

**Master Plan Update**

A stylized, dark silhouette of a mountain range with several peaks, positioned behind the main title text.

# **Durango La Plata County Airport**

**D. Development Concepts and Alternatives Analysis**

## **Development Concepts and Alternatives Analysis**

---

### **Introduction**

**The purpose of this chapter is to present the Development Plan Recommendations for Durango-La Plata County Airport, in terms of both their concept and reasoning. Therefore, several basic assumptions have been established, which are intended to direct the future expansion of airport development. These assumptions are supported by the aviation activity forecasts and include a commitment for continued airport expansion, which supports the needs of the region and generates economic development.**

The first assumption states that the existing length of Runway 02/20 will be evaluated for recommended length requirements in consideration of existing and projected aircraft operators. This specified runway length determination will also be examined in consideration of future parallel taxiway development recommendations.

The second assumption states that Runway 02/20 will be designed in accordance with Airport Reference Code (ARC) D-IV design standards.

The third assumption states that future airport development recommendations will evaluate the future implementation of a non-precision instrument approach procedure with vertical guidance (LNAV/VNAV) to Runway 20.

The fourth assumption states that the vehicular access roadway system and automobile parking facility serving the passenger terminal area will be evaluated for recommended improvements.

The fifth assumption states that there is an existing demand for new aircraft storage facilities at the airport, and that adequate space should be reserved to accommodate long-term expansion capabilities.



## Goals for Development

Accompanying these assumptions are several goals, which have been established for purposes of directing the plan and establishing continuity in the future development of the airport. These goals take into account several categorical considerations relating to the needs of the airport, both in the short-term and the long-term, including safety, noise, capital improvements, land use compatibility, financial and economic conditions, public interest and investment, and community recognition and awareness. While all are project oriented, some obviously represent more tangible activities than others; however, all are deemed important and appropriate to the future of the airport.

The following goals are intended to guide the preparation of this Airport Master Plan Update and direct the future expansion of Durango-La Plata County Airport:

- Plan the airport to be able to safely accommodate the forecast aircraft fleet with facilities properly sized to accommodate forecast demand.
- Program facilities to be constructed when demand is realized (construction is to be driven by actual demand, not forecast demand).
- Ensure that the future development of the airport will accommodate a variety of general aviation activities, ranging from small general aviation users to corporate aviation operators.
- Enhance the self-sustaining capability of the airport and ensure the financial feasibility of future airport development.
- Develop land acquisition priorities (i.e., fee simple and/or easement) related to airport safety, future airport development, and land use compatibility.
- Encourage the protection of existing public and private investment in land and facilities, and advocate the resolution of any potential land use conflicts, both on and off airport property.
- Plan and develop the airport to be environmentally compatible with the community and minimize environmental impacts on both airport property and property adjacent to the airport.
- Provide effective direction for the future development of Durango-La Plata County Airport through the preparation of a rational plan and adherence to the adopted development program.
- Integrate the airport's ground transportation access requirements with the area's regional transportation goals.

- Implement overlay zoning regulations in the vicinity of the airport to promote land use compatibility and ensure appropriate zoning requirements in the vicinity of the airport.

## Airside Development Concepts

### Introduction

To accommodate the projected operational demand at Durango-La Plata County Airport through the year 2021 (i.e., the end of the 20-year planning period), three (3) development alternatives for the airport have been prepared and are presented in the following illustrations. Both the forecast operations and the goals of the City of Durango and La Plata County, relative to aviation development and economic enhancement, were incorporated into the planning effort.

### Alternatives

The following development alternatives were evaluated.

**Alternative One.** Extend the existing 9,200-foot runway length 599 feet to the north, and maintain the ARC D-IV design standards. Extend Taxiway "A" to serve the Runway 02 threshold and construct an east side partial parallel taxiway system. Also, maintain the Runway 02 precision approach standards, and upgrade the existing Runway 20 visual approach to non-precision approach standards (i.e., 1-statute mile visibility minimums).

#### Runway 02/20 Airside Development.

- *ARC Dimensional Criteria:* Maintain existing ARC D-IV design standards through the planning period of this document.
- *Dimensions:* Extend the existing 9,201-foot runway length 599 feet to the north and maintain the 150-foot width. This runway length would accommodate all airplanes less than 12,500 pounds with 10 or more seats and 75% of the fleet (i.e., airplanes greater than 12,500 lbs. and less than 60,000 lbs.) at 90% useful load. In addition, the 9,800-foot runway length would also accommodate large aircraft greater than 60,000 pounds at an approximate 1,500 nautical mile stage length.
- *Pavement:* Maintain existing gross weight bearing capacity of 95,000 pounds single wheel, 150,000 pounds dual-wheel gear, and 210,000 pounds double-dual-wheel gear configuration.
- *Instrument Approach Criteria:* Maintain existing precision instrument approach standards to Runway 02 and upgrade the existing Runway 20 visual approach criteria to non-precision approach standards (i.e., 1-statute mile approach visibility).







minimums). In addition, the size of the runway protection zones (RPZs) for each runway end would remain unchanged.

- *Runway Lighting:* Maintain and extend the High Intensity Runway Lights (HIRLs) to serve the runway extension. Maintain the Runway 02 Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) and relocate the Runway 20 Runway End Identifier Lights (REILs). Also, the existing Vertical Approach Slope Indicator (VASI) lights serving each runway end are to be upgraded with Precision Approach Path Indicator (PAPI) lights. Based on the proposed non-precision approach visibility minimums for Runway 20, the installation of an approach lighting system will not be required.
- *Landing/ Navigational Aids:* Relocate the localizer antenna array outside of the existing Runway 20 safety area/object free area to accommodate the proposed runway extension. The existing TVOR is also to be relocated to accommodate the future development of landside facilities on the east side of the airport. In addition, the proposed Runway 20 instrument approach upgrade will be developed utilizing GPS technology; therefore, no additional ground-based NAVAIDs are recommended for installation.
- *Taxiway System:* Extend Taxiway "A" to connect with the existing approach end of Runway 02 and the future approach end of Runway 20. Taxiway "A" and the associated connectors are to be designed/maintained to Airplane Design Group (ADG) IV standards and equipped with medium intensity taxiway lights (MITLs). A partial parallel taxiway system, designed to ADG II standards, is also to be developed on the east side of the runway, linking the approach end of Runway 20 with connector Taxiway "A-6". In addition, the Taxiway "A-4" connector is to be abandoned and removed.

#### **Landside Development.**

- *Terminal Area:* Preserve expansion capabilities of the passenger terminal complex. Approximately 13 acres have been designated within the terminal area for the long-term expansion of the terminal building, parking area, and support facilities.
- *Airport Access Roadways:* The existing Airport Entrance Road would continue to be utilized as the primary airport access road to the airport from S.H. 172. However, future expansion of the terminal parking facility may require the realignment of a segment of this roadway. In addition, a new access road linking County Road 309A with S.H. 172 is to be developed within the northwest quadrant of the airport. This roadway would provide landside access to proposed aviation-related development property on the airport.
- *General Aviation Area:* The existing general aviation development area is to be expanded to the north following the relocation of the U.S. Forest Service Tanker Base Facility. Approximately 5.5 acres of re-development property will be available in this location. Two (2) new general aviation development areas, consisting of

approximately 25 acres, are recommended for development north of the new tanker base facility and east of the approach end of Runway 20. Vehicular access to these areas would be provided from County Road 309A. In addition, a large future aviation development area, consisting of approximately 105 acres, has been identified on the east side of the airport that could also be utilized for long-term general aviation expansion.

- *Aviation-Related Development Area:* The U.S. Forest Service Tanker Base Facility was recently relocated to a north of the commercial passenger terminal facility, on the west side of the airport. The site, which consists of approximately 7.2 acres, is designed to accommodate the operation of C-130 tanker aircraft.
- *Non-Aviation or Aviation-Related Development Area:* A non-aviation or aviation-related development area has been identified on the west side of the airport, north of the proposed general aviation development area. The site, which consists of approximately 28 acres, could accommodate aviation-related business or light industrial development. In addition, a portion of the approximate 105-acre tract of property located east of the runway could also be utilized for non-aviation or aviation-related development.
- *Support Facilities Area:* Airport management has identified a variety of support facilities that need to be integrated or coordinated with the future development of the airport. These facilities include: fuel farm expansion, self-serve fueling area, airport storage building, rental car maintenance area, new wastewater treatment facility, utility infrastructure upgrades/relocation, airport traffic control tower, and airport beacon relocation. Future locations and projects associated with these facilities will be coordinated with airport management.
- *Property/Easement Acquisition:* Approximately 12.4 acres of RPZ easement are recommended for acquisition to accommodate that portion of the existing Runway 02 RPZ that extends beyond the airport property line.
- *Development Projects.* The major projects associated with the Alternative One development include:

*Airside.*

- 1) Extend Taxiway "A" (south end) with MITLs.
- 2) Construct 599-foot runway extension with HIRLs.
- 3) Extend Taxiway "A" (north end) and construct new taxiway connector with MITLs to serve extended runway.
- 4) Relocate existing localizer antenna array.
- 5) Relocate TVOR.
- 6) Upgrade Runway 02 VASIs with PAPIs.
- 7) Upgrade/Relocate Runway 20 VASIs with PAPIs.
- 8) Relocate Runway 20 REILs.
- 9) Construct east side partial parallel taxiway.



- 10) Acquire easement to control portion of existing Runway 02 RPZ that extends beyond airport property [approximately 12.4) acres].

#### Landside.

- 1) Expand commercial service passenger terminal building and auto parking facility.
- 2) Construct extension of County Road 309A to S.H. 172 for use as secondary airport entrance road.
- 3) Construct access taxiway system and apron area to serve new general aviation development areas.
- 4) Expand fuel storage facility.
- 5) Construct new airport storage building.
- 6) Construct self-serve aircraft fueling facility.
- 7) Construct new rental car maintenance facility.
- 8) Construct new wastewater treatment facility.
- 9) Construct ATCT facility.
- 10) Implement utility infrastructure upgrades and relocations.
- 11) Relocate airport beacon.

**Alternative Two.** Maintain the existing 9,200-foot runway length and ARC D-IV design standards, but construct a partial east side parallel taxiway system to serve the existing Runway 02 threshold. Also, maintain the Runway 02 precision approach standards, and upgrade the existing Runway 20 visual approach to non-precision approach standards (i.e., 3/4-statute mile visibility minimums).

#### Runway 02/20 Airside Development.

- *ARC Dimensional Criteria:* Maintain existing ARC D-IV design standards through the planning period of this document.
- *Dimensions:* Maintain the existing 9,201-foot runway length and the 150-foot width. This runway length would accommodate all airplanes less than 12,500 pounds with 10 or more seats and approximately 75% of the fleet (i.e., airplanes greater than 12,500 lbs. and less than 60,000 lbs.) at 90% useful load. In addition, the 9,201-foot runway length would also accommodate large aircraft greater than 60,000 pounds at a stage length ranging between 1,000 and 1,500 nautical miles.
- *Pavement:* Maintain existing gross weight bearing capacity of 95,000 pounds single wheel, 150,000 pounds dual-wheel gear, and 210,000 pounds double-dual-wheel gear configuration.

*Instrument Approach Criteria:* Maintain existing precision instrument approach standards to Runway 02 and upgrade the existing Runway 20 visual approach criteria to non-precision approach standards (i.e., 3/4-statute mile approach visibility minimums). In addition, the size of the Runway 02 RPZ would remain unchanged, but the Runway 20 RPZ would increase in size to 1,000' x 1,510' x 1,700'.





# Durango-La Plata COUNTY AIRPORT

## Master Plan Update



- *Runway Lighting:* Maintain the High Intensity Runway Lights (HIRLs), the Runway 02 MALSR, and the Runway 20 Runway End Identifier Lights (REILs). Also, the existing VASI lights serving each runway end are to be upgraded with PAPIs. Based on the proposed non-precision approach visibility minimums for Runway 20, a Medium Intensity Approach Lighting System (MALS) is recommended for installation.
- *Landing/Navigational Aids:* Relocate the localizer antenna array outside of the existing Runway 20 safety area. The existing TVOR is also to be relocated to accommodate the future development of landside facilities on the east side of the airport. In addition, the proposed Runway 20 instrument approach upgrade will be developed utilizing GPS technology; therefore, no additional ground-based NAVAIDs are recommended for installation.
- *Taxiway System:* Construct a full-length east side parallel taxiway system. A segment of the south end, linking Taxiway "A-7" with the existing approach end of Runway 02, is to be designed to Airplane Design Group (ADG) IV standards. The balance of the east side parallel taxiway system is to be designed to ADG II standards. In addition, the entire east side parallel taxiway system is to be equipped with MITLs.

#### **Landside Development.**

- *Terminal Area:* Preserve expansion capabilities of the passenger terminal complex. Approximately 10 acres has been designated within the terminal area for the long-term expansion of the terminal building, parking area, and support facilities.
- *Airport Access Roadways:* Same development recommendations as specified in Alternative One.
- *General Aviation Area:* The existing general aviation development area is to be expanded to the north following the relocation of the U.S. Forest Service Tanker Base Facility. Approximately 8 acres of re-development property will be available in this location. Two (2) new general aviation development areas, consisting of approximately 29 acres are recommended for development north of the new tanker base facility and east of the approach end of Runway 20. Vehicular access to these areas would be provided from County Road 309A. In addition, a large future aviation development area, consisting of approximately 105 acres, has been identified on the east side of the airport that could also be utilized for long-term general aviation expansion.
- *Aviation-Related Development Area:* Same development recommendations for U.S. Forest Service Tanker Base Facility as specified in Alternative One.
- *Non-Aviation or Aviation-Related Development Area:* A non-aviation or aviation-related development area has been identified on the west side of the airport, north of the proposed general aviation development area. The site, which consists of approximately 9 acres, could accommodate aviation-related business or light industrial development. In addition, a portion of the



approximate 105-acre tract of property located east of the runway could also be utilized for non-aviation or aviation-related development.

- *Support Facilities Area:* Same development recommendations as specified in Alternative One.
- *Property/Easement Acquisition:* Approximately 12.4 acres of RPZ easement are recommended for acquisition to accommodate that portion of the existing Runway 02 RPZ that extends beyond the airport property line.
- *Development Projects.* The major projects associated with the Alternative Two development include:

Airside.

- 1) Construct east side parallel taxiway system.
- 2) Relocate existing localizer antenna array.
- 3) Relocate TVOR.
- 4) Upgrade Runway 02 VASIs with PAPIs.
- 5) Upgrade Runway 20 VASIs with PAPIs.
- 6) Acquire easement to control portion of existing Runway 02 RPZ that extends beyond airport property [approximately 12.4 acres].

Landside.

- 1) Expand commercial service passenger terminal building and auto parking facility.
- 2) Construct extension of County Road 309A to S.H. 172 for use as secondary airport entrance road.
- 3) Construct access taxiway system and apron area to serve new general aviation development areas.
- 4) Expand fuel storage facility.
- 5) Construct new airport storage building.
- 6) Construct self-serve aircraft fueling facility.
- 7) Construct new rental car maintenance facility.
- 8) Construct new wastewater treatment facility.
- 9) Construct ATCT facility.
- 10) Implement utility infrastructure upgrades and relocations.
- 11) Relocate airport beacon.

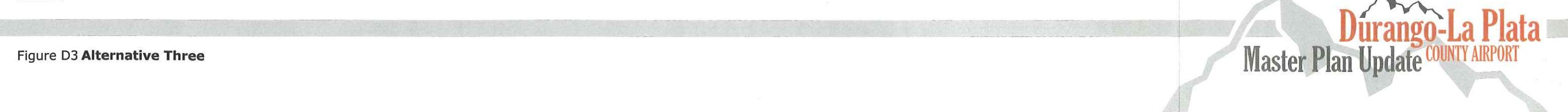
**Alternative Three.** Relocate the existing Runway 02 threshold 1,600 feet to the north and extend the runway 1,000 feet to the north for a future length of 8,600 feet, while maintaining ARC D-IV design standards. Extend Taxiway "A" to serve the new Runway 20 threshold and construct a full-length east side parallel taxiway system. Also, maintain the Runway 02 precision approach standards, and upgrade the existing Runway 20 visual approach to non-precision approach standards (i.e., 1-statute mile visibility minimums).



#### **Runway 02/20 Airside Development.**

- *ARC Dimensional Criteria:* Maintain existing ARC D-IV design standards through the planning period of this document.
  - *Dimensions:* Relocate the Runway 02 threshold 1,600 feet to the north, extend the runway length 1,000 feet to the north, and maintain the 150-foot width. This proposed 8,600-foot runway length would accommodate all airplanes less than 12,500 pounds with 10 or more seats and 75 % of the fleet (i.e., airplanes greater than 12,500 lbs. and less than 60,000 lbs.) between 60 and 90% useful load. In addition, the 8,600-foot runway length would also accommodate large aircraft greater than 60,000 pounds at an approximate 1,000-nautical mile stage length.
  - *Pavement:* Maintain existing gross weight bearing capacity of 95,000 pounds single wheel, 150,000 pounds dual-wheel gear, and 210,000 pounds double-dual-wheel gear configuration.
  - *Instrument Approach Criteria:* Maintain existing precision instrument approach standards to Runway 02, which requires the relocation of the existing glide slope antenna, and upgrade the existing Runway 20 visual approach criteria to non-precision approach standards (i.e., 1-statute mile approach visibility minimums). In addition, the size of the runway protection zones (RPZs) for each runway end would remain unchanged.
  - *Runway Lighting:* Maintain/relocate the High Intensity Runway Lights (HIRLs) to serve the runway extension. Relocate the Runway 02 MALSR and relocate the Runway 20 REILs. Also, the existing VASI lights serving each runway end are to be upgraded with PAPIs. Based on the proposed non-precision approach visibility minimums for Runway 20, the installation of an approach lighting system will not be required.
  - *Landing/Navigational Aids:* Relocate the localizer antenna array outside of the existing Runway 20 safety area to accommodate the proposed runway extension. The existing TVOR is also to be relocated to accommodate the future development of landside facilities on the east side of the airport. In addition, the proposed Runway 20 instrument approach upgrade will be developed utilizing GPS technology; therefore, no additional ground-based NAVAIDs are recommended for installation.
- Taxiway System:* Extend Taxiway "A" to connect with the future approach end of Runway 20. Taxiway "A" and the associated connectors are to be designed/maintained to Airplane Design Group (ADG) IV standards and equipped with medium intensity taxiway lights (MITLs). In addition, a full parallel taxiway system, designed to ADG II standards, is to be developed on the east side of the runway, linking the relocated approach end of Runway 02 with the new extended end of Runway 20.







### **Landside Development.**

- *Terminal Area:* Preserve expansion capabilities of the passenger terminal complex. Approximately 9 acres have been designated within the terminal area for the long-term expansion of the terminal building, parking area, and support facilities.
- *Airport Access Roadways:* The existing Airport Entrance Road would continue to be utilized as the primary airport access road to the airport from S.H. 172. However, future expansion of the terminal parking facility may require the realignment of a segment of this roadway. In addition, a new access road linking County Road 309A with S.H. 172 is to be developed within the northwest quadrant of the airport. However, a segment of County Road 309A will require relocation to accommodate the northern extension of the runway. This roadway would continue to provide landside access to proposed aviation-related development property on the airport.
- *General Aviation Area:* The existing general aviation development area is to be expanded to the north following the relocation of the U.S. Forest Service Tanker Base Facility. Approximately 5 acres of re-development property will be available in this location. Two (2) new general aviation development areas, consisting of approximately 47 acres, are recommended for development north of the new tanker base facility and east of the approach end of Runway 20. Vehicular access to these areas would be provided from County Road 309A. In addition, a large future aviation development area, consisting of approximately 105 acres, has been identified on the east side of the airport that could also be utilized for long-term general aviation expansion.
- *Aviation-Related Development Area:* Same development recommendations for U.S. Forest Service Tanker Base Facility as specified in Alternative One.
- *Non-Aviation or Aviation-Related Development Area:* A non-aviation or aviation-related development area has been identified on the west side of the airport, north of the proposed general aviation development area. The site, which consists of approximately 13 acres, could accommodate aviation-related business or light industrial development. In addition, a portion of the approximate 105-acre tract of property located east of the runway could also be utilized for non-aviation or aviation-related development.
- *Support Facilities Area:* Same development recommendations as specified in Alternative One.
- *Property/Easement Acquisition:* No RPZ easement or property is required for acquisition.
- *Development Projects.* The major projects associated with the Alternative Three development include:

#### *Airside.*

- 1) Relocate Runway 02 threshold 1,600 feet and Construct 1,000-foot runway extension with HIRLs.

- 2) Extend Taxiway "A" (north end) and construct new taxiway connector with MITLs to serve extended runway.
- 3) Relocate existing glide slope antenna.
- 4) Relocate existing localizer antenna array.
- 5) Relocate TVOR.
- 6) Upgrade/Relocate Runway 02 VASIs with PAPIs.
- 7) Upgrade/Relocate Runway 20 VASIs with PAPIs.
- 8) Relocate Runway 20 REILs.
- 9) Construct east side parallel taxiway system.

**Landside.**

- 1) Expand commercial service passenger terminal building and auto parking facility.
- 2) Construct extension of County Road 309A to S.H. 172 for use as secondary airport entrance road.
- 3) Realign segment of County Road 309A around the future Runway 20 RPZ.
- 4) Construct access taxiway system and apron area to serve new general aviation development areas.
- 5) Expand fuel storage facility.
- 6) Construct new airport storage building.
- 7) Construct self-serve aircraft fueling facility.
- 8) Construct new rental car maintenance facility.
- 9) Construct new wastewater treatment facility.
- 10) Construct ATCT facility.
- 11) Implement utility infrastructure upgrades and relocations.
- 12) Relocate airport beacon.

**Alternative Four.** Relocate the existing Runway 02 threshold 1,600 feet to the north and extend the runway 1,600 feet to the north for a future length of 9,201 feet, while maintaining ARC D-IV design standards. Extend Taxiway "A" to serve the new Runway 20 threshold and construct a full-length east side parallel taxiway system. Also, maintain the Runway 02 precision approach standards, and maintain the existing Runway 20 visual approach.

**Runway 02/20 Airside Development.**

- *ARC Dimensional Criteria:* Maintain existing ARC D-IV design standards through the planning period of this document.
- *Dimensions:* Relocate the Runway 02 threshold 1,600 feet to the north, extend the runway length 1,600 feet to the north, and maintain the 150-foot width. This runway length would accommodate all airplanes less than 12,500 pounds with 10 or more seats and approximately 75% of the fleet (i.e., airplanes greater than 12,500 lbs. and less than 60,000 lbs.) at 90% useful load. In addition, the 9,201-foot runway length





# Durango-La Plata COUNTY AIRPORT

## Master Plan Update



would also accommodate large aircraft greater than 60,000 pounds at a stage length ranging between 1,000 and 1,500 nautical miles.

- *Pavement:* Maintain existing gross weight bearing capacity of 95,000 pounds single wheel, 150,000 pounds dual-wheel gear, and 210,000 pounds double-dual-wheel gear configuration.
- *Instrument Approach Criteria:* Maintain existing precision instrument approach standards to Runway 02, which requires the relocation of the existing glide slope antenna, and maintain the existing Runway 20 visual approach criteria. In addition, the size of the runway protection zones (RPZs) for each runway end would remain unchanged.
- *Runway Lighting:* Maintain/relocate the High Intensity Runway Lights (HIRLs) to serve the runway extension. Relocate the Runway 02 MALSR and relocate the Runway 20 REILs. Also, the existing VASI lights serving each runway end are to be upgraded with PAPIs. Based on the preservation of the existing visual approach to Runway 20, the installation of an approach lighting system will not be required.
- *Landing/Navigational Aids:* Relocate the localizer antenna array to accommodate the proposed runway shift/extension to the north. The existing TVOR is also to be relocated to accommodate the future development of landside facilities on the east side of the airport.
- *Taxiway System:* Extend Taxiway "A" to connect with the future approach end of Runway 20. Taxiway "A" and the associated connectors are to be designed/maintained to Airplane Design Group (ADG) IV standards and equipped with medium intensity taxiway lights (MITLs). In addition, a full parallel taxiway system, designed to ADG II standards, is to be developed on the east side of the runway, linking the relocated approach end of Runway 02 with the new extended end of Runway 20.

#### **Landside Development.**

- *Terminal Area:* Preserve expansion capabilities of the passenger terminal complex. Approximately 9 acres have been designated within the terminal area for the long-term expansion of the terminal building, parking area, and support facilities.
- *Airport Access Roadways:* The existing Airport Entrance Road would continue to be utilized as the primary airport access road to the airport from S.H. 172. However, future expansion of the terminal parking facility may require the realignment of a segment of this roadway. In addition, a new access road linking County Road 309A with S.H. 172 is to be developed within the northwest quadrant of the airport. However, a segment of County Road 309A will require relocation to accommodate the northern extension of the runway. This roadway would continue to provide landside access to proposed aviation-related development property on the airport.



- *General Aviation Area:* The existing general aviation development area can be expanded to the north due to the relocation of the U.S. Forest Service Tanker Base Facility. Approximately 5 acres of re-development property will be available in this location. Two (2) new general aviation development areas, consisting of approximately 53 acres, are recommended for development north of the new tanker base facility and east of the approach end of Runway 20. Vehicular access to these areas would be provided from County Road 309A. In addition, a large future aviation development area, consisting of approximately 105 acres, has been identified on the east side of the airport that could also be utilized for long-term general aviation expansion.
- *Aviation-Related Development Area:* Same development recommendations for U.S. Forest Service Tanker Base Facility as specified in Alternative One.
- *Non-Aviation or Aviation-Related Development Area:* A non-aviation or aviation-related development area has been identified on the west side of the airport, north of the proposed general aviation development area. The site, which consists of approximately 7 acres, could accommodate aviation-related business or light industrial development. A second potential development site, consisting of approximately 53 acres, is located east of the approach end of Runway 20. In addition, a portion of the approximate 105-acre tract of property located east of the runway could also be utilized for non-aviation or aviation-related development.
- *Support Facilities Area:* Same development recommendations as specified in Alternative One.
- *Property/Easement Acquisition:* Approximately 1.7 acres of RPZ easement or property is recommended for acquisition.
- *Development Projects.* The major projects associated with the Alternative Four development include:
 

Airside.

  - 1) Relocate Runway 02 threshold 1,600 feet and Construct 1,600-foot runway extension with HIRLs.
  - 2) Extend Taxiway "A" (north end) and construct new taxiway connector with MITLs to serve extended runway.
  - 3) Relocate existing glide slope antenna.
  - 4) Relocate existing localizer antenna array.
  - 5) Relocate TVOR.
  - 6) Upgrade/Relocate Runway 02 VASIs with PAPIs.
  - 7) Upgrade/Relocate Runway 20 VASIs with PAPIs.
  - 8) Relocate Runway 20 REILs.
  - 9) Construct east side parallel taxiway system.



Landside.

- 1) Expand commercial service passenger terminal building and auto parking facility.
- 2) Construct extension of County Road 309A to S.H. 172 for use as secondary airport entrance road.
- 3) Realign segment of County Road 309A around the future Runway 20 RPZ.
- 4) Construct access taxiway system and apron area to serve new general aviation development areas.
- 5) Expand fuel storage facility.
- 6) Construct new airport storage building.
- 7) Construct self-serve aircraft fueling facility.
- 8) Construct new rental car maintenance facility.
- 9) Construct new wastewater treatment facility.
- 10) Construct ATCT facility.
- 11) Implement utility infrastructure upgrades and relocations.
- 12) Relocate airport beacon.

## Alternatives Summary

The proposed development alternatives for Durango-La Plata County Airport are intended to present the City of Durango and La Plata County with a variety of options for future facility expansion. Following a careful assessment of the potential impacts of each alternative and a review of the planning level cost estimates (see Appendix Two), in conjunction with a detailed FAA evaluation, the Durango-La Plata Airport Advisory Commission must select a recommended Development Plan, which will be presented in the *AIRPORT PLANS* chapter of this document. It is possible that the Recommended Development Plan will represent a combination, or phasing, of the four (4) alternatives, utilizing portions or elements of each to represent the ultimate airport configuration.

Following the selection of the sponsor's preferred Recommended Development Plan, the appropriate State and Federal agencies will be provided with copies of the plan requesting their overview of potential environmental impacts. Particular issues of interest will include the airport's location and operational proximity to the Mesa Verde National Park and the Ute Mountain Indian Reservation. Other environmental issues will include the potential existence of jurisdictional wetlands on airport property, threatened or endangered species, and airport wildlife management considerations.



## **Landside Development Concepts**

### **Introduction**

With alternatives for the framework of the airport's ultimate airside development identified, the placement of needed landside facilities can now be analyzed. In general, landside facilities consist of terminal area development, aircraft parking aprons, support facility development, hangar development areas, and airport access. The overall objective of the landside development planning at the airport is the provision of facilities, which are conveniently located and accessible to the community, and which accommodate the specific requirements of airport users.

Based on the forecast aviation activity levels and resultant facility requirements determination, it is anticipated that the demand for both apron and aircraft storage facilities can likely be accommodated at the airport through the planning period. However, various undeveloped parcels of airport property, including off-airport property located adjacent to the facility, will be evaluated with respect to future and long-term general aviation development expansion capabilities.

### **General Aviation Development**

The existing general aviation development area, located on the west side of Runway 02/20 and south of the commercial terminal building, is currently fully built out, but can be expanded to the north due to the recent relocation of the existing tanker base facility. Each of the development alternatives provides future general aviation expansion capabilities within the northwest and northeast quadrants of the airport, ranging from 25 to 47 acres. In addition, a large development area, consisting of approximately 105 acres located on the east side of the airport, is available for the long-term development of general aviation facilities. It is recommended that the airport's general aviation development areas be designed to accommodate a variety of aircraft storage facilities and/or aviation-related business hangars, and it is estimated that the projected demand for aircraft storage facilities for the 20-year planning period can be accommodated on the west side of the airport. Vehicular access to the airport's proposed general aviation development areas is to be provided from additional connector roadway development extending from County Road 309A.

### **Vehicular Access**

Ground access is an important element in the overall ability of an airport to function properly. Not only is it vital that airport users have easy access to and from the airport's general aviation facilities using ground transportation, but also surface transported freight must be easily shipped to and from industries located in the vicinity of the



airport. Also, because airports are employment centers, proper access for people employed on airport property must be provided.

Airport Road will continue to be utilized as the primary airport access road to the airport from S.H. 172; however, a segment of this roadway may be realigned in conjunction with the expansion of the passenger terminal parking facility. In addition, a secondary airport entrance road will be developed connecting County Road 309A with S.H. 172 within the northwest quadrant of the airport.

## Aviation-Related Development

As was noted in the previous alternatives description, the existing U.S. Forest Service Tanker Base Facility has constructed a new facility on the airport, just north of the commercial passenger terminal facility. The site, which consists of approximately 7.2 acres, is provided with landside access from County Road 309A and airside access to Taxiway "A".

Airport staff has also requested that a future air freight development area, consisting of both aircraft parking ramp and a storage/transfer facility, be identified on the airport. The air freight facility is to be located directly south of the passenger terminal complex. The storage building as shown would consist of approximately 27,000 square feet, and includes a vehicle parking lot and loading dock on the south side of the building. The proposed aircraft ramp, designed to accommodate Boeing 727 size aircraft, would consist of 87,500 square feet of apron and be provided with connector taxiway access to Taxiway "A".

## Non-Aviation Development

As was noted in the previous alternatives description, two (2) potential non-aviation development sites were identified on airport property. The largest site, consisting of approximately 105 acres, is located on the east side of the airport and west of County Road 309A. Future uses for a portion of this property would be well suited to accommodate light industrial uses, depending on the allocation for long-term general aviation expansion development. One additional parcel, located northwest of the approach end of Runway 20, is designated for non-aviation development and consists of acreages ranging from 9 to 28 acres, depending on the specified alternative. Each of these parcels would have direct vehicular access to County Road 309A and S.H. 172.



## Aviation Support Development

Aviation support functions are those that are required for the airport to operate properly, but are not part of the runway/taxiway system and do not relate directly to aircraft storage facilities. The support facilities at Durango-La Plata County Airport that require development recommendations include future fuel storage development sites, rental-car maintenance facilities, water storage facilities, a wastewater treatment facility, and a rotating beacon.

**Fuel Storage Development Site.** According to fuel storage facility projections presented in the previous chapter, it is anticipated that the existing fuel storage capacity will likely be adequate for the balance of the planning period. However, if the facility must be expanded the site must continue offer good landside access for tankers delivering fuel to the site, as well as good airside access for trucks, which supply fuel to the aircraft. In addition, the associated access roadway system must be designed to accommodate the maneuvering requirements of large tanker trucks and the operation of these vehicles should be segregated as much as possible from other users of the airport. Fuel farms should not be located in close proximity with terminal buildings or located within the specified runway protection zones (RPZs). It should also be remembered that the future construction and operation of all airport fuel storage facilities must comply with specified airport rules and regulations, applicable uniform Building Code Standards, fire codes, and recommendations of the National Fire Protection Association.

**Rental Car Maintenance Facility.** The existing rental car maintenance facility, located west of the FBO hangar complex, will likely require expansion within the initial planning period. A determination will be made whether adequate expansion area is available at the existing site or whether a new development site will be required. Airport management has indicated that there is some interest in evaluating a potential site located east of the approach end of Runway 20.

**Rotating Beacon.** Airport rotating beacons serve as visual navigational aids to pilots by identifying the approximate location of airports. The beacons project beams of light spaced 180 degrees apart, with alternating white/green flashes identifying lighted civil airports. Beacons should be sited within 5,000 feet of the runway and mounted high enough above the ground to ensure that the beam sweep, (aimed at a minimum of 2° above the horizon) is not blocked by any natural or manmade objects. In addition, they must be located to preclude visual interference with both pilots and air traffic controllers. The existing airport beacon was recently constructed on the east side of the airport, near the midfield point, as depicted on previous airport master planning documents.



**Utility Infrastructure Upgrades.** According to the existing utility description presented in the *INVENTORY* chapter, the electrical and telephone service could likely be expanded to accommodate additional development demand at the airport. However, it is likely that the existing water supply and wastewater treatment facility would require upgrading to accommodate additional tenants and/or comply with local codes for fire suppression flow rates. A potential development site for the water storage tanks is located west of the terminal building, with the future site for the wastewater treatment plant located west of the FBO development area. These sites will be investigated in conjunction with the selection of the Recommended Development Plan, and the preparation of the Capital Improvement Plan (CIP).

## **Summary**

The proposed development recommendations for Durango-La Plata County Airport are intended to present the City of Durango and La Plata County with a long-term development plan for the airport that will accommodate a wide range of general aviation users and activities. As indicated previously, the Recommended Development Plan will likely represent a combination, or phasing, of the four (4) alternatives, utilizing portions of each to represent the ultimate airport configuration.