property and over adjacent roadways and buildings. As such, the plan as presented also includes the displacement of the Runway 2 threshold. This displacement is also based upon maintaining the RPZ in its existing location in terms of uncontrolled property. **Exhibit 36** depicts an option to implement a GPS approach with 1-mile visibility minimums, which would increase the size of the RPZ. In order to NOT introduce additional incompatible land uses with the RPZ, the Runway 2 threshold must be displaced by 1,298 feet. The resulting declared distances are detailed on the second page of **Exhibit 36**. With a planned 7,003-foot-long runway surface, aircraft departing Runway 2 would have the full length of pavement available, but landing operations to this runway would be reduced to 5,705. Both takeoff and landing operations on Runway 20 would be reduced, with TORA and TODA set at 5,705 feet and ASDA and LDA set at 6,250 feet.

In terms of ultimate safety area obstructions, the concept plans to relocate the wind cones located near each end of Runway 2-20 outside of the ROFA.

Again, it should be clearly noted that Runway 11-29 is the current primary runway and could remain as such. The proposed changes to Runway 2-20 would only be necessary if it were determined to be the better choice for primary runway at a later date. If it remains as the crosswind runway, its current design is adequate to meet long term plans.

Runway 16-34 | The RSA and ROFA associated with Runway 16-34 are fully contained on airport property and free of obstructions, except for the wind cones located at each runway end. As such, the plan depicts the relocation of the wind cones outside of Runway 16-34's ROFA. The RPZs at each runway end are located partially off airport property and contain existing incompatibilities. However, as discussed previously, these land uses are planned to remain as there are no changes proposed to this runway. If feasible, the airport should acquire avigation easements over the uncontrolled portions of the RPZs in order to restrict future structure heights.

PAVEMENT STRENGTH

The existing pavement strength rating for Runway 11-29 is 30,000 pounds SWL, while Runways 2-20 and 16-34 are rated at 14,000 pounds SWL. **Exhibit 36** depicts an option to strengthen either Runway 11-29 or 2-20, depending on which runway is ultimately selected to function as the primary runway. This recommendation is based upon the types of aircraft anticipated to utilize the runway most frequently. At ODO, the most frequent C-II operator in recent years has been the Gulfstream 280, with the Citation III and Gulfstream 100/150 also conducting regular operations. These aircraft have maximum takeoff weights that range between 22,000 pounds and 39,600 pounds. As such, the recommended development concept includes a plan to strengthen the ultimate primary runway to 60,000 pounds DWL to better accommodate these and other C-II aircraft. The existing pavement strength for Runway 16-34 is planned to be maintained at 14,000 pounds SWL.

TAXIWAYS

The existing taxiway system at ODO generally allows for efficient aircraft movements. However, as shown on the recommended development concept, several changes are planned for the purpose of improving efficiency and meeting the FAA's preferred design for taxiways. It should be noted that all taxiways at ODO are at least 35 feet wide, and these surfaces are planned to be maintained at this width at a minimum. Maintenance of taxiway pavement that exceeds 35 feet, which is the standard for Group II design, may be the responsibility of the sponsor. All new taxiway pavement is planned for a width of 35 feet.

Parallel Taxiway | The FAA recommends that parallel taxiways be provided for runways with published instrument approach procedures with visibility minimums below 1-mile. Currently, only Runway 11-29 offers this capability, and a partial-parallel taxiway is available (Taxiway G serving the Runway 11 end). Taxiway G is separated from the runway by 400 feet, which meets the minimum runway-to-taxiway separation standard of 300 feet for a C-II-4000 runway. If Runway 11-29 continues to serve as the primary runway, a full-length parallel taxiway should be provided. The recommended development concept includes a plan for Taxiway G to be extended to the east to connect to existing Taxiway F, providing access to the Runway 29 threshold.

Options for a full-length parallel taxiway serving Runway 2-20 were also considered but were ultimately rejected due to the confusion that would result from the additional intersections, as well as the potential for hot spots. Currently, Taxiway D serves as a partial-parallel taxiway to Runway 2-20, separated from the runway by 300 feet and extending south from the Runway 20 end and connecting to Taxiway C at midfield. If Runway 2-20 were ultimately selected as the primary runway with an RDC of C-II-2400, the separation standard for a parallel taxiway would increase to 400 feet. Thus, the recommended plan includes an option to remove existing Taxiway D pavement and construct a new partial-parallel taxiway with a 400-foot separation from Runway 2-20, as pictured on **Exhibit 36**.

Taxiway E | Taxiway E currently extends from the south ramp to Runway 16-34. The recommended development concept plans for Taxiway E to be extended across Runway 16-34 to connect to the proposed extension of Taxiway G. This will also allow for an additional exit from Runway 11-29.

Taxiway G | As mentioned, Taxiway G is planned to be extended to the east to provide for a full-length parallel runway serving Runway 11-29. Currently, the taxiway section connecting Runway 11 and Runway 16 is also designated as Taxiway G. An extension of this taxiway is planned, crossing Runway 16 and connecting to the existing Runway 20 threshold. This proposed taxiway is planned to provide access to/from Runway 2-20, as well as connect a proposed landside development area to the airfield.

Geometry Corrections | As outlined in the Facility Requirements section, there are several non-standard taxiway conditions that exist currently at ODO. Where Taxiway E provides direct access from the south ramp to Runway 2-20, a no-taxi island is planned on the south ramp at the entrance to Taxiway E. Installation of a no-taxi island functions to force pilots to make a turn prior to entering a runway environment, improving situational awareness and reducing the chance for inadvertently crossing the runway. With the planned closure of Taxiway D, other non-standard conditions are mitigated, including high-energy crossings and acute-angled connections. It should be noted that the plan as depicted does not allow for the mitigation of all high-energy crossings or acute-angled intersections, due to the continuance of a three-runway system.

Taxiway Nomenclature | Current taxiway designations do not meet FAA Engineering Brief (EB) 89, *Taxiway Nomenclature Convention* standards. According to the EB, stub taxiways associated with a parallel taxiway should be designated with a letter and number, such as A1, A2, A3, etc., beginning with the northernmost stub for north/south taxiways and starting with the westernmost stub for east/west taxiways. Ultimate taxiway designations that meet the EB standards should be planned once the airport sponsor selects a primary runway and the taxiway system to be constructed has been established.

HOLDING POSITIONS

The separation standard for holding position markings is based upon a runway's RDC. For Runway 11-29 with a potential ultimate transition to RDC C-II-4000, the separation standard is 250 feet. All hold lines leading to this runway are currently separated from the runway centerline by 250 feet, meeting that standard. All proposed taxiways serving this runway are planned to be marked with holding positions separated by 250 feet.

If Runway 2-20 is ultimately selected to serve as the primary runway with an RDC of C-II-2400, the separation standard for holding positions is 250 feet from the runway centerline. Currently, holding positions are separated from this runway by 200 feet, with the exception of the Taxiway G crossing which has hold lines 300 feet from the centerline. As such, the plan includes the re-marking of holding positions serving Runway 2-20 to be at least 250 from the centerline. Proposed taxiway pavement would also be marked with hold lines located 250 feet from the Runway 2-20 centerline.

The separation standard for holding positions serving Runway 16-34 is 200 feet, which is currently met. New taxiway pavement is planned to be marked with holding positions 200 feet from this runway's centerline.

HOLDING BAYS

Each runway end at ODO has a holding bay for aircraft to perform pre-flight engine checks. However, these holding bays are of a non-standard design. The FAA has published preferred design standards for holding bays that include clear entrance/exit points and independent parking areas separated by islands or are clearly marked with centerlines to allow for independent aircraft movements. The recommended development concept plans for the existing non-standard hold bays on each runway end to be removed, with new standard holding bays planned on Taxiway G at the Runway 11 end, on Taxiway F at the Runway 29 end, and on the new Taxiway D pavement at the extended Runway 20 end.

INSTRUMENT APPROACH PROCEDURES

Currently, there are three published instrument approach procedures offered at ODO. Each end of Runway 11-29 has an LPV GPS approach with visibility minimums not lower than ¾-mile, while Runway 20 offers an LNAV GPS approach with 1-mile visibility minimums. The alternatives in the previous section

examined several options for improved instrument approach capability at the airport. Ultimately, it was determined that the runway with the greatest potential of providing an approach with minimums below ¾-mile was Runway 20, due to the current lack of development on approach to this runway. As such, the recommended development concept maintains the existing instrument capability to Runways 11 and 29, while Runway 20 is planned for the potential of a ½-mile LPV GPS approach. Runway 2 is also planned for the potential of a GPS approach with 1-mile visibility minimums. Approaches to 16-34 are planned to remain visual or not lower than 1-mile, though it should be noted that a 1-mile approach is currently under review by the FAA for Runway 16.

VISUAL AIDS

The airfield at ODO currently offers a variety of visual aids for aircraft on approach to any of the runway ends. Runway 11-29 is equipped with four-box PAPIs at each runway end, and the recommended development concept plans for these to be maintained. If Runway 11 is extended, the PAPI-4 system serving this runway is planned to be relocated at that time. Runway 11-29 is also equipped with approach lighting systems (MALS) at each runway end. These systems are planned to be maintained, with the Runway 11 MALS modified if/when that runway is extended.

Runway 2-20 is planned to be equipped with PAPI-4s to replace the VASI system currently serving each runway end. REILs are planned for Runway 2, while a MALSR approach lighting system is planned for Runway 20 to support the proposed ½-mile LPV GPS approach.

Runway 16-34 is presently served by PAPI-2s on each approach end. These are planned to be maintained in the ultimate condition, with REILs added at each runway end.

AIRFIELD MARKING, LIGHTING, AND SIGNAGE

The recommended development concept includes the continuation of non-precision runway markings on all runways except for Runway 20. If Runway 2-20 is selected as the primary runway and if an LPV GPS approach with ½-mile visibility minimums is implemented, the runway is planned to be re-marked with precision markings at this runway end. This would include the addition of touchdown zone markings and side stripes.

The airfield is currently equipped with medium intensity runway lighting (MIRL). MIRL is planned to be maintained, with new fixtures added to any extended portions of runway pavement. All taxiways on the airfield are planned to be equipped with medium intensity taxiway lighting (MITL), with the existing green centerline reflectors maintained for added visibility.

The plan also maintains all existing airfield signage, with the addition of new LED signage as new pavements are constructed. Any existing incandescent signage is planned to be transitioned to LED lighting when replacements are necessary.

WEATHER REPORTING EQUIPMENT

Weather reporting equipment at ODO includes a centrally located lighted wind cone, supplemental wind cones located at the ends of Runways 2-20 and 16-34, and a tetrahedron near the south ramp. The airport also has an automated surface observation system (ASOS) located near the intersection of Runway 11-29 and Taxiway D. All existing equipment is planned to be maintained; however, the supplemental wind cones are planned to be relocated outside of the Runway 2-20 and 16-34 ROFAs, as described previously. The tetrahedron and ASOS are planned to be maintained in their existing locations. The 500-foot critical area associated with the ASOS is currently free from equipment or structures that could interfere with the sensors, and the recommended concept maintains this critical area free from potential interferences.

LANDSIDE DEVELOPMENT

Ultimate landside development at ODO is generally focused on three areas: 1) expanded development in the terminal area; 2) new development on the north side accessible from E. Hillmont Road; 3) and new development on the south side accessible from E. Yukon Road. Additional portions of the airport's property have been identified as suitable for aviation or non-aviation development. The landside development plan is depicted on **Exhibit 37**.

A 35-foot building restriction line (BRL) is depicted on the exhibit, set 745 feet from the Runway 11-29 and Runway 2-20 centerlines, and at 495 feet from the Runway 16-34 centerline. The BRL is based on Part 77 primary and transitional surface clearance requirements and identifies suitable building locations on the airport. It should be noted that the BRL does not serve as a standard, but rather a guideline for vertical development. Structures should generally be planned behind the BRL to ensure they do not penetrate the transitional surface; however, through coordination with FAA, exceptions can be made. Prior to construction of any new structures on the airport, coordination with FAA should be conducted to ensure there are no impacts to Part 77 surfaces.

Terminal Area Development | The bulk of expanded apron and hangar facilities are planned in the terminal area. On the east side of the terminal, the ramp is planned to be expanded to support additional conventional hangars and provide additional parking for both fixed wing aircraft and helicopters. As shown on **Exhibit 37**, the taxilane that extends form the existing terminal ramp is planned to be extended to accommodate additional executive hangars. Vehicle access roads and parking lots are also planned to serve tenants of these proposed facilities.

West of the terminal, a T-hangar complex is proposed. Aircraft would be provided access via an extended taxilane that currently serves the conventional hangars in the area west of the terminal, as well as a pair of proposed taxilanes connecting to extended Taxiway G at the Runway 11 end. A new vehicle access road and aircraft wash rack are also planned for tenants in this area.

The Facility Needs identified a need for more space in the terminal building by the end of the 20-year planning period. As such, the recommended concept includes an option to expand the terminal by 1,200 sf, as well as an expansion to the vehicle parking lot.

North Side Development | Currently, limited development exists on the north side of the airfield. However, there is significant potential in this area for additional landside facilities. A new apron is proposed between the approaches to Runways 16 and 20, with access provided via a new taxiway connecting these runway ends. Development in this area could be accessed by vehicle from E. Hillmont Road, with a new roadway extending south from Hillmont to provide access and parking to tenants. This area also includes marked aircraft parking, as well as a secondary fuel farm.

South Side Development | Proposed development on the airport's south side is concentrated in two areas: expanded box hangar facilities east of Runway 2 and conversion of T-hangars to conventional hangars on the south ramp west of Runway 2. Beginning on the east side of Runway 2, executive hangars are planned along Taxiway F, with new vehicle access roads extended from the existing access serving hangars and other facilities in this area. West of Runway 2, there are several T-hangars that are in poor condition and will need to be refurbished or replaced at some point. When that time comes, the recommendation is for this area be repurposed to provide additional aircraft parking and to support conventional hangars that could be utilized for an aviation-related business.

There are also tiedowns on the south ramp that are located within the TOFA/TLOFA (see Exhibit 27). These parking positions should be reconfigured so they are located outside these taxiway/taxilane safety areas. An additional aircraft parking area is planned adjacent to the existing T-hangars that are planned to remain. The plan calls for an expansion of the pavement serving the T-hangars in this area that will allow for the addition of more tiedowns.

Reserve Parcels | The recommended plan also includes potential aviation reserve and non-aeronautical reserve areas. Approximately 73.8 acres along the flightlines of Runways 11-29 and 2-20, shown in orange shading, are planned for future aviation uses. This could include the addition of more landside facilities such as apron space and hangar facilities, as well as the possibility for facilities designed to accommodate unmanned aircraft system (UAS) growth potential. With the emerging market for electric vertical takeoff and landing (EVTOL) aircraft, it is appropriate and prudent to plan for the eventual construction of facilities to support operations in this segment of the industry.

The plan also shows approximately 101.0 acres of property in green shading that is reserved for future non-aeronautical development. This is property that offers less potential for future aeronautical uses, and therefore may be better served for non-aviation uses that can serve to generate revenue for the sponsor. This includes approximately 12.0 acres of property currently being utilized by Odessa College for the operation of Wrangler Field.

ENVIRONMENTAL OVERVIEW

An analysis of potential environmental impacts associated with proposed airport projects is an essential consideration in the airport layout plan update process. The primary purpose of this discussion is to review the recommended development concept (**Exhibit 36**) and associated capital program at the airport to determine whether projects identified in the airport layout plan update could, individually or collectively, significantly impact existing environmental resources. Information contained in this section was obtained from previous studies, official internet websites, and analysis by the consultant.

E Hillmont Rd

Inset #1

Inset #3

Andrews Hwy

385

13.8 ac

Runway 16-34 (5,003' x 75')

Ultimate Runway 2-20 (7,003' x 100')

Ultimate Runway 11-29 (6,800' x 100')

500'

73.8 ac

73.0 ac

Dawn Ave

Inset #2

6.7 ac

7.5 ac

E Yukon Rd

LEGEND

- Airport Property Line
- Existing Avigation Easement
- A Taxiway Designator
- Ultimate Airfield Pavement
- Ultimate Building
- Ultimate Roads/Parking
- Aeronautical Reserve
- Non-Aeronautical Reserve/Release
- 35' Building Restriction Line (BRL)
- Pavement/Building to be Removed

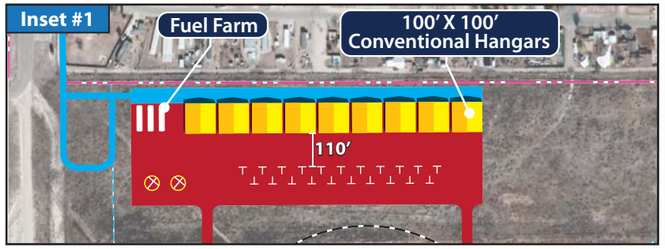
N

0 1,200

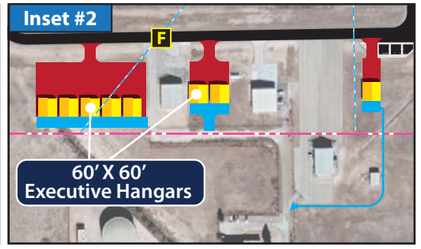
SCALE IN FEET

Photo: Google Earth 1/2022

Inset #1



Inset #2



Inset #3

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The *FAA Reauthorization Act of 2018* (Act) changed how the FAA historically operates with respect to airport oversight. Section 163 of the Act limits the FAA's approval authority over certain projects. Pursuant to Section 163, when a sponsor submits a change to the airport layout plan (ALP) for a project that would not be federally funded, requests a change in land use from aeronautical to non-aeronautical, or requests to dispose of airport-owned land, the FAA would need to determine if the proposal would be subject to the agency's approval authority. This approval is a two-step process. The FAA exercises its regulatory authority consistent with the Act and separately examines and reaches a determination regarding its authority under both of the following steps. First, the FAA determines if they have ALP approval authority under Section 163 of the Act. The second step is to determine how the land was acquired and if land release obligations are required. Projects depicted on the ALP that were approved prior to the Act must be evaluated to determine whether FAA retains their approval authority.

If FAA retains approval authority over a project, then the project is typically subject to the *National Environmental Policy Act* (NEPA). For projects not categorically excluded under FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, compliance with NEPA is generally satisfied through the preparation of an environmental assessment (EA). In instances where significant environmental impacts are expected, an environmental impact statement (EIS) may be required.

The following portion of the airport layout plan update is not designed to satisfy the NEPA requirements for a specific development project, but it provides a preliminary review of environmental issues that may need to be considered in more detail within the environmental review processes. It is important to note that the FAA is ultimately responsible for determining the level of environmental documentation required for airport actions.

The environmental inventory included in the first section of this report provides baseline information about the airport environs. This section provides an overview of potential impacts to existing resources that could result from implementation of the planned improvements outlined on the recommended development concept.

Table 41 summarizes potential environmental concerns associated with implementation of the recommended development concept for Odessa Airport-Schlemeyer Field. Analysis under NEPA includes effects or impacts a proposed action or alternative may have on the human environment (see 40 Code of Federal Regulations [CFR] §1508.1). Effects have been recently defined in the Council of Environmental Quality guidelines as changes that are not only reasonably foreseeable but those that have a close causal relationship to the proposed action or alternatives.

TABLE 41 | Summary of Potential Environmental Concerns

AIR QUALITY	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the United States (U.S.) Environmental Protection Agency (EPA) under the *Clean Air Act*, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.**
Potential Environmental Concerns	**Potential Impact.** An increase in operations could occur over the 20-year planning horizon of the development concept (**Exhibit 36**) that would likely result in additional emissions. Ector County currently complies with federal NAAQS requirements; therefore, general conformity review per the *Clean Air Act* is not required. According to the most recent FAA *Aviation Emissions and Air Quality Handbook* (2015), an emissions inventory under NEPA may be necessary for any proposed action that would result in a reasonably foreseeable increase in emissions due to plan implementation. For construction emissions, a qualitative or quantitative emissions inventory under NEPA may be required, depending on the type of environmental review needed for projects defined on the development plan concept.
BIOLOGICAL RESOURCES	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.** FAA has not established a significance threshold for non-listed species. However, factors to consider are if an action would have the potential for: • Long-term or permanent loss of unlisted plant or wildlife species; • Adverse impacts to special status species or their habitats; • Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or • Adverse impacts on a species' reproductive rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.
Potential Environmental Concerns	<u>Federally Protected Species</u> **Potential Impact.** According to the USFWS Information for Planning and Consultation (IPaC) report, there is the potential for four candidate, threatened, or endangered species within the vicinity of the airport: northern aplomado falcon (*Falco femoralis septentrionalis*), piper plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), and monarch butterfly (*Danaus plexippus*). Of the four species listed above, only the northern aplomado falcon and monarch butterfly have potential habitat at the airport. These two respective species may inhabit spaces that contain trees or shrubs and, thus, any projects impacting trees or vegetation have the potential to adversely impact these species. Proposed development in the western and northern portion of the airport related to new hangars and their associated infrastructure (i.e., ultimate airfield pavement and ultimate roads/parking) are in areas populated with vegetation and may be of concern. If trees or other vegetation are removed in these areas, a bird survey may be warranted prior to project approval. In addition to this, monarch butterflies inhabit areas that contain milkweed (*Asclepias sp.*) and other types of vegetation. Thus, habitat surveys (i.e., botanical surveys) may be necessary prior to project development in vegetated areas. <u>Designated Critical Habitat</u> **No Impact.** The are no critical habitats at the airport. <u>Non-Listed Species</u> **Potential Impact.** Non-listed species of concern include those protected by the *Migratory Bird Treaty Act (MBTA)* and the *Bald and Golden Eagle Protection Act.* Although, there are no migratory birds of conservation expected to occur at the airport, there may be potential for occurrence for other migratory bird species protected under the MBTA. Bird species protected by the MBTA could be adversely affected if construction occurs during the nesting and breeding seasons (typically May through September). Pre-construction surveys of vegetated areas at the airport are recommended for projects where ground clearing would occur unless happening outside the nesting and breeding seasons. Projects related to proposed hangar development and associated infrastructure in the western and northern portion of the airport contain vegetation and may be areas of concern.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

CLIMATE	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Climate; refer to FAA Order 1050.1F's, *Desk Reference*, for the most up-to-date methodology for examining impacts associated with climate change.
Potential Environmental Concerns	**Unknown.** An increase in greenhouse gas (GHG) emissions could occur over the 20-year planning horizon of the airport layout plan update. A project-specific analysis may be required per the FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, based on the parameters of the individual projects; however, at this time FAA does not have an impact threshold to use to determine significance under NEPA.
COASTAL RESOURCES	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significant threshold for Coastal Resources.
Potential Environmental Concerns	**No Impact.** The airport is not located within a coastal zone.
***DEPARTMENT OF TRANSPORTATION ACT*, SECTION 4(f)**	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, and publicly or privately owned land from an historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.**
Potential Environmental Concerns	**Potential Impact.** There are no wilderness areas, public recreational facilities, or National Register of Historic Places (NRHP)-listed resources that would be impacted by proposed development at the airport. The closest known potential Section 4(f) resource is the Alternative Education Center, located 0.2 mile to the southeast. However, any airport structures 50 years or older should be evaluated for historic significance prior to alteration or demolition. If determined to be a significant historic resource, they would likely qualify as a Section 4(f) resource.
FARMLANDS	

FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The total combined score on Form AD-1006, *Farmland Conversion Impact Rating*," ranges between 200 and 260.** (Form AD-1006 is used by the U.S. Department of Agriculture, Natural Resources Conservation Service [NRCS] to assess impacts under the *Farmland Protection Policy Act* [FPPA].)
	
	FPPA applies when airport activities meet the following conditions:
	• Federal funds are involved;
	• The action involves the potential for the irreversible conversion of important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land; or
	• None of the exemptions to FPPA apply. These exemptions include:
	  ○ When land is not considered "farmland" under FPPA; such as land already developed or already irreversibly converted. These instances include when land is designated as an urban area by the U.S. Census Bureau or the existing footprint includes rights-of-way.
	  ○ When land is already committed to urban development.
	  ○ When land is committed to water storage.
	  ○ The construction of non-farm structures necessary to support farming operations.
	  ○ The construction/land development for national defense purposes.

Potential Environmental Concerns	**No Impact.** According to the NRCS Web Soil Survey (WSS), the airport is designated as not prime farmland.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention. However, factors to consider are if an action would have the potential to: • Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management; • Involve a contaminated site; • Produce an appreciably different quantity or type of hazardous waste; • Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or • Adversely affect human health and the environment.
Potential Environmental Concerns	**No Impact**. There are no identified brownfields located within a one-mile buffer of the airport. The nearest Superfund is located 0.3 mile south of the airport. Because of the existing regulatory environment regarding hazardous materials and waste and stormwater management, no impacts related to ultimate airport development are anticipated. There is one FBO (Texas Aero) that offers fuel services at the airport. The FBO is required to maintain spill response procedures to minimize non-stormwater discharges from contaminating waterways under federal regulations. Proposed landside development includes a new fuel facility along the north portion of the airport. Similar to the FBO, the proposed fuel facility will be required to manage and maintain spill response procedures (i.e., a Spill Prevention Control and Countermeasure [SPCC]). Ultimate airport improvements could include additional hangars and associated infrastructure, extending Ultimate Runway 11-29 or extending and widening Ultimate Runway 2-20, relocating wind cones, installing new runway lighting, and creating standard holding bays (**Exhibit 36**). The construction of planned developments would temporarily increase solid waste. The closest landfill, Odessa Landfill, is located more than 11 miles southwest from the airport. No impacts related to solid waste disposal are expected. See discussion on Surface Water for information on water quality pollution prevention.
HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Factors to consider are if an action would result in a finding of "adverse effect" through the Section 106 process. However, an adverse effect finding does not automatically trigger preparation of an EIS (i.e., a significant impact).
Potential Environmental Concerns	**No Impact.** The closest resource listed on the National Register of Historic Places (NRHP) is the White-Pool House, located five miles south of the airport, and thus, is not located near any proposed airfield improvements. An airport-wide cultural resources survey should be completed to evaluate any other cultural resources at the airport. The FAA would then determine the level of effect that airport projects would have on these historic properties under NEPA and through the *National Historic Preservation Act's* Section 106 process. If previously undocumented buried cultural resources are identified during ground-disturbing activities for ultimate airport development, all work must immediately cease within 30 meters (100 feet) until a qualified archaeologist has documented the discovery and evaluated its eligibility for the NRHP, as appropriate. Work must not resume in the area without approval of FAA.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

LAND USE	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Land Use. There are also no specific independent factors to consider. The determination that significant impacts exist is normally dependent on the significance of other impacts.
Potential Environmental Concerns	**Potential Impact**. Proposed airport improvements include new hangars, a potential runway extension of Runway 11-29, a runway extension/widening of Runway 2-20, acquiring an easement in the RPZs for Runway 16-34, Ultimate Runway 11-29, and Ultimate Runway 2-20, a 1,200 sf terminal expansion, a vehicle parking expansion for the terminal parking lot, new roads/parking, an area for aeronautical reserve, a non-aeronautical reserve/release area, installing new airfield lighting, relocating wind cones, relocating a portion of the perimeter fence on the southeastern portion of the airport, and a new fuel facility. (See **Exhibit 36**). The properties to be protected by avigation easements are in the RPZ, with some in areas containing existing structures. The acquisition of avigation easements would result in height restrictions on future development but would not apply to the existing structures. The properties obtained through fee simple acquisitions in or near the RPZ would also reduce the possibility of natural growth or man-made obstructions. The fee simple acquisition south of East Hillmont Road is located within a residential community and may relocate residents in this area. As a result, the *Uniform Relocation Assistance and Real Property Acquisitions Act* (URA) may need to be enacted. See discussion on Socioeconomics for more information on the URA. There are several residential areas in proximity to airport property boundaries. The nearest proposed development to these residential areas would be the construction of the proposed hangars on the north portion of the airport south of East Hillmont Road; however, this proposed development would be contained within the airport boundaries and would not relocate any nearby residential areas.
NATURAL RESOURCES AND ENERGY SUPPLY	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Natural Resources and Energy Supply. However, factors to consider are if an action would have the potential to cause demand to exceed available or future supplies of these resources.
Potential Environmental Concerns	**No Impact**. Planned development projects at the airport could increase demands on energy utilities, water supplies and treatment, and other natural resources during construction; however, significant long-term impacts are not anticipated. Should long-term impacts be a concern, coordination with local service providers is recommended.
NOISE AND NOISE-SENSITIVE LAND USE	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would increase noise by Day-Night Average Sound Level (DNL) 1.5 decibel (dB) or more for a noise-sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.** Another factor to consider is that special consideration needs to be given to the evaluation of the significance of noise impacts on noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in Title 14 CFR Part 150 are not relevant to the value, significance, and enjoyment of the area in question.
Potential Environmental Concerns	**Potential Impact.** Residential communities are located within the vicinity of the airport. There are a few noise-sensitive land uses, including places of worship and schools near the airport. The ultimate development at the airport is not expected to change the overall noise environment more than the 1.5 dB threshold; however, this should be confirmed prior to implementing a runway extension/widening along proposed Ultimate Runway 2-20 and runway extension at proposed Ultimate Runway 11-29. **Exhibit 38** shows existing and anticipated noise contours for the airport. As shown on the exhibit for existing conditions, the DNL 65 dB noise exposure remains on airport property. In the 2042 condition, the DNL 65 dB noise exposure contour expands around the runways, but remains on airport property. Operation growth will not result in noise impacts under FAA 1050.1F. Impacts to noise-sensitive land uses are only identified through NEPA documentation for specific projects or through the voluntary Part 150 process.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

SOCIOECONOMIC, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS	
Socioeconomic	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Socioeconomics. However, factors to consider are if an action would have the potential to: • Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area); • Disrupt or divide the physical arrangement of an established community; • Cause extensive relocation when sufficient replacement housing is unavailable; • Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities; • Disrupt local traffic patterns and substantially reduce the levels of service of roads serving the airport and its surrounding communities; or • Produce a substantial change in the community tax base.
Potential Environmental Concerns	**Potential Impact.** Proposed development would not relocate or disrupt current businesses. However, there are planned relocations of residences located south of East Hillmont Road within the area planned for fee simple land acquisition. Under the *Uniform Relocation Assistance and Real Property Act* (URA)[1], coordination between the property owners and the airport is required to provide equitable treatment and assistance to individuals displaced due to the fee simple acquisition. Ultimate airport projects would result in temporary disruption of local traffic patterns during construction. The proposed development concept includes the construction of on-airport access roads along Andrews Highway and East Hillmont Road. These roads will provide access to the proposed ultimate hangars. No significant traffic congestion will occur on the surrounding network as a result of the minor amounts of vehicular traffic associated with the new hangars. However, any of the proposed development concepts involving new roadway construction should be thoroughly evaluated for additional environmental impacts. [1] Uniform Relocation Assistance and Real Property Acquisition Act (URA): a federal law that establishes protections and assistance for federally funded programs and projects that require acquisition of real property or displace persons from their respective homes, businesses, or farms.
Environmental Justice	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Environmental Justice. However, factors to consider are if an action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population (i.e., a low-income or minority population), due to: • Significant impacts in other environmental impact categories; or • Impacts on the physical or natural environment that affect an environmental justice population in a way that FAA determines is unique to the environmental justice population and significant to that population.
Potential Environmental Concerns	**No Impact.** Both low-income and minority populations have been identified in the vicinity of the airport. The nearest residential area abuts the northern airport property boundary; however, it is unlikely that implementation of the proposed improvements outlined in the development concept plan would affect these populations in a disproportionate or adverse manner will be located within airport property. Executive Order (E.O.) 12898, *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations*, and the accompanying Presidential Memorandum, and Order DOT 5610.2, *Environmental Justice*, require the FAA to provide meaningful public involvement for minority and low-income populations, as well as analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Environmental justice impacts may be avoided or minimized through early and consistent communication with the public and allowing ample time for public consideration; therefore, disclosure of ultimate airport development to potentially affected environmental justice populations near the airport as the projects are proposed is crucial. If disproportionately high or adverse impacts are noted, mitigation and enhancement measures and offsetting benefits should be taken into consideration.


E Hillmont Rd
N Golder Ave
385
Andrews Hwy
Dawn Ave
Horton Ave
Runway 16-34 (5,003' x 75')
Runway 2-20 (5,703' x 75')
Runway 11-29 (6,200' x 100')
Georgia St
E Yukon Rd
LEGEND
Airport Property Line
65 Day-Night Average Sound Level (DNL)
70 DNL
75+ DNL
N
0
800
SCALE IN FEET
Photo: Google Earth 1/2022


E Hillmont Rd
N Golder Ave
385
Andrews Hwy
Dawn Ave
Runway 16-34 (5,003' x 75')
Runway 2-20 (7,003' x 100')
Runway 11-29 (6,800' x 100')
Florida Ave
Georgia St
E Yukon Rd
LEGEND
Airport Property Line
65 Day-Night Average Sound Level (DNL)
70 DNL
75+ DNL
N
0
800
SCALE IN FEET
Photo: Google Earth 1/2022

TABLE 41 | Summary of Potential Environmental Concerns (continued)

Children's Health and Safety Risks	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Children's Environmental Health and Safety Risks. However, factors to consider are whether an action would have the potential to lead to a disproportionate health or safety risk to children.
Potential Environmental Concerns	**No Impact**. No disproportionately high or adverse impacts are anticipated to affect children living, playing, or attending school near the airport because of the proposed ultimate development. The airport is an access-controlled facility, and children will not be allowed within the fenced portions of the airport without adult supervision. All construction areas should be controlled to prevent unauthorized access.
VISUAL EFFECTS	
Light Emissions	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	The FAA has not established a significant threshold for light emissions. However, a factor to consider is the degree to which an action would have the potential to: • Create annoyance or interfere with normal activities from light emissions; and • Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resource.
Potential Environmental Concerns	**Potential Impact.** The existing lighting at the airport includes runway lighting (medium intensity), and lighting used for navigation (such as a rotating beacon, 2-light PAPI systems at both ends of Runway 16-34, 4-light PAPIs at both ends of Runway 11-29, and a visual approach slope indicator (VASI) system at both ends of Runway 2-20. New proposed lighting would be 4-light PAPI systems at each end of Ultimate Runway 2-20 and runway end identifier lights (REILs) on Runways 16, 34, and 2. In addition, a MALSR is proposed on the approach to Runway 20. The proposed MALSR will be located on land planned for acquisition and is 0.30 mile away from the nearest residences. Prior to installation of the MALSR system, further study on the visual character of the area due to light emissions from the MALSR system may be warranted. However, the remaining proposed airport lighting will be part of the overall airport environment and is not expected to cause significant lighting issues to areas outside of the airport property. Night lighting during construction phases within the runway environment is typically directed down to the construction work area to avoid light from spilling outside the airport boundaries. Other ultimate projects are likely to include additional lighting during operation of the airport's new structures and facilities but would not significantly change the amount of lighting seen from outside the airport.
Visual Resources/Visual Character	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Visual Resources/Visual Character. However, a factor to consider is the extent an action would have on the potential to: • Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; • Contrast with the visual resources and/or visual character in the study area; and • Block or obstruct the views of the visual resources, including whether these resources would still be viewable from other locations.
Potential Environmental Concerns	**No Impact.** Ultimate airport improvements are likely to be what currently exists on the airport and would not change the overall visual character of the airport.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

WATER RESOURCES	
Wetlands	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would:** **1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;** **2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;** **3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);** **4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;** **5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or** **6. Be inconsistent with applicable state wetland strategies.**
Potential Environmental Concerns	**No Impact.** According to USFWS National Wetlands Inventory, the nearest wetland is just outside the northeast corner of the airport. There are no proposed developments occurring within this wetland. However, the proposed avigation easement near the end of Ultimate Runway 20 abuts this wetland on the eastern side of the easement. If development occurs in an area involving the relocation or removal of wetlands or impacting other potential waters of the U.S., a delineation of the area should be completed by a qualified wetland biologist to help determine if the area is protected by the *Clean Water Act*. Based on the results of this study, consultation with the U.S. Army Corps of Engineers may be required to determine if a Section 404 permit under the *Clean Water Act* is warranted. A Section 404 permit regulates the discharge of dredged or fill material into jurisdictional waters and wetlands. Mitigation for impacts to wetlands or other jurisdictional waters may be required.
Floodplains	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of DOT Order 5650.2, *Floodplain Management and Protection.***
Potential Environmental Concerns	**Potential Impact.** A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel 48135C0220E (effective March 15, 2012), indicates that most of the airport is in Zone X, an Area of Minimal Flood Hazard. However, on the eastern portion of the airport, there is a special flood hazard area designated as Zone AE, an area with base flood elevation of 2,982 feet, which is located within a 100-year floodplain. The proposed non-aeronautical reserve/release is proposed for this area. There are no 500-year floodplains mapped for the airport. On May 25, 2021, E.O. 14030, *Climate-Related Financial Risk* was established. Section 5(e) of E.O. 14030 reinstates E.O. 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (originally set forth on January 30, 2015). E.O. 13690[2] amends E.O. 11988[3] and mandates that a Federal Flood Risk Management Standard (FFRMS) be created. One of the primary purposes of FFRMS is to expand the management of floodplains from a "base flood" evaluation to include a higher vertical elevation (and the corresponding floodplain) to protect against future flood risks for federally funded projects. Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical[4] or non-critical federally funded actions: • Climate-Informed Science Approach (CISA) – the elevation and flood hazard area (i.e., 100-year floodplain) using data that integrates climate science with an emphasis on possible future effects on critical actions. • Freeboard Value Approach – the elevation and flood hazard area and an additional 2 or 3 feet above the base flood elevation depending on whether the proposed federal action is critical or non-critical. • 500-year Floodplain Approach – all area subject to the 0.2 percent annual chance flood. • Other methods resulting from updates to the FFRMS. [2] Establishing a Federal Flood RISK Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (2015) [3] Floodplain Management, May 1977 4 – A critical action is defined in E.O. 13690 and 2015 Guidelines for Implementing E.O. 11988 as any activity for which even a slight change of flooding is too great.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

Surface Waters	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would:** • **Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or** • **Contaminate public drinking water supply such that public health may be adversely affected.** Factors to consider are when a project would have the potential to: • Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values; • Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or • Present difficulties based on water quality impact when obtaining a permit or authorization.
Potential Environmental Concerns	**No Impact.** The closest natural surface water feature is a pond located outside of airport property boundaries. The airport is located in the Antelope Lake-Muskingam Draw Watershed. The nearest impaired watershed is a segment of the Colorado River, 85 miles northeast of the airport. Long-term impacts to water quality from the proposed airfield improvements may need to be assessed, depending on how or if stormwater runoff is conveyed to airport stormwater infrastructure. The airport manages its stormwater discharges with a National Pollutant Discharge Elimination System (NPDES) permit issued and regulated by the Texas Commission on Environmental Quality. Improvements to the airport will require a revised permit to be issued addressing operational and structural source controls, treatment best management practices (BMPs), and sediment and erosion control. An NPDES General Construction permit would be required for all projects involving ground disturbance over one acre. FAA's Advisory Circular (AC) 150/5370-10G, *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control* should also be implemented during construction projects at the airport.
Groundwater	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	**Threshold: The action would:** 1. **Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies: or** 2. **Contaminate an aquifer used for public water supply such that public health may be adversely affected.** Factors to consider are when a project would have the potential to: • Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values; • Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or • Present difficulties based on water quality impacts when obtaining a permit or authorization.
Potential Environmental Concerns	**No Impact**. The airport property is not located near a sole source aquifer. Edwards Aquifer I (San Antonio Area) Aquifer is the nearest sole source aquifer and is located approximately 169 miles southwest of the airport.

TABLE 41 | Summary of Potential Environmental Concerns (continued)

Wild and Scenic Rivers	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	FAA has not established a significance threshold for Wild and Scenic Rivers. Factors to consider are when an action would have an adverse impact on the values for which a river was designated (or considered for designation) through: • Destroying or altering a river's free-flowing nature; • A direct and adverse effect on the values for which a river was designated (or under study for designation); • Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river's setting; • Causing the river's water quality to deteriorate; • Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor; or • Any of the above impacts preventing a river on the Nationwide Rivers Inventory (NRI) or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).
Potential Environmental Concerns	**No Impact.** The nearest designated Wild and Scenic River, the Rio Grande River, is located approximately 140 miles east of the airport. The closest river on the National River Inventory is the Pecos River, 94 miles from the airport. Projects delineated on the airport layout plan update concept would not have adverse effects on these rivers' outstanding remarkable values (i.e., scenery, recreation, geology, fish, wildlife, and history).

Source: Coffman Associates analysis

AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION

REGULATORY GUIDELINES

FAA Modernization and Reform Act of 2012

The *FAA Modernization and Reform Act of 2012* (FMRA), which amended Title 49, United States Code (USC), included several changes to the Airport Improvement Program (AIP). Two of these changes are related to recycling, reuse, and waste reduction at airports.

- Section 132(b) of the FMRA expanded the definition of airport planning to include "developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit."

- Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, to ensure that the new or updated master plan addresses issues relating to solid waste recycling at the airport, including:
  - The feasibility of solid waste recycling at the airport;
  - Minimizing the generation of solid waste at the airport;
  - Operation and maintenance requirements;
  - A review of waste management contracts; and
  - The potential for cost savings or the generation of revenue.

State of Texas Solid Waste Management

The *Texas Administrative Code Title 30 Part 1 Chapter 330: Municipal Solid Waste*[29] was adopted to regulate waste management. This document provides policy and procedural guidance to state, substrate, and local agencies in the proper management of solid waste; and outlines sound methods of solid waste management and disposal for state, substate and local agencies.

Texas Commission on Environmental Quality (TCEQ) oversees the state's solid waste management implementation.[30] Under the Land Department in the TCEQ, the department oversees waste management, recycling, reducing, and reusing, and cleanups and remediation. Duties assigned to the land department include overseeing:

- Processing, storing, transporting, and disposing of waste
- Permits, registrations, compliance
- Household, industrial, municipal, and radioactive waste
- Septic systems, sludge, dredge, injection

Duties assigned to the recycling, reducing, and reusing office include overseeing:

- Recycling operations and composting
- Home and business resources
- Fats, oils, and grease; automotive; electronics
- Exchange network for business and industry

City of Odessa Solid Waste Management

At a citywide level, Odessa has a Solid Waste Division under the Public Works Department. The Solid Waste Division provides a system of collection and transportation of municipal solid waste from residential and commercial customers.[31] In addition to this, Odessa has a Keep Odessa Beautiful Organization whose primary mission is to promote public education on the importance of minimizing solid waste by encouraging Odessa to Refuse, Reuse, Repurpose and Recycle.[32]

SOLID WASTE

Typically, airport sponsors have purview over waste handling services in facilities it owns and operates such as the passenger terminal building, airport-owned hangars, and maintenance facilities. Tenants of airport-owned buildings/hangars or tenants that own their own facilities are usually responsible for coordinating their own waste handling services. While the focus of this plan is airport-operated facilities,

[29] Texas Administrative Code https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=30&pt=1&ch=330&rl=103
[30] Texas Commission on Environmental Quality – Land (Permitting and managing waste disposal, cleanups and other land-based activities) (https://www.tceq.texas.gov/agency/land_main.html)
[31] Odessa Solid Waste (https://www.odessa-tx.gov/272/Solid-Waste)
[32] Keep Odessa Beautiful (https://www.odessa-tx.gov/405/Our-History-Mission)

the airport should work to incorporate facility-wide strategies that create consistency in waste disposal mechanisms. This would ultimately result in the reduction of materials sent to the landfill.
For airports, waste can generally be divided into eight categories:[33]

- **Municipal Solid Waste** (MSW) is more commonly known as trash or garbage consisting of everyday items that are used and then discarded, such as product packaging.

- **Construction and Demolition Waste** (C&D) is considered non-hazardous trash resulting from land clearing, excavation, demolition, renovation or repair of structures, roads, and utilities, including concrete, wood, metals, drywall, carpet, plastic, pipe, cardboard, and salvaged building components. C&D is also generally labeled as MSW.

- **Green Waste** is a form of MSW yard waste consisting of tree, shrub and grass clippings, leaves, weeds, small branches, seeds, and pods.

- **Food Waste** includes unconsumed food products or waste generated and discarded during food preparation and is also considered MSW.

- **Deplaned Waste** is waste removed from passenger aircraft. Deplaned waste includes bottles, cans, mixed paper (newspapers, napkins, paper towels), plastic cups, service ware, food waste, and food-soiled paper/packaging.

- **Lavatory Waste** is a special waste that is emptied through a hose and pumped into a lavatory service vehicle. The waste is then transported to a triturator[34] facility for pretreatment prior to discharge in the sanitary sewage system. Chemicals in lavatory waste can present environmental and human health risks if mishandled. Therefore, caution must be taken to ensure lavatory waste is not released to the public sanitary sewerage system prior to pretreatment.

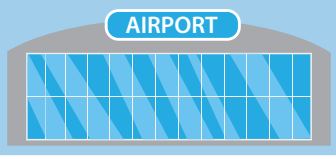
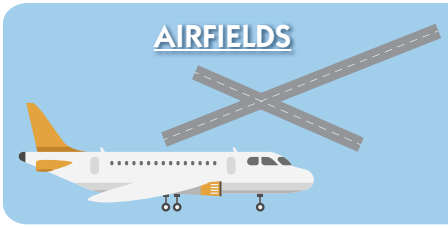
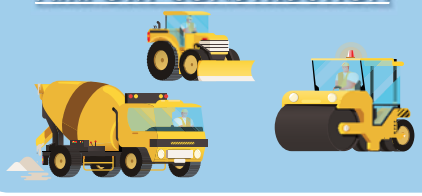
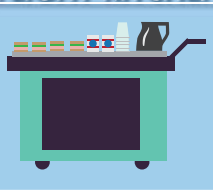
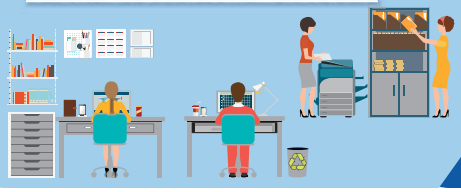
- **Spill Clean and Remediation Wastes** are also special wastes and are generated during cleanup of spills and/or the remediation of contamination from several types of sites on an airport.

- **Hazardous Wastes** are governed by the Resource Conservation and Recovery Act (RCRA), as well as the regulations in 40 Code of Federal Regulations (CFR) Subtitle C, Parts 260 to 270. The U.S. Environmental Protection Agency (EPA) developed less stringent regulations for certain hazardous waste, known as universal waste, described in 40 CFR Part 237, *The Universal Waste Rule*.

As seen on **Exhibit 39**, there are multiple areas where the airport potentially contributes to the waste stream, including the passenger terminal building (offices), flight kitchens, on-airport tenants (FBOs/SASOs, etc.), hangars, airfields, aircraft ground support equipment, and airport construction projects. To create a comprehensive waste reduction and recycling plan for the airport, all potential inputs must be considered.

[33] Recycling, Reuse and Waste Reduction at Airports, FAA (April 24, 2013)
[34] A triturator facility turns lavatory waste into fine particulates for further processing.

AIRPORT WASTE STREAMS

AIRPORT AREA	POTENTIAL INPUTS	POTENTIAL OUTPUTS
	Restaurants Shops Passengers Employees	Food Waste, Paper Plastic, Aluminum Cans Trash, Grease & Oil Green Waste Deplaned Waste
AIRFIELDS 	Aircraft Operations	Runway Rubber Green Waste
AIRCRAFT 	Aircraft Ground Support Equipment (GSE)	Vehicle Waste Plastic Wastewater Hazmat
AIRPORT CONSTRUCTION 	Construction Re-Construction Demolition	Reused Concrete Reused Asphalt Vehicle Waste Soils, Building Materials Wood, General Waste
FLIGHT KITCHENS 	Aircraft Food Services	Food Waste Waste Water Plastic Wood
ADMINISTRATIVE OFFICES 	Employees	Food Waste Paper, Plastic Aluminum Cans Trash

Source: Recycling, Reuse, and Waste Reduction at Airports, FAA (April 24, 2013)

SOLID WASTE MANAGEMENT SYSTEM

Airports generally utilize either a *centralized* or a *decentralized* waste management system. The differences between these two methods are described below and summarized in **Exhibit 40**.

- **Centralized waste management system.** With a centralized waste management system, the airport provides receptables for the collection of waste, recyclables, or compostable materials and contracts for the removal by a single local provider.[35] The centralized waste management system allows for more participation from airport tenants who may not be incentivized to recycle on their own and can reduce the overall cost of service for all involved. A centralized strategy can be inefficient for some airports as it requires more effort and oversight on the part of airport management. However, the centralized system is advantageous in that is has less players involved in the overall management of the solid waste and recycling efforts and allows greater control by the city over the type, placement, and maintenance of dumpsters, thereby saving space and eliminating the need for each tenant to have their own containers.

- **Decentralized waste management system.** Under a decentralized waste management system, the airport provides waste containers and contracts for the hauling of waste materials in airport-operated spaces only. However, airport tenants, such as fixed-base operators, retail shops, and other tenants manage the waste from their leased spaces with separate contracts, billing, and hauling schedules. A decentralized waste management system can increase both the number of receptacles on airport property and the number of trips by a waste collection service provider, should the collection schedule for the tenant differ from the airport.

EXISTING SERVICES

- The City of Odessa manages solid waste through various dumpsters located throughout the airport. Tenants are responsible for overseeing their own solid waste. Currently, there is no recycling program established at the airport. However, there are set recycling practices in place though this is dependent upon the airports tenants and not standardized practice. For example, oil is currently being recycled at one of the airport's hangars (Epic Aero).

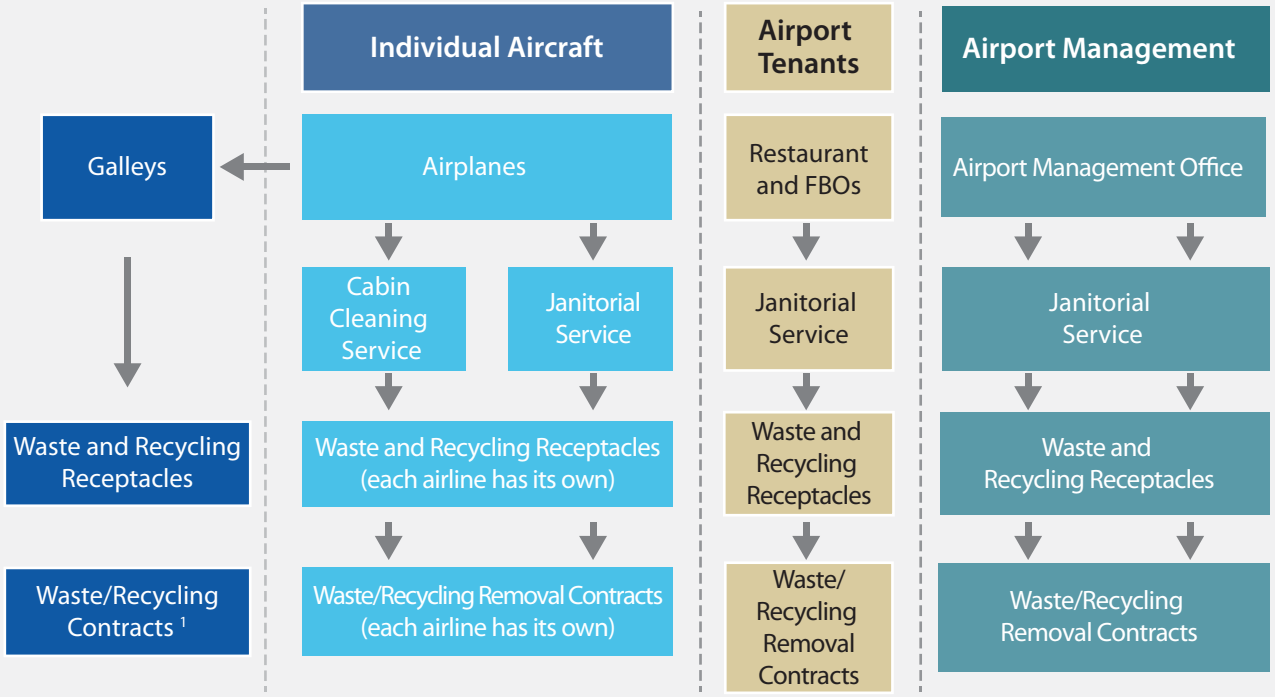
GOALS AND RECOMMENDATIONS

Solid Waste and Recycling Goals

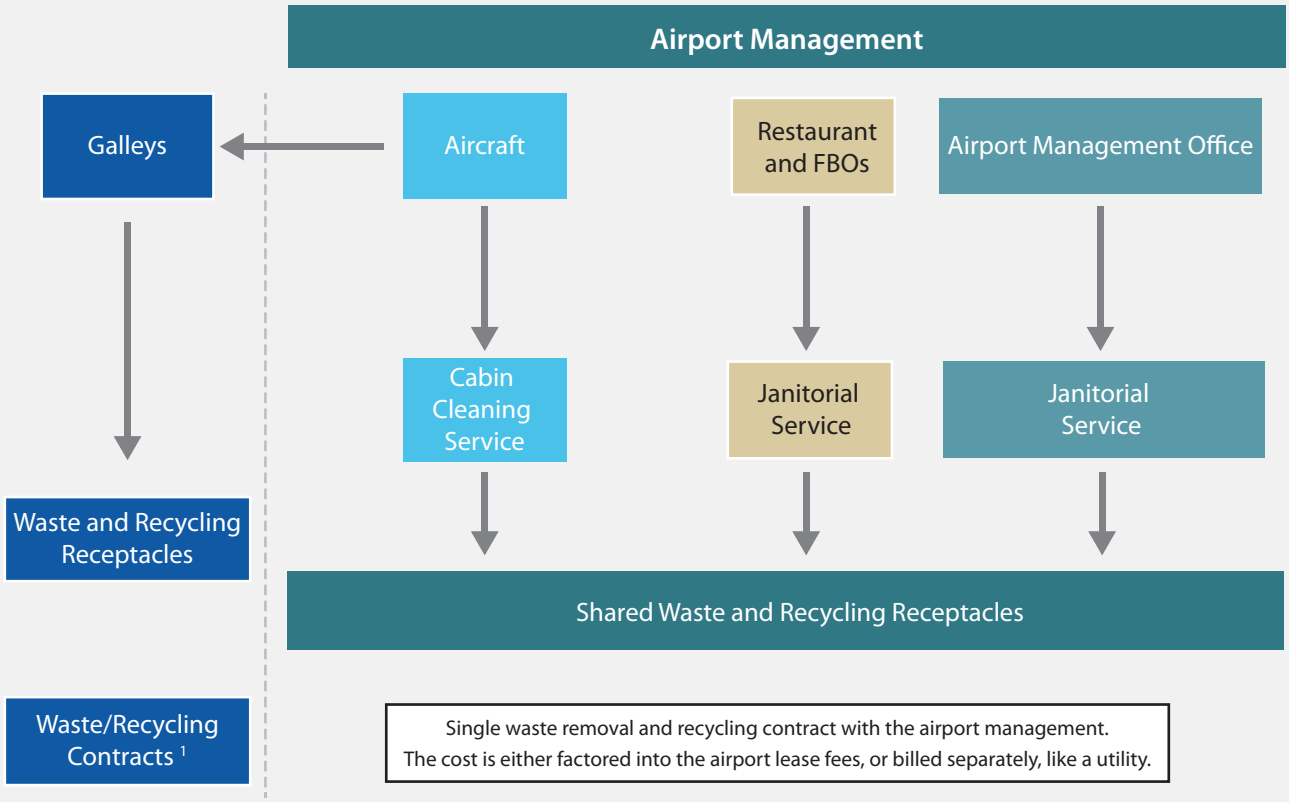
Table 42 outlines objectives that could help reduce waste generation and increase recycling efforts at the airport. To increase the effectiveness of tracking progress at the airport, a baseline state of all suggested metrics should be established to provide a comparison over time.

[35] *Airport Waste Management and Recycling Practices* (2018) The National Academies of Sciences, Engineering, and Medicine Airport Cooperative Research Program, Synthesis 92.

Components of a Decentralized Airport Waste Management System



Components of a Centralized Airport Waste Management System



[1] Galleys usually manage their own waste even if an airport relies on a centralized system

Source: Natural Resources Defense Council, Trash Landings: How Airlines and Airports Can Clean Up Their Recycling Programs, December 2006.

TABLE 42 | Waste Management and Recycling Goals

Goals	Objectives
Reduce amount of solid waste generated	Switch to online bill pay to eliminate monthly paper bills
	Conduct a waste audit to identify most common types of waste
	Eliminate purchase of items that are not recyclable (i.e., Styrofoam, plastic bags)
Reuse of materials or equipment	Reuse grass clippings as mulch
	Offer reusable dishes to employees
	Reuse cardboard boxes for storage
Increase amount of materials recycled	Promote the availability of recycling services to all areas of the airport
	Initiate waste and recycling tracking and data management
	Incorporate recycling requirements and/or recommendations into tenant lease agreements
	Provide recycling marketing and promotion efforts throughout public areas
	Require contractors to implement strategies to reduce, reuse & recycle construction & demolition waste

Source: Coffman Associates

Recommendations

To maximize waste reduction and initiate recycling efforts at the airport, the following recommendations are made:

- **Create a centralized waste management system at the airport.** Currently, ODO participates in a decentralized waste management system since airport tenants are responsible to oversee their waste management. Airport staff could consider engaging tenants to create a centralized waste management system at the airport to streamline waste management at ODO.

- **Assign the responsibility of waste management to a dedicated individual(s).** Having one person or a group of people oversee and manage solid waste and recycling at the airport will create efficient and cost saving solutions to solid waste management. People dedicated to this operational aspect of the airport will have a familiarity of processes and will help identify areas of improvement and cost-cutting measures.

- **Audit the current waste management system.** The continuation of an effective program requires accurate data of current waste and recycling rates. There are several ways an airport can gain insight into their waste stream, such as requesting weights from the hauler, tracking the volume, or reviewing the bills. But managing the waste system first starts with a waste audit. A waste audit is an analysis of the types of waste produced and is the most comprehensive and intensive way to assess waste stream composition, opportunities for waste reduction, and capture of recyclables. A waste audit should include the following actions:

    - Examination of records
        - Waste hauling and disposal records and contracts
        - Supply and equipment invoices
        - Other waste management costs (commodity rebates, container costs, etc.)
        - Track waste from the point of origin
        - Establish a baseline for metrics

- Facility walk-through conducted by the airport
  - Gather qualitative waste information to determine major waste components and waste-generating processes
  - Identify the locations of the airport that generate waste
  - Identify what type of waste is generated by the airport to determine what can be reduced, reused, or recycled
  - Understand waste pickup and hauling practices

- Waste sort
  - Provide quantitative data on total airport waste generation
  - Allow problem solving design/enhancing the recycling program for the airport

- **Create a tracking and reporting system.** Tracking solid waste generated will allow the airport to identify areas where a significant amount of waste is generated and will help the airport estimate annual waste volumes. Understanding the cyclical nature of waste generation will allow the airport to estimate costs and will identify areas of improvement. Once the airport engages in recycling services, the airport can track recycling rates and waste quantities to identify cost saving measures that are currently unidentified simply based on the lack of quantitative data.

- **Reduce waste through controlled purchasing practices and the consumption of nonessential products.** The airport can control the amount of waste generated by prioritizing the purchase of items or supplies that are reusable, recyclable, compostable, or made from recycled materials.

- **Create a recycling program at the airport.** To guarantee the airport reduces the amount of waste hauled to the landfill, materials that cannot be reused or avoided should be recycled, if possible. The city should review internal procedures to ensure there are no unacceptable items contaminating recycling containers, or recyclables thrown in the trash. Clearly marked signage of what is and is not accepted placed near the solid waste and recycling containers is another significant component of a consistent, effective recycling program.

- **Provide ongoing education for airport employees.** To minimize waste within the airport, it is crucial to inform and provide airport employees with a thorough education on waste management at both an individual and group level. As part of the onboarding process new employees should be given the tools needed to achieve a thorough understanding of the airport's solid waste and recycling goals. It is crucial that this education is also tailored to the type of job an individual may be employed at within the airport.

- **Provide ongoing tenant education.** It is crucial to encourage tenant participation to assure buy-in of the airport's recycling efforts. To ensure recycling is part of the airport's everyday business, airport administration can provide training and education to support personnel, tenants, and others who conduct business at the airport. In-person meetings with airport tenants could be held to create mutual understanding of the airport's solid waste and recycling goals and how tenants play a vital role in the airport's overall success.

- **Incorporate an airport-wide waste reduction strategic plan.** Designing an airport-wide waste reduction strategic plan will create consistency in waste deposal mechanisms, ultimately resulting in the reduction of materials sent to the landfill.

- **Recycle electronic waste (e-waste).** To guarantee the airport continues to reduce the amount of waste hauled to the landfill, materials that cannot be reused or avoided should be recycled, if possible. Recyclable materials such as paper, aluminum, plastic, electronics, etc. should be sorted from the airport's solid waste. Furthermore, under state law television and computer-equipment manufacturers are now required to offer recycling opportunities to consumers for these electronics.[36] Currently, e-waste at ODO is minimal, but the e-waste that is generated has the opportunity to be sent to the county to then be recycled through an auction. ODO and its tenants should consider creating a standardized program where electronics can be picked up and sent to the county as needed.

[36] Electronics Recycling (https://www.tceq.texas.gov/p2/recycle/electronics/elec_recycle)

CAPITAL IMPROVEMENT PROGRAM

The ultimate recommended development concept presented in the previous section outlined airside and landside improvements for ODO that provide the airport sponsor with a plan to preserve and develop the airport to meet future aviation demands. This includes the option to maintain Runway 11-29 as the primary runway, or to select Runway 2-20 to serve as the primary runway at a later date. Using the recommended concept as a guide, this section will provide a description and overall cost estimate for projects identified in the capital improvement program (CIP) and development schedule.

The presentation of the capital program is organized into two sections. First, the airport's CIP and associated cost estimates are presented in narrative and graphic form. The first five years of the CIP are programmed by years, with the remaining projects grouped into intermediate (years 6-10) and ultimate (years 11+) planning horizons. By utilizing planning horizons instead of specific years for intermediate and long-term development, the city will have greater flexibility to adjust capital needs as demand dictates. Projects associated with upgrading the ultimate primary runway to RDC C-II, whether that remains as Runway 11-29 or changes to Runway 2-20, are included as separate line items. The second section of the CIP identifies capital improvement funding sources on state and local levels.

Several factors, such as funding availability and justification, may influence the timing of projects in the interim and ultimate planning periods; therefore, greater flexibility must be considered regarding their implementation. The timing for capacity-related projects, such as hangar construction, will need to be based upon demand and the types of aircraft using the facility. Other projects, such as improving the taxiway system and acquiring property within the safety areas, focus on meeting FAA design standards and providing a safe operating environment. This planning study has been developed in such a manner to provide the airport sponsor with maximum flexibility to adapt the concepts presented to potential changes over time. The short-term, intermediate, and long-term CIP for ODO is listed in **Table 43**. Hangar development is assumed to be funded by private developers through ground lease agreements with the sponsor. For this reason, hangar development has been excluded from the airport's CIP.

Project-specific cost estimates were prepared by Parkhill, the airport's engineer. The cost estimates also include design, construction administration, and contingencies that may arise on the project. Capital costs presented here should be viewed only as "order-of-magnitude" estimates and are subject to further refinement during design. Nevertheless, they are considered sufficient for planning purposes. It should be noted that each project should only be undertaken after further refinement of their design and costs through detailed architectural or engineering analyses. The estimates presented are based on current costs and have not been adjusted for inflation.

Project funding sources are also identified in the table, including an estimate of grant (federal and/or TxDOT) funding eligibility, although actual funding is not guaranteed. Detailed funding source descriptions are provided later in this section. For projects that are eligible for federal/state funding, Airport Improvement Program (AIP)/TxDOT grants provide up to 90 percent of the total project cost. The remaining 10 percent, or more, of project costs are funded locally by Ector County. Other projects, such as construction of a secondary fuel farm, are typically not eligible for AIP grants (outside of non-primary entitlements) or would rank low on the priority scale. As a result, these projects should be planned for local funding or funding through specific TxDOT programs.

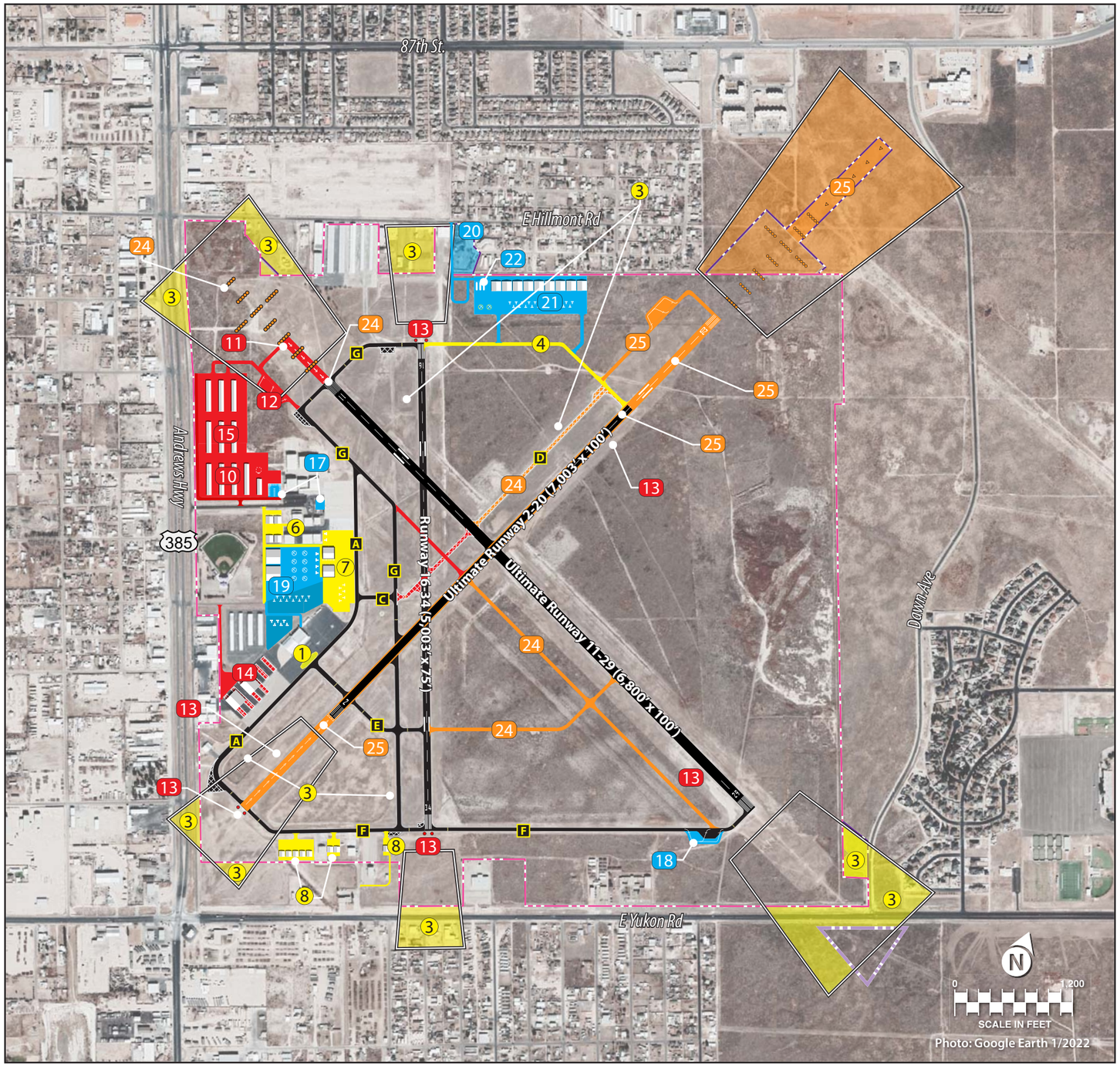
TABLE 43| Capital Improvement Program

	#	Project Description	Cost Estimate	Federal/TxDOT Share	Airport Sponsor/ Local Share
Short-Term Projects (1-5 Years)	**FY 2024**				
	1	Install No-Taxi Island	$47,500	$42,750	$4,750
	2	Environmental Analysis for Property Acquisition	$125,000	$112,500	$12,500
	FY 2025				
	3	Acquire Property to Protect Safety Areas and Relocate Obstructions	$5,600,000	$5,040,000	$560,000
	FY 2026				
	4	Extend Taxiway G to Runway 20 Threshold	$1,825,000	$1,642,500	$182,500
	5	Install MITL	$500,000	$450,000	$50,000
	FY 2027				
	6	Construct Taxilane Pavement for Landside Development	$815,000	$733,500	$81,500
	7	Expand Terminal Apron – Phase 1	$6,500,000	$5,850,000	$650,000
	FY 2028				
	8	Construct Taxilane/Apron Pavement for Landside Development	$1,400,000	$1,260,000	$140,000
	9	Routine Pavement Maintenance	$1,000,000	$900,000	$100,000
		Short-Term Projects Subtotal	**$17,812,500**	**$16,031,250**	**$1,781,250**
Intermediate Projects (6-10 Years)	10	Construct Taxilanes for T-Hangar Complex – Phase 1	$6,250,000	$5,625,000	$625,000
	11	Extend Runway 11 and Taxiway G	$2,050,000	$1,845,000	$205,500
	12	Construct Holding Bay on Taxiway G	$1,300,000	$1,170,000	$130,000
	13	Install/Upgrade Visual Approach Aids	$385,000	$346,500	$38,500
	14	Demolish T-hangars; Construct Roads/Parking	$910,000	$0	$910,000
	15	Construct Taxilanes for T-hangar Complex – Phase 2	$7,150,000	$6,435,000	$715,000
	16	Routine Pavement Maintenance	$2,000,000	$1,800,000	$200,000
		Intermediate Projects Subtotal	**$20,045,000**	**$17,221,500**	**$2,823,500**
Long-Term Projects (11-20+ Years)	17	Expand Terminal Building and Parking Lot	$800,000	$0	$800,000
	18	Construct Holding Bay on Taxiway F	$650,000	$585,000	$65,000
	19	Expand Terminal Apron – Phase 2	$7,335,000	$6,601,500	$733,500
	20	Environmental Analysis and Property Acquisition for Landside Development	$325,000	$0	$325,000
	21	Construct Taxilane/Apron Pavement for North Side Hangars	$7,300,000	$6,570,000	$730,000
	22	Construct Secondary Fuel Farm	$2,100,000	$0	$2,100,000
	23	Routine Pavement Maintenance	$4,000,000	$3,600,000	$400,000
		Long-Term Projects Subtotal	**22,510,000**	**$17,356,500**	**$5,153,500**
		CIP Total (Excluded Projects #24 and #25)	**60,367,500**	**$50,609,250**	**$9,758,250**
	24	Upgrade Runway 11-29 to Meet Ultimate RDC C-II-4000	$13,600,000	$12,240,000	$1,360,000
	25	Upgrade Runway 2-20 to Meet Ultimate RDC C-II-2400	$18,100,000	$16,290,000	$1,810,000

Source: Coffman Associates; Parkhill

The FAA and TxDOT each utilize a national priority rating system to help objectively evaluate potential airport projects. Projects are weighted toward safety, infrastructure preservation, meeting design standards, and capacity enhancement. These entities will participate in the highest priority projects before considering lower priority projects, even if a lower priority project is considered a more urgent need by the local sponsor. Nonetheless, the project should remain a priority for the airport, and funding support should continue to be requested in subsequent years.

As detailed in the CIP, many of the projects listed are eligible for federal or state funding. Demand and justification for these projects must be provided prior to a grant being issued. **Exhibit 41** graphically depicts the development staging by overlaying each project onto the aerial photograph of ODO.



Short-Term Program (1-5 years)

1. Install No-Taxi Island
2. Environmental Analysis for Property Acquisition (NP)
3. Acquire Property to Protect Safety Areas and Relocate Obstructions
4. Extend Taxiway G to Runway 20 Threshold
5. Install MITL (NP)
6. Construct Taxilane Pavement for Landside Development
7. Expand Terminal Apron - Phase 1
8. Construct Taxilane/Apron Pavement for Landside Development
9. Routine Pavement Maintenance (NP)

Intermediate-Term Program (6-10 years)

10. Construct Taxilanes for T-Hangar Complex - Phase 1
11. Extend Runway 11-29 and Taxiway G
12. Construct Holding Bay on Taxiway G
13. Install/Upgrade Visual Approach Aids
14. Demolish T-hangars; Construct Roads/Parking
15. Construct Taxilanes for T-hangar Complex - Phase 2
16. Routine Pavement Maintenance (NP)

Long-Term Program (11-20+ years)

17. Expand Terminal Building and Parking Lot
18. Construct Holding Bay on Taxiway F
19. Expand Terminal Apron - Phase 2
20. Environmental Analysis and Property Acquisition for Landside Development
21. Construct Taxilane/Apron Pavement for North Side Hangars
22. Construct Secondary Fuel Farm
23. Routine Pavement Maintenance (NP)

Projects Associated with Ultimate Primary Runway

24. Upgrade Runway 11-29 to Meet Ultimate RDC C-II-4000
25. Upgrade Runway 2-20 to Meet Ultimate RDC C-II-2400

LEGEND

- Airport Property Line
- Ultimate Property Line
- Existing Avigation Easement
- A — Taxiway Designator
- Runway Protection Zone (RPZ)
- Pavement/Building to be Removed
- Short-Term Project
- Intermediate-Term Project
- Long-Term Project
- Ultimate Runway Project
- NP — Not Pictured

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Some projects identified in the CIP will require environmental documentation. The level of documentation necessary for each project must be determined in consultation with TxDOT. There are three major levels of environmental review to be considered under NEPA that include Categorical Exclusions (CatEx), Environmental Assessments (EA), and Environmental Impact Statements (EIS). Each level requires more time to complete and more detailed information. Guidance on what level of documentation is required for a specific project is provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. The Environmental Overview presented in the previous section addresses NEPA and provides an evaluation of various environmental categories for ODO.

SHORT-TERM IMPROVEMENTS

The projects included in the short-term development concept are those planned to occur between now and the next five years (2023-2027). These projects are scheduled by year and are prioritized based on the airport's needs, with projects related to safety and preservation receiving higher priority.

2024 PROJECTS

Project #1: Install No-taxi Island
Description: Taxiway E currently provides direct access from the south ramp to Runway 2-20, a non-standard condition. To mitigate this, a no-taxi island is planned at the entrance to Taxiway E. A no-taxi island is a portion of apron pavement painted green and clearly marked as a non-movement area. The no-taxi island functions to improve pilot situational awareness by forcing pilots to make a turn prior to entering a runway environment.
Cost Estimate: $47,500
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #2: Environmental Analysis for Property Acquisition
Description: Environmental analysis is required prior to acquisition of property, which is planned as Project #3. Before property can be acquired with federal funds, the FAA requires an environmental finding prior to grant programming.
Cost Estimate: $125,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

2025 PROJECTS

Project #3: Acquire Property to Protect Safety Areas and Relocate Obstructions
Description: Acquisition of property interest is needed to control the existing/ultimate safety areas associated with Runway 11-29. Avigation easements are planned to be acquired for property within the existing/ultimate RPZs off each runway end, while fee simple acquisition is planned for a 0.3-acre parcel near the Runway 11 end and a 2.7-acre parcel near the Runway 29 end. These are areas that would be within the ultimate runway object free area (ROFA) if and when this runway transitions to RDC C-II-4000. As such, fee simple acquisition of these areas is planned, rather than an avigation easement. The perimeter is also planned to relocated to align with the new property boundary. Where possible, avigation easements

are also planned to be obtained for the portions of uncontrolled RPZ off the ends of Runways 11, 29, 16, and 34. Some of these areas contain public roadways and existing structures. As such, the easements would function to prevent construction of future development in these areas that would exceed the specified structure height limit. This project also plans for the relocation of existing obstructions to the existing/ultimate ROFAs. This includes the wind cones adjacent to Runways 2, 20, 16, and 34, as well as perimeter fencing located in the ultimate (RDC C-II-4000) Runway 11-29 ROFA.
Cost Estimate: $5,600,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

2026 PROJECTS

Project #4: Extend Taxiway G to Runway 20 Threshold
Description: Project #4 plans for the construction of new taxiway pavement connecting the Runway 16 and Runway 20 thresholds. Currently, pilots taking off from Runway 20 access the runway via Taxiway D, which crosses through the high-energy portions of Runways 16-34 and 11-29. Extending Taxiway G to connect to Runway 20 will improve safety by eliminating the need for pilots to cross through the high-energy areas of these runways. Additionally, the extended taxiway pavement will provide access to a planned landside development on the north side of the airfield.
Cost Estimate: $1,825,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #5: Install MITL
Description: Medium intensity taxiway lighting (MITL) is recommended to be installed at airports with lighted runways and where nighttime instrument approach procedures are conducted. As such, this project plans for the addition of MITL on all taxiways at ODO.
Cost Estimate: $500,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

2027 PROJECTS

Project #6: Construct Taxilane Pavement for Landside Development
Description: This project plans for the construction of new taxilane pavement southeast of the terminal building. The existing taxilane supporting executive and conventional hangars in this area is planned to be extended to allow for the construction of new executive box hangars. An access road and vehicle parking areas for tenants are also included in this project.
Cost Estimate: $815,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #7: Expand Terminal Apron – Phase 1
Description: The Facility Requirements section identified a need for additional ramp space and marked aircraft parking. This project plans for the first phase of an expanded terminal apron. The project as depicted includes an apron that could support two new conventional hangars as well as marked parking for fixed wing aircraft. A vehicle access road and parking lot are also included.
Cost Estimate: $6,500,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

2028 PROJECTS

Project #8: Construct Taxilane/Apron Pavement for Landside Development
Description: The airport sponsor has indicated that a new hangar is planned along Taxiway F near the Runway 34 threshold. The hangar as depicted is conceptual in nature, with specifics to be determined by the private developer in coordination with the airport. A hangar in this location would require the removal of the non-standard holding bay in this area. As such, this project plans for the removal of this pavement prior to construction of new taxilane/apron pavement associated with the proposed hangar. As noted below, the project costs for development of not only the hangar but also the associated taxilane/apron would be the responsibility of the developer, as this pavement would be considered "exclusive use," which is not eligible for federal funding participation. The removal of the holding bay, however, may be eligible as this is a non-standard design that would ultimately be removed at some point. This project also includes the costs to develop two additional aircraft parking aprons along Taxiway F, which could be eligible for funding assistance as these areas would serve multiple tenants.
Cost Estimate: $1,400,000
Funding Eligibility for Apron and Vehicle Access Road: FAA/TxDOT – 0%, Airport Sponsor/Local – 100%
Funding Eligibility for Removal of Holding Bay: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #9: Routine Pavement Maintenance
Description: This project serves as a placeholder for routine pavement maintenance that will be necessary during the short-term timeframe. This includes runway, taxiway, taxilane, and apron pavement, with specific projects to be determined based on need.
Cost Estimate: $1,000,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

SHORT-TERM SUMMARY

The short-term CIP addresses several high-priority projects, including safety-related projects such as the installation of a no-taxi island to eliminate the direct access and the acquisition of property and removal of obstructions to maintain standard safety areas. To meet current and anticipated demand levels, expansion of the terminal ramp and additional aircraft parking and storage are also planned. The short-term projects total approximately $17.8 million, with approximately $16.0 million eligible for FAA/TxDOT funding. The remaining $1.8 million would be a local funding responsibility.

INTERMEDIATE-TERM IMPROVEMENTS

To provide maximum flexibility for airport management when programming capital improvement projects, the intermediate-term projects have been grouped and generally include those projects that may be needed in years six through 10. Airport management should regularly assess the need and timing for these projects based on actual demand and growth at the airport.

Project #10: Construct Taxilanes for T-hangar Complex – Phase 1
Description: A T-hangar complex is proposed southwest of the terminal building to provide needed aircraft storage capacity. Project #10 plans for the Phase 1 portion of the complex, which includes taxilanes that could support five rows of T-hangars. Aircraft access to/from this area will be via the existing taxilane that extends from the west side of the terminal ramp. The project also includes an aircraft wash rack and a vehicle access road extending from E. Terminal Drive.
Cost Estimate: $6,250,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #11: Extend Runway 11-29 and Taxiway G
Description: A 600-foot extension is planned for Runway 11 to improve Runway 11-29's utility for larger jets that require a longer operational surface, particularly during hot weather. This project will require the existing MALS system to be relocated. It also includes an extension of Taxiway G to the extended Runway 11 threshold, with new medium intensity runway lights (MIRL) and MITL planned on new runway and taxiway pavement.
Cost Estimate: $2,050,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #12: Construct Holding Bay on Taxiway G
Description: A standard holding bay is planned on the extended portion of Taxiway G near the Runway 11 end. This holding bay will allow aircraft to bypass one another and improve airfield capacity and is planned to be constructed according to the FAA's preferred design. The existing holding bay, which is a non-standard design, is planned to be demolished, along with the non-standard holding bays serving Runways 2 and 16.
Cost Estimate: $1,300,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #13: Install/Upgrade Visual Approach Aids
Description: Project #13 plans for new or upgraded visual approach aids to Runways 2-20 and 16-34. The visual approach slope indicator (VASI) system currently installed at each end of Runway 2-20 is planned to be replaced with PAPI-4 systems on each end. Both ends of Runway 16-34 are planned to be equipped with runway end identifier lights (REILs).
Cost Estimate: $385,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #14: Demolish T-hangars; Construct Roads/Parking
Description: The T-hangars on the south ramp adjacent to Taxiway A are in poor condition and are in need of replacement or major rehabilitation. As this area is ideally located along the flight line and would potentially be better suited for hangars that could house an aviation-related business, this project plans for the existing T-hangars to be demolished so that new conventional hangars could be constructed in this area. The plan depicts the potential for two new conventional hangars, accessible from an extended access road and parking lot. The site of the existing 6-unit T-hangar buildings is planned to be used for aircraft parking once the hangars are removed. Also included in the project cost is the extension of a vehicle access road and dedicated vehicle parking lot at the rear of the conventional hangars. Project

costs include demolition of T-hangars, construction of an access road/parking lot, and conversion of pavement to be used for aircraft parking. Hangar construction costs are assumed to be incurred by a private developer, while demolition of the existing T-hangars would likely be a local responsibility.
Cost Estimate: $910,000
Funding Eligibility for Access Road/Parking and Aircraft Parking: FAA/TxDOT – 0%, Airport Sponsor/ Local – 100%

Project #15: Construct Taxilanes for T-Hangar Complex – Phase 2
Description: An expansion to the T-hangar complex described in Project #10 is proposed to provide additional aircraft storage capacity. This project plans for the Phase 2 portion of the complex, which includes additional taxilane pavement along with access to Taxiway G near the Runway 11 end. The vehicle access road from E. Terminal Drive is planned to be extended along the western property line to provide tenant access to this area.
Cost Estimate: $7,150,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #16: Routine Pavement Maintenance
Description: This project serves as a placeholder for routine pavement maintenance that will be necessary during the intermediate-term timeframe. This includes runway, taxiway, taxilane, and apron pavement, with specific projects to be determined based on need.
Cost Estimate: $2,000,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

INTERMEDIATE-TERM SUMMARY

The intermediate-term projects include an extension to Runway 11 to better serve larger aircraft requiring longer runway lengths, upgrades to existing and installation of new visual approach aids, and expansion projects to accommodate increased aviation demand that is anticipated to occur. The intermediate-term projects total approximately $20.0 million. The share eligible for FAA and TxDOT funding is estimated at $17.2 million. The remaining $2.8 million is comprised of the airport sponsor and local shares.

LONG-TERM IMPROVEMENTS

Long-term projects are planned for 11-20+ years into the future and, like previous projects, should be based on actual demand rather than a point in time. Some projects have been grouped together. This includes projects that would be associated with a shift to an ARC C-II design and ultimate selection of a primary runway to meet those standards. Upgrades to Runway 11-29 and Runway 2-20 to meet an ultimate C-II design, depending on which runway the county elects to maintain as primary, are included as separate line items. These and other long-term project groupings allow the airport and Ector County greater flexibility in longer range planning, where priorities may shift, and adjustments be made. Additionally, each year, the airport and TxDOT/FAA draft and review the five-year ACIP; therefore, the list of projects and their prioritization can change in the future, and likely will be based on current needs and trends.

Project #17: Expand Terminal Building and Parking Lot
Description: This project plans for the addition of approximately 1,200 sf of new terminal space to accommodate increased pilot/passenger demand projected to occur. Additional paved parking for vehicles is included as well. Funding for this project will likely be the responsibility of Ector County, or could potentially be sourced through discretionary funds, though this would be considered a low priority project and likely unable to receive funding approval from this source. As such, the costs reflected below are assumed to be the responsibility of Ector County.
Cost Estimate: $800,000
Funding Eligibility: FAA/TxDOT – 0%, Airport Sponsor/Local – 100%

Project #18: Construct Holding Bay on Taxiway F
Description: A standard holding bay is planned on Taxiway F near the Runway 29 end. This holding bay is generally located on the site of the existing holding bay, but it will feature a larger pavement area in accordance with current FAA designs that allow for independent aircraft movements.
Cost Estimate: $650,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #19: Expand Terminal Apron – Phase 2
Description: Project #19 plans for the second phase of an expanded terminal apron (Phase 1 was described previously as Project #7). The project as depicted includes an extension of the ramp to the west that could support two new conventional hangars as well as marked parking for fixed wing aircraft and helicopters. The vehicle access road is also planned to be extended to provide access to new and existing tenants. The project also includes an additional aircraft parking area on the currently vacant site behind Epic Aero.
Cost Estimate: $7,335,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #20: Environmental Analysis and Property Acquisition for Landside Development
Description: As with previous projects, prior to the land purchase, an environmental analysis is needed before grant programming can be implemented. This project assumes the cost of both the environmental documentation and the acquisition of approximately 1.8 acres of land near Hillmont Road that would be necessary to support proposed north side hangar development. It should be noted that, unless a need for aeronautical development in this area can be demonstrated, the costs of these projects would likely be borne by Ector County, with the potential to seek federal/state reimbursement when aeronautical need is justified (and assuming that the proper acquisition process was followed).
Cost Estimate: $325,000
Funding Eligibility: FAA/TxDOT – 0%, Airport Sponsor/Local – 100%

Project #21: Construct Taxilane/Apron Pavement for North Side Hangars
Description: Additional taxilane/apron pavement is included in Project #21 to develop proposed hangar facilities on the north side. Currently, this area of the airfield is undeveloped with limited access from the existing road network. To develop in this location, preliminary work including utility extension and construction of a paved roadway from E. Hillmont Road would be necessary. This project includes these costs, along with the construction of an aircraft parking apron with marked aircraft parking.
Cost Estimate: $7,300,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #22: Construct Secondary Fuel Farm
Description: A secondary fuel farm is planned for the north apron area, once developed. Aboveground Jet A and 100LL/100UL storage tanks are included with this project. While the existing fuel facilities on the west side of the airport are adequate in terms of capacity, a secondary fuel farm is much more convenient for tenants and airport users, as well as refueling trucks.
Cost Estimate: $2,100,000
Funding Eligibility: FAA/TxDOT – 0%, Airport Sponsor/Local – 100%

Project #23: Routine Pavement Maintenance
Description: This project serves as a placeholder for routine pavement maintenance that will be necessary during the long-term timeframe. This includes runway, taxiway, taxilane, and apron pavement, with specific projects to be determined based on need.
Cost Estimate: $4,000,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

LONG-TERM PROJECTS SUMMARY

The long-term projects focus primarily on capacity enhancements that may be needed at the airport during years 11-20 and beyond. The long-term projects total approximately $22.5 million. The share eligible for FAA and TxDOT funding is estimated at $17.4 million, and the remaining $5.2 million would be a local funding responsibility.

PROJECTS ASSOCIATED WITH ULTIMATE PRIMARY RUNWAY

As mentioned previously, projects associated with upgrading either Runway 11-29 or Runway 2-20 to serve as the primary runway in a C-II environment are included separately as line items. These projects and their costs are detailed below.

Project #24: Upgrade Runway 11-29 to Meet Ultimate RDC C-II-4000
Description: If Runway 11-29 is selected to continue serving as ODO's primary runway, the projects necessary for it to meet C-II-4000 design standards would include a 600-foot displacement of the Runway 11 threshold and modification of the MALS system serving the Runway 11 approach. These projects are necessary due to the increased dimensions associated with the C-II-4000 safety areas, as described in the previous section. Additional projects planned if Runway 11-29 serves as the RDC C-II-4000 runway include strengthening the pavement to 60,000 pounds dual wheel loading (DWL), removal of Taxiway D pavement and construction of a full-length parallel taxiway to Runway 11-29, and extension of Taxiway E pavement to the east to connect to Runway 11-29's parallel taxiway.
Cost Estimate: $13,600,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

Project #25: Upgrade Runway 2-20 to Meet Ultimate RDC C-II-2400
Description: If Runway 2-20 is selected to serve as ODO's primary runway, the projects necessary for it to meet C-II-2400 design standards would include the following: 1) environmental assessment for land acquisition necessary to support the expanded runway safety areas off the Runway 20 end (i.e., 13.7 acres of property for fee simple acquisition and 54.8 acres of property for avigation easement); 2) property acquisition to control/protect safety areas; 3) widen Runway 2-20 to 100 feet; and 4) installation of a MALSR system to support an LPV GPS approach with ½-mile visibility minimums to Runway 20. Also included with this project is a 1,300-foot extension to Runway 20; clearing and/or grading C-II safety areas as necessary; taxiway extension to provide access to Runway 20; additional MIRL and MITL; standard holding bay near extended Runway 20 end; runway pavement strength increase to 60,000 pounds DWL; and displacement of the Runway 2 threshold. A 1,298-foot displacement is necessary on Runway 2 in order to provide standard safety areas and maintain the RPZ in its existing location without introducing any additional incompatible land uses.
Cost Estimate: $18,100,000
Funding Eligibility: FAA/TxDOT – 90%, Airport Sponsor/Local – 10%

CAPITAL IMPROVEMENT SUMMARY

The CIP is intended as a road map of airport improvements to help guide the airport sponsor, FAA, and TxDOT on needed projects. The plan as presented will meet the forecast demand over the next 20+ years. The first five years of the CIP are separated into yearly installments, and the intermediate and long-term projects are grouped together. Upgrades associated with transitioning either Runway 11-29 or Runway 2-20 to function as a C-II primary runway are included separately as line items. The sequence of projects will likely change due to availability of funds or changing priorities in the years to come. In addition, other projects not anticipated during this study may arise and should then be added to the airport ACIP. Nonetheless, this is a comprehensive list of capital improvement projects the airport should consider in the next 20+ years.

The total CIP, excluding Projects #24 and #25, is estimated at approximately $60.4 million. The share eligible for FAA and TxDOT funding is estimated at $50.6 million. The airport sponsor and local share is estimated at $9.8 million.

CAPITAL IMPROVEMENT FUNDING SOURCES

There are generally four different sources of funds used to finance airport development, which include:

- Airport cash flow
- Revenue and general obligation bonds
- Federal/state/local grants
- Passenger facility charges (PFCs), which are reserved for commercial service airports

Access to these sources of financing varies widely among airports, with some large airports maintaining substantial cash reserves and the smaller commercial service and general aviation airports often requiring subsidies from local governments to fund operating expenses and finance modest improvements.

Financing capital improvements at ODO will not rely solely on the financial resources of Ector County. Capital improvement funding is available through various grant-in-aid programs on both the federal and state levels. Historically, the airport has received both federal and state grants. While more funds could be available some years, the CIP was developed with project phasing to remain realistic and within the range of anticipated grant assistance. The following discussion outlines key sources of funding potentially available for capital improvements at the airport.

FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain the system of public-use airports across the United States. The purpose of this system and its federally based funding is to maintain national defense and to promote interstate commerce. The *FAA Modernization and Reform Act of 2012*, enacted on February 17, 2012, authorized the FAA's AIP at $3.35 billion for fiscal years 2012 through 2015. The law was then extended through a series of continuing resolutions. In 2016, Congress passed legislation (H.R. 636, *FAA Extension, Safety, and Security Act of 2016*) amending the law to expire on September 30, 2017. Subsequently, Congress passed a bill (H.R. 3823, *Disaster Tax Relief and Airport and Airway Extension Act of 2017*) authorizing appropriations to the FAA through March 31, 2018, and the *Consolidated Appropriations Act, 2018* extended the FAA's funding and authority through September 30, 2018. In October 2018, Congress passed legislation entitled ***FAA Reauthorization Act of 2018*, which will fund the FAA's AIP at $3.35 billion annually until 2023**. This bill reauthorizes the FAA for five years, at a cost of $97 billion, and represents the longest funding authorization period for the FAA since 1982.

The source for AIP funds is the Aviation Trust Fund. The Aviation Trust Fund was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The Aviation Trust Fund also finances the operation of the FAA. It is funded by user fees, including taxes on airline tickets, aviation fuel, and various aircraft parts.

Several projects identified in the CIP are eligible for FAA funding through the AIP, which provides entitlement funds to airports based, in part, on their annual enplaned passengers and pounds of landed cargo weight. Additional AIP funds, designated as discretionary, may also be used for eligible projects based on the FAA's national priority system. Although the AIP has been reauthorized several times and the funding formulas have been periodically revised to reflect changing national priorities, the program has remained essentially the same. Public-use airports that serve civil aviation – like ODO – may receive AIP funding for eligible projects, as described in FAA's *Airport Improvement Program Handbook*. The airport must fund the remaining project costs using a combination of other funding sources, which are discussed in the following sections.

Table 44 presents the approximate distribution of the AIP funds as described in FAA Order 5100.38D, Change 1, *Airport Improvement Program Handbook*, issued February 26, 2019. ODO is eligible to apply for grants which may be funded through state apportionments, the small airport fund, and discretionary funds.

TABLE 44 | Federal AIP Funding Distribution

Funding Category	Percent of Total	Amount[1]
Apportionment/Entitlement		
Passenger Entitlements	27.01%	$904,840,000
Cargo Entitlements	3.50%	$117,250,000
Alaska Supplemental	0.67%	$22,450,000
Nonprimary Entitlements	12.01%	$402,340,000
State Apportionment	7.99%	$267,670,000
Carryover	22.85%	$765,480,000
Small Airport Fund		
Small Hubs	2.33%	$78,060,000
Nonhubs	4.67%	$156,450,000
Nonprimary (GA and Reliever)	9.33%	$312,560,000
Discretionary		
Capacity/Safety/Security/Noise	4.36%	$146,060,000
Pure Discretionary	1.45%	$48,580,000
Set Asides		
Noise and Environmental	3.37%	$112,900,000
Military Airports Program	0.39%	$13,070,000
Reliever	0.06%	$2,010,000
Total	**100.00%**	**$3,350,000,000**

[1]FAA *Modernization and Reform Act of 2018*

Source: FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook

Funding for AIP-eligible projects is undertaken through a cost-sharing arrangement in which TxDOT/FAA provide up to 90 percent of the cost and the airport sponsor invests the remaining 10 percent. In exchange for this level of funding, the airport sponsor is required to meet various Grant Assurances, including maintaining the improvement for its useful life, usually 20 years.

Another source for federal grants is the Bipartisan Infrastructure Law (BIL), which was signed into law in 2022 and plans for $25 billion to be invested into America's airports over the next five years. BIL funds are sourced from the U.S. Treasury General Fund and are split into two funding buckets, $20 billion for Airport Infrastructure Grants (AIG) and $4.85 billion for Airport Terminal Program (ATP). **Under BIL, ODO can receive $292,000[37] in allocated AIG funding each year for the next five years, assuming the airport remains classified as a Regional GA airport in the NPIAS. For FY2022, ODO was eligible to receive $763,000 due to its classification as a National GA Airport.** Beginning in FY2022, BIL money can be used for repair and maintenance of existing infrastructure or construction of new facilities (i.e., airfield pavement, navaids, lighting, terminal building, etc.). ATP grants can be used for multi-modal terminal development and relocating, reconstructing, repairing, or improving an airport traffic control tower. The federal share for AIG is the same as an AIP grant, 90 percent with a local 10 percent match, while the federal share for ATP grants

[37] https://www.faa.gov/bil/airport-infrastructure

is 95 percent for non-primary airports. The same grant assurances that apply to AIP grants will also apply to BIL grants. BIL and AIP grants cannot be combined/mingled into a single grant. TxDOT Aviation has recently agreed to administer the program for FAA, so Texas airports, including ODO, can expect to receive these funds in the near future, with approximately $292,000 annually allotted to ODO for each year of the program (with the exception of FY2022 when $763,000 was allotted to the airport).

Apportionment (Entitlement) Funds

AIP provides funding for eligible projects at airports through an apportionment (entitlement) program. Non-primary airports included in the *National Plan of Integrated Airport Systems* (NPIAS), such as ODO, receive a guaranteed minimum level of up to $150,000 each year in non-primary entitlement (NPE) funds. These funds can be carried over and combined for up to four years, thereby allowing for the completion of a more expensive project.

The FAA also provides a state apportionment based on a federal formula that considers land area and population. For the State of Texas, TxDOT distributes these funds for projects at various airports throughout the state.

Small Airport Fund

If a large- or medium-hub commercial service airport chooses to institute a PFC, which is a fee of up to $4.50 per airline ticket for funding of capital improvement projects, then their apportionment is reduced. A portion of the reduced apportionment goes to the small airport fund. The small airport fund is reserved for small-hub primary commercial service airports, non-hub commercial service airports, reliever, and general aviation airports. As a general aviation airport, ODO is eligible for funds from this source.

Discretionary Funds

In several cases, airports face major projects that will require funds in excess of the airport's annual entitlements. Thus, additional funds from discretionary apportionments under AIP become desirable. The primary element of discretionary funds is that they are distributed on a priority basis. The priorities are established by the FAA, using a priority code system. Under this system, projects are ranked by their purpose. Projects ensuring airport safety and security are ranked as the most important priorities, followed by maintaining current infrastructure development, mitigating noise and other environmental impacts, meeting design standards, and increasing system capacity.

It is important to note that competition for discretionary funding is not limited to airports in the State of Texas, or those within the FAA Southwest Region. The funds are distributed to all airports in the country and, as such, are more difficult to obtain. High priority projects will often fare favorably, while lower priority projects may not receive discretionary grants.

Set-Aside Funds

Portions of AIP funds are set-asides designed to achieve specific funding minimums for noise compatibility planning and implementation, certain former military airfields (Military Airports Program), and certain reliever airports. ODO does not qualify for set-aside funding.

FAA Facilities and Equipment (F&E) Program

The Airway Facilities Division of the FAA administers the Facilities and Equipment (F&E) Program. This program provides funding for the installation and maintenance of various navigational aids and equipment of the national airspace system. Under the F&E program, funding is provided for FAA air traffic control towers (ATCTs), enroute navigational aids, on-airport navigational aids, and approach lighting systems.

While F&E still installs and maintains some navigational aids, on-airport facilities at general aviation airports have not been a priority; therefore, airports often request funding assistance for navigational aids through AIP and then maintain the equipment on their own[38].

STATE FUNDING PROGRAMS

The State of Texas participates in the federal State Block Grant Program. Under this program, the FAA annually distributes general aviation state apportionment and discretionary funds to TxDOT which, in turn, distributes grants to airports within the state. In compliance with TxDOT's legislative mandate that it "apply for, receive, and disburse" federal funds for general aviation airports, TxDOT acts as the agent of the local airport sponsor. Although these grants are distributed by TxDOT, they contain all federal obligations.

The State of Texas also distributes funding to general aviation airports from the Highway Trust Fund as the Texas Aviation Facilities Development Program. These funds are appropriated each year by the state legislature. Once distributed, these grants contain state obligations only.

The establishment of a CIP for the state entails first identifying the need, then establishing a ranking or priority system. Identifying all state airport project needs allows TxDOT to establish a biennial program and budget for development costs. The currently approved TxDOT CIP, *Aviation Capital Improvement Program 2023-2025*, assumes that approximately $19 million in annual federal AIP grants, plus $24 million earmarked for non-primary entitlement, $12 million in annual federal discretionary funding, and $15 million in state funds, would be available.

The TxDOT biennial program sets a project priority system established by the Texas Transportation Commission in order to make the best use of limited state and federal airport development funds. **Table 45** presents the priority objectives and their associated description, listed in order of importance.

[38] Guidance on the eligibility of a project for federal AIP grant funding can be found in FAA Order 5100.38D, *Airport Improvement Program Handbook, Change 1*, effective February 26, 2019.

TABLE 45 | TxDOT Project Priorities

PRIORITY OBJECTIVE	DESCRIPTION
Safety	Projects needed to make the facility safe for aircraft operations.
Preservation	Projects to preserve the functional or structural integrity of the airport.
Standards	Improvements required to bring the airport up to design standards for current user aircraft.
Upgrade	Improvements required to allow the airport to accommodate larger aircraft or longer stage lengths.
Capacity	Expansion required to accommodate more aircraft or higher levels of activity.
New Access	A new airport providing new air access to a previously unserved area.
New Capacity	A new airport needed to add capacity or relieve congestion at other area airports.

Source: TxDOT Aviation Capital Improvement Program, 2021-2023

Each project for the airport must be identified and programmed into the state CIP and compete with other airport projects in the state for both federal and state funds. In Texas, airport development projects that meet TxDOT's discretionary funds' eligibility requirements can receive 90 percent funding from the state grant program. Eligible projects include airfield and apron facilities. Historically, revenue-generating improvements, such as fuel facilities, utilities, and hangars, have not been eligible for AIP funding; however, FAA funding legislation has historically provided an allowance of NPE funds to be used for hangar or fuel farm construction if all other airfield needs have been addressed.

The availability of grant funds can fluctuate from year to year. Typically, an airport can expect a grant to cover several projects in one grant cycle. The next grant opportunity may not occur for a couple of years after. This cycle occurs because TxDOT must administer grants for more than 300 airports and has relatively limited resources. As a result, local budgeting for future capital improvements should consider sporadic grant availabilities.

Routine Airport Maintenance Program (RAMP)

TxDOT has established the RAMP to help general aviation airports maintain and, in some instances, construct new facilities. The program was initially designed to help airports maintain airside and landside pavements but has since been expanded to include construction of new facilities. RAMP is an annual funding source in which TxDOT will provide a 50 percent funding match for projects up to $100,000. **Table 46** outlines the projects that are eligible under RAMP. It should be noted that several of the projects listed in the airport's proposed CIP are also eligible for RAMP funding.

TABLE 46 | RAMP Eligible Projects

AIRSIDE MAINTENANCE
Pavement crack seal/Slurry seal/Fog seal/Rejuvenator
Pavement markings
Drainage maintenance
Sweeping
Herbicide application
Replacement bulbs/lamps for airside lights, approach aids
Repair/maintenance of beacon, lighting, approach, and navigational aids
AWOS parts replacement
AFTER AIRSIDE MAINTENANCE IS ADDRESSED
Seal coats/chip seal/crack seal for non-airside pavement
Hangar/terminal painting and repairs (airport-owned only)
Security camera systems
Game-proof or security fencing and gates
Access roads for AWOS installations
AWOS NADIN interface charges
Airport entrance signs
Repair/replacement of fuel systems, including tanks (airport-owned only)
Storm Water Pollution Prevention Plans and Spill Prevention Control & Countermeasure Plans
Airfield FOD sweeper
HVAC repairs in terminal building/tower
CAPITAL IMPROVEMENT PROJECTS (with TxDOT Guidance)
New public vehicle parking areas
New entrance roads and hangar access roads
Aircraft wash racks
Aircraft parking aprons
Extension of runway lighting systems
Drainage improvements
Small general aviation terminal buildings
Beacon/tower replacement
Preparation of FAA Form 7460-1 for RAMP Projects

Source: TxDOT RAMP (2022)

Other State Airport Programs

TxDOT also provides a funding mechanism for terminal buildings and ATCT improvements. TxDOT has funded terminal building construction on a 50/50 basis, up to a $1 million total project cost. It should be noted that TxDOT has recently considered upgrading the total cost allowance on a case-by-case basis; however, this program generally allows for a one-time construction aid. As the terminal building at ODO was constructed using this funding source, any new terminal building construction project would be ineligible for this program.

TxDOT also funds the construction of up to two ATCTs statewide each year. TxDOT has improved the program so that ATCT funding could be provided on a 90/10 basis, up to a total construction cost of $1.67 million.

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. A goal for any airport is to generate enough revenue to cover all operating and capital expenditures, if possible. There are several local financing options to consider when funding future development at airports, including airport revenues, issuance of a variety of bond types, leasehold financing, implementing a customer facility charge (CFC), pursuing non-aviation development potential, and collecting money from special events. These strategies could be used to fund the local matching share or complete a project if grant funding cannot be arranged. Below is a brief description of the most common local funding options.

Airport Revenues

An airport's daily operations are conducted through the collection of various rates and charges. These airport revenues are generated specifically by airport operations. There are restrictions on the use of revenues collected by the airport. All receipts, excluding bond proceeds or related grants and interest, are irrevocably pledged to the punctual payment of operating and maintenance expenses, payment of debt service for as long as bonds remain outstanding, or for additions or improvements to airport facilities.

All airports should establish standard basis rates for various leases. All lease rates should be set to adjust to a standard index, such as the consumer price index (CPI), to ensure that fair and equitable rates continue to be charged in the future. Many factors will impact what the standard lease rate should be for a particular facility or ground parcel. For example, ground leases for aviation-related facilities should have a different lease rate than for non-aviation leases. When airports own hangars, a separate facility lease rate should be charged. The lease rate for any individual parcel or hangar may vary due to availability of utilities, condition, location, and other factors. Nonetheless, standard lease rates should fall within an acceptable range, comparable to other similar airports.

Bonding

Bonding is a common method to finance large capital projects at airports. A bond is an instrument of indebtedness of the bond issuer to the bond holders; a bond is a form of loan or "IOU." While bond terms are negotiable, typically the bond issuer is obligated to pay the bond holder interest at regular intervals and/or repay the principal at a later date.

Leasehold/Third Party Financing

Leasehold or third-party financing refers to a developer or tenant financing improvements under a long-term ground lease. The advantage of this arrangement is that it relieves the airport of the responsibility of having to raise capital funds for the improvement. As an example, a hangar developer might consider constructing hangars and charging fair market lease rates, while paying the airport for a ground lease. A fuel farm can be undertaken in the same manner, with the developer of the facility paying the airport a fuel flowage fee.

Many airports use third party funding when the planned improvements will primarily be used by a private business or other organization. Such projects are not ordinarily eligible for federal funding. Projects of this kind typically include hangars, fixed-base operator facilities, fuel storage, exclusive aircraft parking aprons, industrial aviation-use facilities, non-aviation office/commercial/industrial developments, and other similar projects. Private development proposals are considered on a case-by-case basis. Often, airport funds for infrastructure, preliminary site work, and site access are required to facilitate privately developed projects on airport property.

Customer Facility Charge (CFC)

A CFC is the imposition of an additional fee charged to customers for the use of certain facilities. The most common example is when an airport constructs a consolidated rental car facility and imposes a fee for each rental car contract. That fee is then used by the airport to pay down the debt incurred from building the facility.

Non-Aeronautical Development

In addition to generating revenue from traditional aviation sources, airports with excess land can permit compatible non-aeronautical development. Generally, an airport will extend a long-term lease for land not anticipated to be needed for aviation purposes in the future. The developer then pays the monthly lease rate and constructs and uses the compatible facility. ODO has approximately 87.2 acres of undeveloped property that the recommended concept earmarks for potential non-aeronautical uses. It should be noted that any proposed non-aviation development must be reviewed and approved by both the FAA and TxDOT.

Special Events

Another common revenue-generating option is permitted use of airport property for temporary or single events. Airports can also permit portions of their facility to be used for non-aviation special events, such as car shows or video production of commercials. This type of revenue generation must be approved by the FAA.

PLAN IMPLEMENTATION

To implement the plan recommendations, it is key to recognize that planning is a continuous process and does not end with approval of this document. The airport should implement measures that allow it to track various demand indicators, such as based aircraft, hangar demand, and operations. The issues that this study is based on will remain valid for a number of years. The primary goal is for ODO to best serve the air transportation needs of the region, while achieving economic self-sufficiency.

The CIP and phasing program presented will change over time. An effort has been made to identify and prioritize all major capital projects that would require federal or state grant funding. Nonetheless, the airport and TxDOT should review the five-year CIP on an annual basis.

The value of this study is keeping the issues and objectives at the forefront of the minds of decision-makers. In addition to adjustments in aviation demand, decisions on when to undertake the improvements recommended in this study will impact how long the plan remains valid. The format of this plan reduces the need for formal and costly updates by simply adjusting the timing of project implementation. Updates can be done by airport management, thereby improving the plan's effectiveness. Nonetheless, airports are typically encouraged to update their master plans and/or ALPs every 7 to 10 years, or sooner if significant changes occur in the interim.

In summary, the planning process requires Ector County to consistently monitor the progress of the airport. The information obtained from continually monitoring activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.