DOÑA ANA COUNTY
INTERNATIONAL JETPORT

AIR CARGO
STUDY UPDATE
EXECUTIVE SUMMARY

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Bohannan Huston

Executive Summary

Study Overview

The Borderplex, which includes Doña Ana County, two neighboring counties in Texas, and adjacent areas in Mexico, is experiencing notable economic growth. Much of this growth is attributed to manufacturing activities located in nearby areas of Mexico. The Santa Teresa Port of Entry (POE) is an important conduit for materials and finished products traveling between the U.S. and Mexico. The region is one of the world's largest border communities with an estimated population of approximately 2.7 million. While not all manufactured goods produced in the area are candidates for transport by air, many are. The Doña Ana County International Jetport (DNA) has many attributes and a strategic location to take advantage of growing opportunities to support scheduled air cargo carriers.

This study reviews existing air cargo activity in the region and determines how the Jetport can play a role in meeting growing air cargo opportunities. Study objectives included:

- Evaluating potential demand for scheduled air cargo at the Jetport
- Identifying the critical or most demanding cargo aircraft that could use the Jetport
- Determining air cargo facilities needed to support air cargo carriers at the Jetport

A summary of the highlights from the study follows. Detailed results from the research and investigation that supported this study follow the project summary.

The Air Cargo Industry

The movement of goods by air provides significant transportation advantages, but at a higher cost. When air transportation is chosen over road, rail, or water, shippers evaluate the cost of transporting the material, its service commitment to the customer, the value of the goods being moved, and/or the time-sensitivity of the material being transported. Types of products that that most often use air cargo include those in the following categories: automotive, pharmaceuticals, computers, medical/surgical equipment, textiles, electronics, telecommunications, and perishables. Nearby manufacturing companies, located in Mexico, include Philips, Epson, Toshiba, Electrolux, Bosch, Ford, Goodyear, Johnson & Johnson, Foxconn, Flextronics, Lexmark, Delphi, Visteon, Johnson Controls, Lear, Boeing, Cardinal Health, Yazaki, Sumitomo, and Siemens. Many of these businesses often rely on air cargo to receive supplies and to ship products.

Worldwide, only one percent of all cargo is moved by air, but this cargo accounts for 35 percent of the value of all cargo/freight. Air cargo is defined by the Federal Aviation Administration (FAA) as express parcels, freight, and mail moved on aircraft. Air cargo is transported in the baggage compartment, or belly, of passenger aircraft

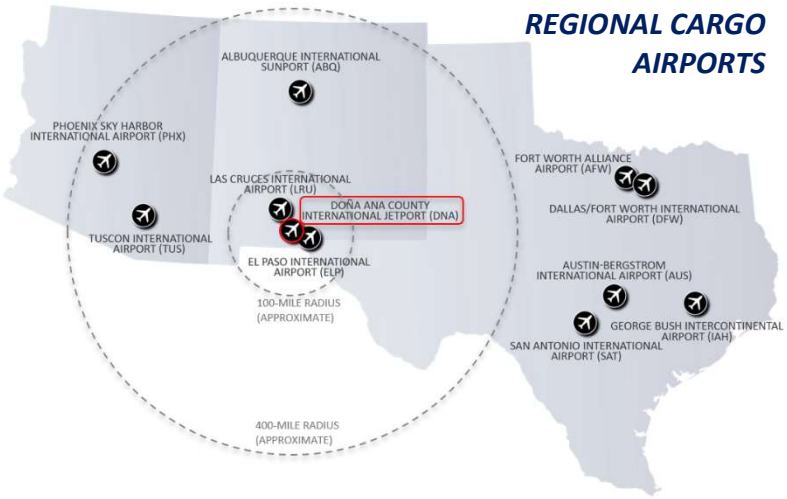
or on all-cargo aircraft. About 60 percent of all air cargo moves in the belly-hold of a plane operated by a commercial airline. The remainder of all air cargo is transported by various carriers dedicated to the movement of freight by air. The most familiar air cargo carriers in the U.S. are designated as integrated express carriers and include operators such as FedEx Express, UPS, and DHL. Most recently, e-commerce giant Amazon entered the air cargo arena, operating over 100 aircraft at close to 50 U.S. airports to support its own package delivery system.

Air Cargo Aircraft

Depending upon the volume and weight of the loads they transport and the distance they fly, cargo carriers employ a wide variety of aircraft. The Boeing 747 is an example of an aircraft used for long-haul or international transport of air cargo; planes such as the Boeing 757 and the Boeing 737, along with the Airbus A310, are often used to transport cargo domestically. However, depending upon the market and associated demand levels, air cargo operators, especially those that are ad hoc or on-demand carriers whose service is not scheduled, may use smaller aircraft. Cargo carriers are also taking delivery of electric aircraft to serve shorter routes and to meet increased demand driven by e-commerce. Characteristics of larger and heavier aircraft, most frequently used to transport air cargo, result in the need for longer and wider runways. FAA planning standards are established to help airports determine appropriate runway dimensions based on the largest aircraft that operates on a regular basis at each airport. Identifying the type or types of air cargo aircraft that could operate at the Jetport is an important step in this study, helping to establish runway requirements.

Airports Serving Air Cargo Carriers

For airports serving air cargo carriers, there are several types of designations, depending upon types, volumes, and air cargo markets served. The largest/busiest air cargo airports are designated as International Gateways. Dallas/Fort Worth International (DFW) and George Bush Intercontinental (IAH) are the closest International Gateways to the Jetport. Integrated Express Carrier Hubs are another cargo airport category; the airports serving Cincinnati (DHL); Memphis (FedEx Express); and Louisville (UPS) are examples of this type of air cargo airport. Integrated express carriers also operate Regional Hubs and Local Market Stations; while there are other types of designations for airports serving air cargo operators, Regional Hubs and Location Market Stations are the most prevalent. Within the region, Fort Worth Alliance operates as a Regional Hub for FedEx Express. Other airports in the region that have scheduled air cargo service function as Local Market Stations. El Paso International (ELP) and Albuquerque International Sunport (ABQ) are examples of cargo airports that are designated as Local Market Stations.



As shown here, there are several airports in the region that support varying levels of air cargo activity. However, most of these airports are much farther from the border crossings and are not near concentrations of manufacturing facilities located just across the border in Mexico. The Las Cruces International Airport is further away from the border crossings and the centers of manufacturing in Mexico than the Jetport; plus, the current runway length at this facility is less than the available runway length at the Jetport. The El Paso International Airport (ELP) now serves most of the area's air cargo needs. This airport has a large air cargo apron, a runway that is over 12,000 feet long, and currently serves air cargo operators such as FedEx Express, UPS, DHL, and Amazon. While ELP has attributes that make it attractive to air cargo operators, the Jetport has a significant operational advantage. When cargo is being transported by air, time is of the essence. Wait times for trucks, at the border crossings between the U.S. and Mexico that serve the El Paso area, average between two and four hours. Wait times at the Santa Teresa POE that serves the Jetport average 30 minutes. This shorter crossing time provides a significant advantage to materials and products transported between U.S. and Mexico to a waiting air cargo aircraft.

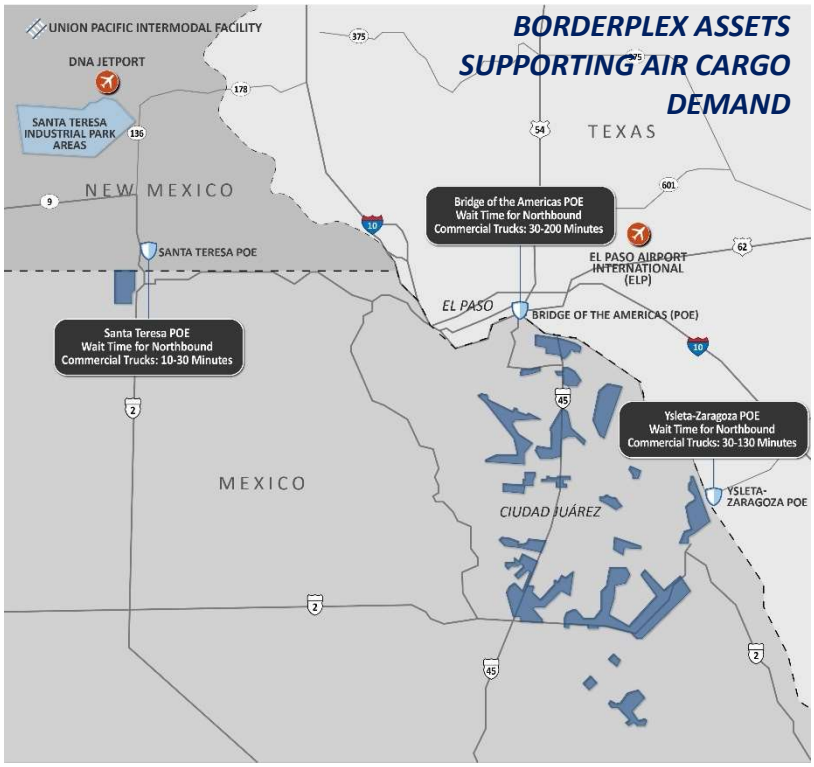
Air Cargo Demand

Air cargo has grown consistently, with global volumes growing 2.9 percent annually from 2015 to 2019. The onset of the COVID-19 pandemic saw global air cargo volumes decrease by over 10 percent, primarily because there were fewer commercial airline flights to carry cargo as opposed to a drop in demand. According to International Air Transport Association (IATA) data, air cargo volumes in 2021 rebounded to pre-COVID-19 levels, and global air cargo volumes are expected to continue to increase at an average annual rate of about 2.9 percent in the near term. Domestically in 2011, 29.7 million metric tons of cargo was moved through the 184 busiest U.S. air cargo airports, growing to over 38 million metric tons by 2021 according to Airports Council International-North America. This represents an average annual growth rate of 2.5 percent. Online retail and the growth of e-commerce are primary contributors to the recorded increases. Both inflation and a possible recession pose obstacles to air cargo growth in the most immediate term, but the longer-term outlook for air cargo growth remains positive.

Forecasts of air cargo demand were developed as part of the study. Forecasts help determine what development should be undertaken to meet projected demand. Ultimately, air cargo demand is determined by the decisions of air cargo providers, in conjunction with locally generated demand for air cargo services. When carriers establish points of service, they consider time and distance and the needs of their operational networks. This study's forecasting exercise considered projections of air cargo demand generated by several reputable agencies. As part of this study, an outreach effort was conducted to gather information on potential air cargo demand. Surveys of businesses, economic development groups, and others concluded that there is

BORDERPLEX ASSETS

- A BILINGUAL, BUSINESS-FRIENDLY ENVIRONMENT
- 70-PLUS FORTUNE 500 COMPANIES
- A HIGHLY MOTIVATED AND SKILLED WORKFORCE
- STATE-OF-THE-ART TELECOMMUNICATIONS
- INTERNATIONAL RAILWAYS
- MULTIPLE INTERNATIONAL BORDER CROSSINGS
- MULTIPLE UNIVERSITIES OR COLLEGES
- 40 INDUSTRIAL PARKS
- OVER 300 DAYS OF SUNSHINE PER YEAR



an interested/need, among survey respondents, as it relates to air cargo services at the Jetport both near and long term. While it is not possible to quantify this demand at this time, it is worth noting that some interest in air cargo service at the Jetport could only be realized with a longer runway that could support non-stop flights to Asia. An essential underpinning to the study's forecast was an estimate of "baseline" air cargo demand for the Jetport that was developed by Burrell Aviation. In partnership with the Jetport, Burrell has plans to develop air cargo facilities. It is anticipated that the Burrell air cargo facilities will come online by 2025. Since the Jetport does not currently have scheduled air cargo service, the Burrell estimates of demand were important to establishing potential ranges for future air cargo activity.

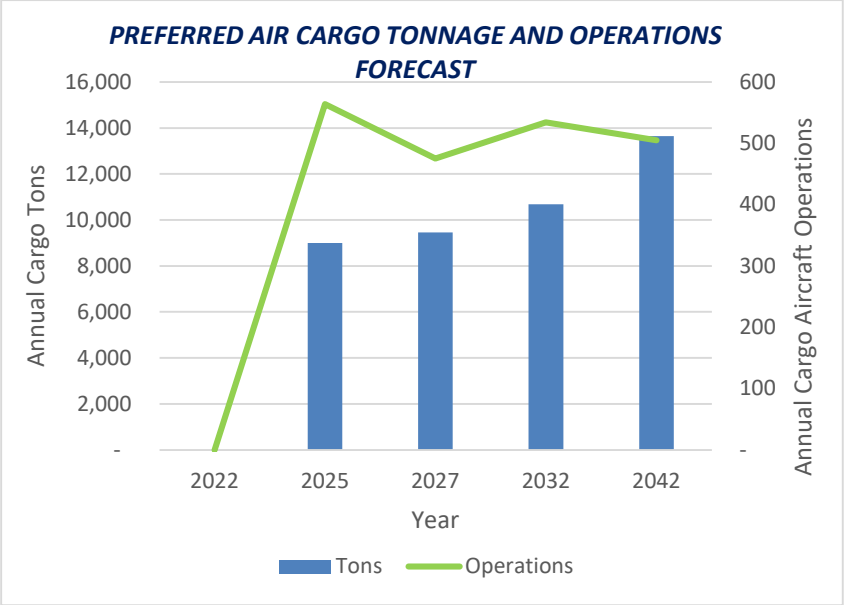
Because actual demand can be higher or lower than adopted projections, the study's forecasting effort considers low, average, and high ranges for future demand. Projections are developed for the near-term (2027), mid-term (2032), and long-term (2042) horizons. Forecasting for the Jetport includes projections for cargo volume in short tons, as well as the number of annual dedicated cargo aircraft operations needed to serve projected cargo tonnage. Two forecasting methodologies are investigated. One method considered growth rates for air cargo obtained from various industry sources, and the other econometric methodology considered the relationship of air cargo demand to past variables.

Estimates of air cargo demand provided by Burrell Aviation consider existing trans-border shipments between the U.S. and Mexico. These shipments serve demand associated with the numerous maquiladoras, including automotive and other plants located in Mexico. Baseline demand for 2025 is identified at 8,000 to 10,000 total annual tons. Considering various sources, the growth rate methodology produced forecast of annual air cargo tonnage that would range between 13,160 tons to 16,260 tons by 2042. The econometric forecasting approach considered the relationship of air cargo to both Gross Domestic Product and Household Income. The econometric methodology produced projections of tonnage for the Jetport that range from 12,250 tons to 17,080 tons by 2042.

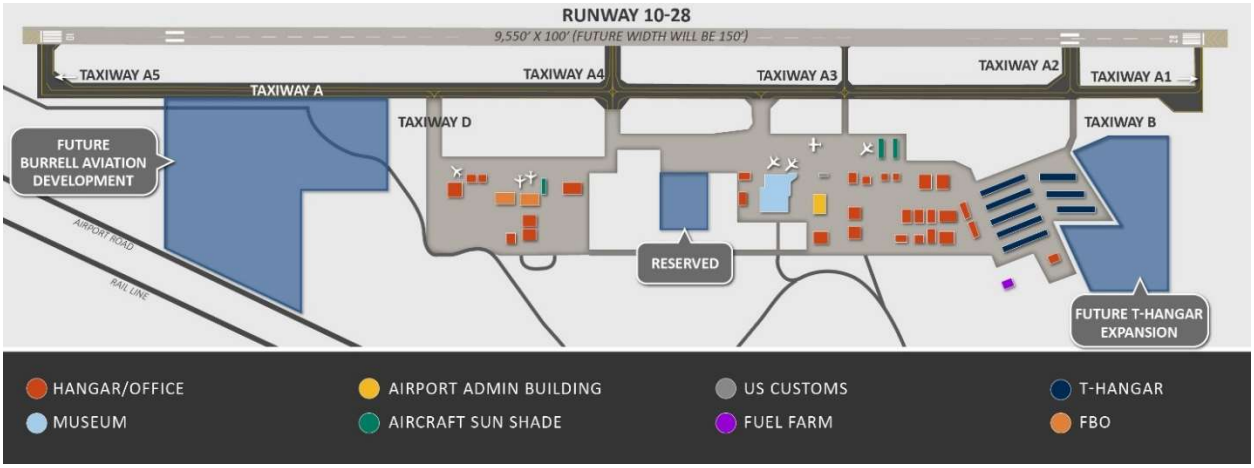
Considering Burrell's baseline estimate of air cargo tonnage for the Jetport, the selected air cargo tonnage projection is based on the implied growth rate in FAA's Aerospace Forecast 2022-2042. The average annual

rate of growth for air cargo tonnage in the preferred forecast for air cargo tonnage at the Jetport is 2.5 percent. Considering the preferred project, air cargo tonnage at the Jetport could reach 12,130 tons in the lowest scenario and 15,160 tons in the highest scenario by 2042. This preferred projection for air cargo tonnage is used to develop projections for dedicated air cargo aircraft operations.

The Jetport's projection of air cargo aircraft operations varies depending upon the tonnage projection and the cargo carrying capacity of the aircraft. Two of the most common types of air cargo aircraft that could operate at the Jetport are the Boeing 737 and the Boeing 757. Since the cargo carrying capacity of the Boeing 757 is greater, fewer flights are needed to carry the same cargo volumes. It is also important to note, however, that the airfield requirements for the Boeing 757 are greater than those of the Boeing 737. Considering the "high" projection for annual air cargo tonnage in 2042 of 15,160 tons, the Boeing 737 (depending upon the model/configuration) would need to perform an estimated 1,000 annual operations and Boeing 757 would need to preform just over 500 annual operations. For an aircraft to be considered the critical or the design aircraft, it must fly at least 500 annual operations. Projections of demand developed as part of the study are important to establishing future facility needs.



Facilities at the Jetport



The Jetport has a single northwest-southeast runway designated as Runway 10-28. The asphalt runway is 9,550 by 100 feet; the runway is served by Medium Intensity Runway Lights (MIRL). In recent years, approximately $9 million has been invested to upgrade the runway. Upgrades included the replacement of the runway lighting system and runway pavement strengthening to accommodate up to 90,000-pound aircraft. Runway 10-28 is served by a full-length parallel taxiway, Taxiway A, located 445 feet from the runway centerline. Taxiway A is

75 feet wide with 25-foot shoulders; the taxiway has Medium Intensity Taxiway Lights (MITL). There are five connecting taxiways between the runway and Taxiway A, and five connector taxiways between Taxiway A and the main aircraft ramp area. The connecting taxiways range from 35 to 75 feet in width.

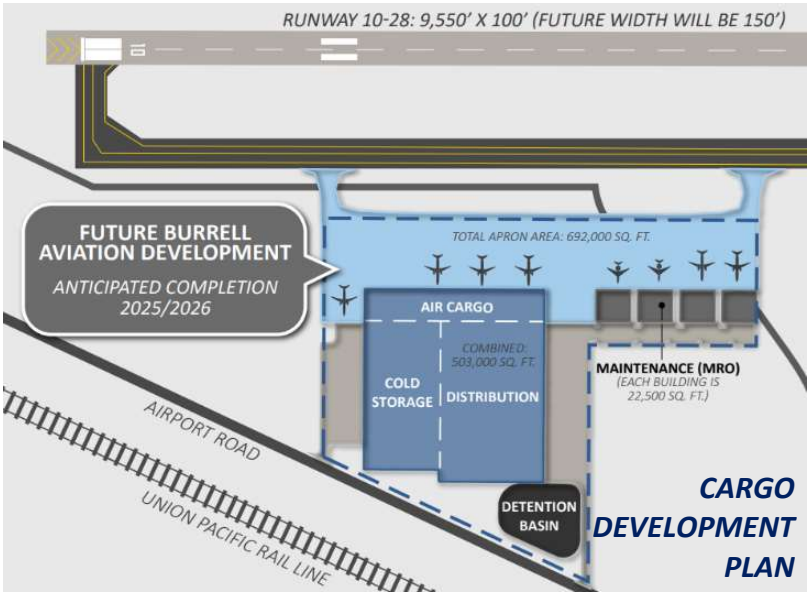
Runway 10 has one non-precision approach, as well as a circling approach. While the Jetport currently does not have a precision approach, a GPS approach has been designed for Runway 28. These approach procedures will be resubmitted to the FAA in the near future. Terrain in the vicinity of the Jetport impacts approach minimums to the runway and the potential for a precision approach. The Jetport is equipped with an on-airport Automated Weather Observing System III (AWOS III P/T). This system broadcasts weather data to help pilots and flight dispatchers prepare and monitor weather forecasts, plan flight routes, and provide necessary information for takeoffs and landings.

The Jetport has extensive landside facilities. The existing apron areas include the main apron, west heavy apron, and other apron areas adjacent to various commercial development and hangar lease lots. The large contiguous aircraft apron runs parallel to Taxiway A and covers an estimated 65,400 square yards. The main apron for general aviation aircraft is at the east end, and the heavy aircraft apron, which is also used for helicopters, is at the west end of the main apron area. The Jetport's *Multi Modal Master Plan 2017* calls for apron expansion. Aircraft fueling is available from the FBO, Francis Aviation, at two separate locations. Current fuel services include both AvGas (100LL) and Jet A. Cargo aircraft that could operate at the Jetport would require Jet A fuel. There are no existing cargo facilities at the Jetport. There are, however, more than 50 existing buildings that include eight banks of T-hangars, three banks of shade structures, and numerous conventional hangars of varying sizes. Other existing structures at DNA include a Hazmat response station, the Jetport's administration building, a customs and border protection building, FBO facility, War Eagles Museum, and a NOAA and National Weather Service Office.

The Jetport has a significant amount of land available for non-aeronautical development. To build off the success of the adjacent industrial parks, much of this land has been designated for future development of warehouse and manufacturing facilities. Facilities needed to meet future demand are discussed later in this summary.

Pending Development

In late-2022, Burrell Aviation received County approval to build a $72-million cargo aviation facility at DNA. This facility will include an air cargo handling facility, cold storage, distribution center, and aircraft maintenance hangars. The lease contract for these facilities is 30 years with a 10-year extension option. As part of the agreement, the County will upgrade the runway, taxiways, and construct aprons to accommodate cargo jet aircraft. Burrell Aviation's conceptual development plans for cargo facilities include a 500,000 square-foot building that includes dedicated space for air cargo, cold storage, and a distribution facility with cross-dock capabilities. Four separate 22,500 square-foot hangars are also planned



for aircraft maintenance purposes. A 400,000 square-foot cargo apron is also included in Burrell's plans, which encompasses 43-acres of Jetport property under the noted ground lease agreement.

Formed in 2019, Burrell Aviation (Burrell) is a division of The Burrell Group, an Aspen, Colorado-based holding company for a consortium of business interests. Burrell's business model involves using public-private partnerships to develop smaller airports. Their goal is to develop facilities which are both cost competitive and operationally efficient. Burrell has interest in the Borderplex due to high volumes of trade between the U.S. and Mexico, growth in the binational border community, the area's workforce, and the large manufacturing base. With its planned facilities, including cold storage, Burrell hopes to serve companies engaged in electronics, lubricants, pharmaceuticals, and apparel manufacturing. At the time of this study, it is anticipated the Burrell's facilities will be completed in 2025.

Facility Needs and Actions

One of the primary goals of this study is to identify improvements or actions needed to support existing and future air cargo demand at DNA. Any existing deficiencies are identified by comparing existing facilities and services at the Jetport to facilities typically required by the B738 and B752 air cargo aircraft. A summary of identified facility needs follows:

Summary of Air Cargo Facility Needs / Action Items		
Facility Attribute	**Existing**	**Need / Action Item**
Runway Length	9,550 Feet	No Action
Runway Width	100 Feet	150 Feet
Airport Reference Code (ARC)	C-II	C-IV
Runway Pavement Strength	90,000 Pounds (Dual Wheel)	255,000 Pounds (Dual Tandem Wheel)
Runway Shoulders	20 Feet	25 Feet (Reconstruct with Runway Widening)
Taxiway Configuration	Full Parallel	No Action
Taxiway Design Group (Fillets)	TDG-1B	TDG-4
Taxiway and Taxilane Shoulders	Partial	Reconstruct
Runway Centerline to Taxiway Centerline Separation	445 Feet	No Action
Aircraft Parking Positions	Potential Penetration of Transitional Surface (Planned Air Cargo Apron Aircraft Parking Positions)	Truncate Planned Building by 42 Feet; Conduct Formal Obstruction Evaluation / Airport Airspace Analysis (OE/AAA)
Approach with Vertical Guidance	One Runway End (Runway 10)	Both Runway Ends
Weather Reporting	Yes	No Action
Jet Fuel	Yes	No Action
Fixed Base Operator (FBO)	Yes	No Action
Cargo Building/Warehouse	None (143,000 Planned)	No Action (Developer to Build)

Summary of Air Cargo Facility Needs / Action Items		
Facility Attribute	**Existing**	**Need / Action Item**
Cargo Apron	240,000 Square Feet (West Heavy Apron) 405,000 Square Feet (Planned)	No Action (Developer to Build)
Aircraft Rescue and Firefighting (ARFF) Facility	Off-Site	Monitor Need for On-Site
Air Traffic Control Tower (ATCT)	None	Monitor Need
Proximity to Nearby Demand Generators	Yes	No Action
Proximity to Interstate Highway	8 Miles	No Action
Last-Mile Road Quality	Good	No Action
Compatible Land Use Surrounding Airport	Good	No Action
Limited Residential in Vicinity of Airport (Noise Exposure)	Good (65 DNL Fully Within Airport Property)	No Action (Re-Evaluate if Substantial Change to Future Fleet and Operational Mix)

Air cargo connects businesses and residents to domestic and international markets. While air cargo operations represent a smaller percentage of overall aircraft activity at U.S. airports, when compared to commercial airline or general aviation aircraft flights, air cargo operations are nonetheless vital to commerce and to transportation infrastructure that supports the economy. In general, air cargo is a conduit for the economy because of the wide variety of industries that rely on air cargo and the many high value commodities that are carried by air.

As this study demonstrates, the Jetport and the market area it serves have the characteristics needed to generate air cargo demand and to support associated air cargo facilities and services to accommodate that demand. The table above summarizes the near-term enhancements and improvements at DNA that are considered desirable to support air cargo carriers using larger jet aircraft. In the near term, existing Runway 10-28 should be enhanced to accommodate the operational needs of the critical or design aircraft identified in this analysis. As the Borderplex continues to grow economically and air cargo service is established at DNA, subsequent planning efforts should revisit the need and justification for a crosswind runway. The Jetport's current planning documents show Runway 3-21 being developed at an ultimate length of 12,000 feet. Should future demand warrant, this runway length would be capable of supporting non-stop flights from DNA to various international destinations, particularly those in Asia. Other dimensions and specifications for a future runway at the Jetport, plus a supporting taxiway system, would be identified once a future critical design aircraft is established.

Experience at other airports, which have attracted air cargo activity, shows that these airports have been most successful when a collaborative approach has been employed. Successful results are more likely when the local airport, the airport sponsor, state/regional/local economic development groups, and business and industry work together to attract air cargo service. A working group could help steer a regional strategic plan to better align interests and plan for infrastructure assets needed to support the area's logistical needs. The working group could serve as a conduit to synthesize a variety of local, area, and regional planning studies into one document. The working group would unite and provide a singular focus for many different entities. Through monthly or bimonthly coordination meetings, collaboration to achieve development objectives identified in this plan could be facilitated.

A working group, representing the entities identified here along with others, should be established to promote and to help attract air cargo operators to the Jetport. Some of the potential activities for this working group could include documenting specific businesses committed to using air cargo services; expanding communication with manufacturing companies that use air cargo; monitoring changes in the air cargo industry and air cargo aircraft technology; preparing marketing materials to promote cargo facilities at DNA; identifying the fiscal benefits from accommodating air cargo activity; and leading initiatives to advocate for local, state, and federal funding to support identified facility improvements. As this study documented, the ingredients are in place to support successful air cargo service, but more work is needed to make that service a reality.

Conclusions

When a scheduled operator selects an airport to support their air cargo operations, they often consider factors such as proximity to activities generating air cargo demand, proximity of other airports supporting similar air cargo service, availability of airside and landside facilities to accommodate air cargo aircraft, appropriate ground access for trucks, and lack of environmental and community constraints. The Jetport's location and other attributes fit these characteristics. The Jetport is a key part of a burgeoning multimodal logistics hub serving not only the El Paso-Las Cruces CSA, but also a large and growing manufacturing sector located in nearby Juárez, Mexico. The Jetport is adjacent to important transportation and industrial infrastructure assets which include a major Union Pacific Intermodal Terminal, the Santa Teresa Port of Entry (POE), three separate industrial parks, and a major state highway that carries significant levels of cross-border trade to and from Mexico to the U.S. Interstate 10, which is a major east-west artery for the southern U.S., is also in proximity to the Jetport. As this study has demonstrated, characteristics and assets of the area all support the potential for the success of scheduled air cargo service at the Jetport.

FINDINGS AND CONCLUSIONS

- The area served by the Jetport supports manufacturing activities that have a need for air cargo transport
- The Santa Teresa POE offers competitive advantages because of shorter crossing times for trucks
- The area is supported by interstate highway and rail access
- Area industrial parks already house many logistics companies
- The Jetport's existing and planned facilities are appropriate for supporting air cargo activity
- Local and state supported initiatives are indicative of the area's interest in air cargo